The use of smokeless tobacco among UK South Asian communities

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CONTENTS

ACKNOWLEDGEMENTS

DECLARATION

I declare that while registered as a student for the University's research degree, I have not been a registered student or enrolled student for another award of a UK university or other academic or professional institution. I declare that no material contained in the thesis has been used in any other submission for an academic award. I declare that my research complies with UK legislation governing research and data protection.

SECTION A
RESEARCH COMPETENCY

SECTION A1
RESEARCH THESIS

3.0 Research
The use of smokeless tobacco among UK South Asian communities

Table of Contents

TABLE AND FIGURES

Abstract

More than 2 million people in the UK consumes chewing tobacco products, of which the majority are from South Asian communities. The use of chewing tobacco products needs to be investigated due to the association with adverse health effects amongst its users. The purpose of this research was to investigate the opinions and attitudes towards the use of smokeless tobacco amongst South Asian people in England. Twelve semi-structured interviews were conducted and transcribed verbatim. Data was analysed using a deductive thematic analysis using the layers of influence model by Dahlgren and Whitehead (1991) as a framework: Individual characteristics, Lifestyle factors, Social and Community networks, Environmental and Cultural conditions. The themes identified confirms that the layers of determinants can be used to understand an individual's use of chewing tobacco products. This research provides a starting point for the development of interventions for the cessation of smokeless tobacco, which is currently lacking within the UK. It has been identified through this research, that a multifaceted approach is needed in order to address the use of chewing tobacco and the resulting health disparities. This includes education and training for health professionals to understand the cultural context of chewing tobacco; campaigns to raise awareness of the dangers and harm related to chewing tobacco at a community level and a reconsideration of national control policies.

CHAPTER 1 – INTRODUCTION

1.1 INTRODUCTION TO SMOKELESS TOBACCO

The term smokeless tobacco refers to products that are consumed without the use of combustion (Longman, Pritchard, McNeill, Csikar, & Croucher, 2010). Smokeless tobacco is accountable for the most tobacco related ill health effects (Gupta & Ray, 2003). Most of these products contain carcinogenic nitrosamines and heterogeneous ingredients such as tobacco, areca nut, slaked lime, flavourings and sweeteners (Gupta & Ray, 2003). Which cause more than a quarter million deaths mainly due to oral and pharyngeal cancers (Wyss et al., 2016; Sinha et al., 2018). One form of smokeless tobacco, commonly found in some areas in the UK is chewing tobacco (McNeill, Bedi, Islam, Alkhatib, & West, 2006). Chewing tobacco is placed in the mouth or the cheek, it is then sucked, chewed or even used as toothpaste in some cases (World Health Organisation (WHO), 2004). Chewing tobacco products are most commonly used by the South Asian communities, with some reports estimating up to 600 million users globally and more than 2 million people in the UK alone consuming these products (NHS Information Centre, 2006). Prabhu, Warnakulasuriya, Gelbier and Robinson (2001) suggested that these products are the fourth most abused substances by the human race after caffeine, tobacco and alcohol. Although some of the prevalence estimates have varied between studies within the UK, data from local surveys suggest that there is a higher prevalence of use compared to national surveys (Croucher et al., 2002). The NHS Information Centre (2006) identified that on average 9% of Bangladeshi men and 16% of Bangladeshi women use a form of smokeless tobacco. However, Croucher, Shanbhag, Dahiya, Kassim, and McNeill (2012) reported that the estimated prevalence is higher in some localities. Within their study investigating the tobacco dependence in a UK Bangladeshi female population, they found that around 49% of adult Bangladeshi women had reported the use of smokeless tobacco products (Croucher et al., 2012).

Some examples of smokeless tobacco products that are commonly used in the UK are; Betel quid which normally consists of slaked lime and sliced Areca nut, that are wrapped together in a betel leaf (National Cancer Institute, 2002; William, Malik, & Anwar, 2001). Sweeteners may also be added to the mixture, and in commercial products (such as supari) it is quite common for the Areca nut to be flavoured. Tobacco may also be added to this list of ingredients, several population based epidemiological studies conducted in India found that those who uses betel quid chew it with tobacco (Gupta, 1992; West et al., 2004). Gutkha (or Gutka). It is a pre-

packaged product that contains chopped Areca nut, powdered tobacco, slaked lime, catechu and spices (Gupta & Ray, 2003; National Cancer Institute, 2002; Anwar et al., 2005). According to the International Agency for Research on Cancer Monograph if tobacco is excluded from the mixture, it is then called 'paan masala' (WHO, 2004), although a few studies have found that some of the paan masala products still do contain amounts of tobacco (Longman et al., 2010; Winstock, Trivedy, Warnakulasuriya, & Peters, 2000; Sushma & Sharang, 2005). The smokeless tobacco product known as Supari is commonly made of sliced or crushed areca nut, it can either be bough pre-packaged or in a loose form and it is either used on its own or in betel quid. These products are also described to be free from tobacco (Stepanov, Hecht, Ramakrishnan, & Gupta, 2005). However, Supari products were also found to contain some amounts of tobacco (Longman et al., 2010). Another smokeless tobacco product known as Niswar can contain powdered tobacco, indigo and slaked lime, which can be homemade or even be available as a pre-packaged product (Prignot, Sasco, Poulet, Gupta & Aditama, 2008). This product is often stored in the buccal sulcus within the mouth for various lengths of time, although the use of this product increases the risk of health implications to oral tissues as well as more distant sites within the body. Qiwam (kimam) contains tobacco, spices such as cardamom, saffron, aniseed and additives like musk. It is a paste that is placed within the mouth and then chewed; this product can also be added to the betel quid (Longman et al., 2010). The product Zarda also contains tobacco, slaked lime, Areca nut, spices and vegetable dyes, which can also be used as an ingredient in betel quid (Longman et al., 2010). Lastly, Mawa contains tobacco, slaked lime, areca nut and is placed in the mouth and chewed for 10 to 20 minutes (Longman et al., 2010).

Within some regions of South Asia smokeless tobacco use has been held in comparison to the use of cigarettes due to the cost and relative lack of regulation in comparison to cigarettes (Longman et al., 2010). In England, the highest self-reported use of chewing tobacco products was found to be among Bangladeshi, Pakistani and Indian women followed by Indian and Pakistani men (Sproston & Mindell, 2004). It has also been suggested that there is a lack of awareness among consumers, that these products contain tobacco (Roth, Aitsi-Selmi, Wardle, & Mindell, 2009) and therefore, consumers unknowingly compromise their general and oral health. In the recent years, there have been various sources that have indicated that there has been a steady rise in the use of smokeless tobacco (Croucher, Awojobi, & Dahiya, 2009; Kakde, Bhopal, & Jones, 2012). Firstly, there have been a growing

number of outlets selling such products (Croucher et al., 2009). Secondly, there has been a rise in legal and illegal imports of smokeless tobacco over the last few years (HM Revenue & Customs and UK Border Agency, 2008) indicating an increase in the availability and demand for these products. Lastly, there have also been claims that the packaging used for smokeless tobacco products, appear to be targeted at the younger population (Panesar, Gatrad, & Sheikh, 2008).

In some areas of the UK, especially where there are large South Asian communities, it has been found that smokeless tobacco products are readily available in shops and are generally much cheaper in comparison to cigarettes (Longman et al., 2010). In order to reduce the accessibility of tobacco products and to increase the knowledge and also influence the attitudes on the use of these products, regulations need to be put in place. Smokeless tobacco products are required to have health warnings displayed on their packaging. However, it has been showed that around 85% of these are sold to the general public without a regulatory health warning, as the current legislation of the health warnings for smokeless tobacco products are poorly enforced (Longman et al., 2010). Longman et al., (2010) found that there are differences between the regulations for smoked tobacco and smokeless tobacco, for example, smokeless tobacco products are not required to have codes on their packaging to identify the place, time and date of manufacture whereas smoked tobacco products are. Another difference was that smokeless tobacco products are only required to have one health warning on their packaging. However regulations on the size of the warning were unclear, but the layout and position were found to be the same as for cigarettes (Longman et al., 2010). In comparison smoked tobacco products are required to have one warning on the front and the back of their packaging, there are also guidelines in place concerning the size, layout and position of the health warnings. Longman et al., (2010) concluded that the attention placed on smoked tobacco by the government overshadows the focus that should also be placed on smokeless tobacco use, thus increasing the disregard on the legislation of behind the counter sales, health warning requirements and the use of signage for underage sales in regards to smokeless tobacco products. However, it has been argued that because the betel or Areca nut is considered to be a food product, this falls within the Food Standards Agency remit (NICE, 2012). NICE (2012) also noted that the "Agency is currently working with UK Asian communities to provide guidance on how to minimise the risk from consuming products that contains Areca nut."

A recent study by Nair et al., (2012) investigated how a ban on the production, the distribution, the storage and the sale of Guthka and paan masala product would have an impact in India. The results found that there was a reduction in the use and the demand for the products. However, the vendors that participated within the study did report a shift in the sales of other products that were not included in the ban, such as paan with tobacco and Mawa. Nair et al., (2012) concluded that in order to withstand the impact of the ban; it is important to continue to have an effective level of monitoring, as well as having programmes and interventions to raise awareness of smokeless tobacco products and its harmful effects.

Amongst the South Asian population, the practice of chewing these products have been reported in many studies to be heavily rooted in this population's cultural beliefs and traditions (West et al., 2004; Kakde et al., 2012; Mahendran, 2015). The use of smokeless tobacco products, in particular, the use of paan, has been associated with socialising at events, wedding ceremonies and family gatherings (Mahendran, 2015). Research has shown that it is customary in the Bangladeshi culture for paan to be offered to guests and family members after tea or meals (West et al., 2004). It is also thought that using these products have some health benefits (Gupta & Ray, 2003). Specifically chewing paan has been reported by users to aid digestion, freshens the mouth and a way of relieving stress (Sharan, Mehrotra, Choudhury, & Asotra, 2012). Despite the growing evidence in regards of the harmful effects these products have on the individual's health, the lack of awareness among users is still prevalent (Gupta & Warnakulasuriya, 2002; Gupta & Ray, 2003). Kakde et al., (2012) found that although there was limited awareness of the risk of oral cancers caused by chewing tobacco, in comparison there was a lack of knowledge in regards to other health effects such as cardiovascular disease. The misconceptions towards the perceived health benefits and the lack of knowledge of the potential health risks have been suggested to be one of the contributors to the reasons why South Asians in England uses smokeless tobacco products (Messina et al., 2012).

The use of smokeless tobacco products in the UK is worth investigating as it is a significant contributor to a number of adverse health effects amongst its users (Gupta & Ray, 2003). Recent studies have suggested that there has been a continuous increase in the rates of oral cancer in the UK since 1989 (Cancer Research UK, 2010). One of the most recognised risk factors for oral cancer is the consumption of tobacco, both smoked and smokeless, with over 90% of oral cancer patients reporting using some form of tobacco (Westminster Public Health, 2013). Early

detection of oral cancer is an important factor in the probability of survival. Tobacco and the Areca nut have been proven to be carcinogenic (WHO, 2004; Secretan et al., 2009), as it increases the risk of mouth cancer, heart disease and gum disease amongst people who use these products (WHO, 2004). Several studies have investigated the rates of oral cancer between South Asian women compared to other women from various ethnic backgrounds, as they have been suggested to be the principal users of smokeless tobacco products (Croucher et al., 2002; Sproston & Mindell, 2006; Auluck, Hislop, Poh, Zhang, & Rosin, 2009).

The studies above highlights that there are numerous factors underlying the use of smokeless tobacco. It has been argued that using explanatory models derived from nicotine addiction theories only partially explains the use of smokeless tobacco products amongst the South Asian population (Messina et al., 2012). Given the number of health risks associated with smokeless tobacco use, there is limited evidence on effective cessation programs (NICE, 2012). It is clear that a multifaceted approach is needed in order to address the use of smokeless tobacco products, the impact it has on individuals' health by raising public awareness, linking in with the local community and developing targeted and culturally sensitive cessation services. Therefore, this research will use a multifaceted model to better understand the wider context of the use of smokeless tobacco by including factors such as: individual, social and environmental determinants that may have an impact on an individual's health. Dahlgren and Whitehead (1991) suggested that these determinants are centred around core idiosyncratic characteristics consisting of unmodifiable factors such as age, sex and genetic factors. Surrounding layers of determinants of health include modifiable factors such as social and community networks, the individuals living and working conditions, environmental and cultural factors (Figure 1, p. 17).
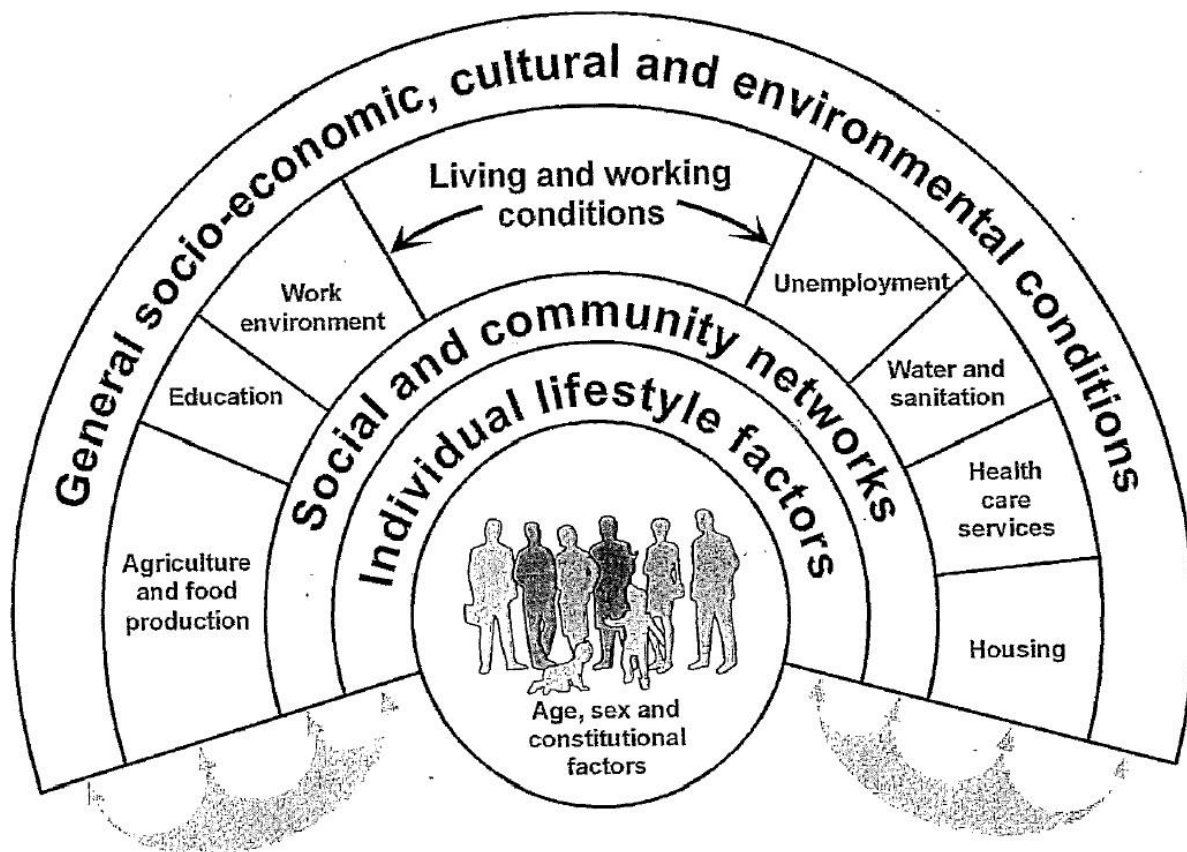
Figure 1: Layers of influence on health model.

1.2.1 Individual Characteristics

Both smoking and the use of smokeless tobacco products are suggested to be initiated at a young age (Portnoy, Wu, Tworek, Chen, & Borek, 2014). Sugathan, Moody, Bustan, and Elgerges (1998) found that around four out of every five people who uses tobacco currently start the habit before reaching adulthood, they also found that the early initiation is predictive of a longer duration of use and a heavier daily consumption. The use of smokeless tobacco has been reported to be initiated at the age of 10 (Sinha, Gupta, & Pednekar, 2003), compared to smoking which has been reported to be initiated between the ages of 16 and 17 (Sugathan et al., 1998). Mazahir et al (2006) suggested that the popularity of these products by the younger generation are the result of how these products are marketed, i.e. through bright, attractive sachets with appealing brand names. However, several studies have found that young people who start using smokeless tobacco, do so because of curiosity, peer pressure and imitation of family members that also uses smokeless tobacco products (Tsai et al., 2002; Yeh et al., 1992; Li et al., 2003).

Contrastingly, in a sample of UK Bangladeshi women, the age of paan-tobacco initiation was found to be at 24 years of age (Croucher et al., 2003a).

A cross-sectional survey done in India, reported that from the age of 50 years, the use of tobacco increased and then either levelled or declined as age increased (Rani, Bonu, Jha, Nguyen, & Jamjoum, 2003). Rudat (1994) found that the use of paan-tobacco increased with age amongst Bangladeshi women, from 31% amongst women aged under 50 years to 76% in women aged 50 years and over. Similarly amongst men the increase was found to be from 40% to 62% respectively. Earlier initiation to the use of these products was also a predictor in the early onset of tobacco-related illnesses such as oral cancer and gum disease (Bonnie, Stratton, & Kwan, 2015).

Gender and smokeless tobacco use

Studies showed that there is a gender difference amongst the South Asian population in the choice of smokeless tobacco products used (Delnevo, Steinberg, Hudson, Ulpe, & DiPoala, 2011; Azam, Shahjahan, Yeasmin, & Ahmed, 2016; Gurung et al., 2016). Gupta (1996) found that amongst women, the prevalence of tobacco use was high at 58%, which was mostly due to the use of smokeless tobacco products than any other form of tobacco. Among men, 69% reported currently using tobacco products and 46% of which were tobacco smokers. The most common smokeless tobacco product used amongst women was mishri at 44% whereas amongst men, paan with tobacco was most common at 27% (Gupta, 1996). A study by Gupta and Ray, (2003) found that there was a difference in the preference of tobacco used amongst different Indian cultural groups, with a large proportion of female participants' preferred using smokeless tobacco, whilst the male participants used products that could be smoked in comparison. One potential reason for the popularity of smokeless tobacco products amongst South Asian women, is that smoking is said to still be taboo for many South Asian women, whereas the use of smokeless tobacco is not (Bush, White, Kai, Rankin, & Bhopal, 2003).

In a review of tobacco and gender, Grunberg, Winders and Wewers (1991), concluded that there are patterns in tobacco use according to gender. Overall men are more likely to use tobacco products compared to women. However, this generalisation does not take into account the type of tobacco used, time of use and other cultural factors. Similarly, Grunberg et al., (1991) found that within some cultures, there were clear gender differences in the use of specific tobacco products.

However, over time these differences change depending on culture and the type of tobacco product used, the gap between the differences in gender could either narrow or widen. Another review conducted by Piper, Welsch, Baker, Fox & Fiore, (2001) also noted the gender difference within tobacco-dependency. The study found that Bangladeshi men living in the UK were more likely to smoke cigarettes alongside chewing paan, although there is no evidence on the reasons behind the use of these products (Piper, Welsch, Baker, Fox, & Fiore, 2001).

1.2.2 Lifestyle Factors

Smokeless tobacco use on health

Using tobacco has been found to be a risk factor in developing different oral conditions such as oral cancer, periodontal disease, oral mucosal lesions, gingival recession and impaired healing after having dental treatment (Johnson, 2001; Winn, 2001). Evidence suggests that with the greater use of tobacco, the risk of developing oral disease also increased whilst quitting decreases the risk. A study by Andrews, Severson, Lichtenstein, and Gordon (1998) conducted on the perceived oral health amongst dental patients found that tobacco users are less likely to brush and floss their teeth compared to patients who did not use tobacco products. As a result, tobacco users experienced more oral health problems than their non-smoking counterpart. Another study by Pearson et al., (1999) demonstrated that women were significantly less likely to attend regular dental checks with 25% of the total sample population had never visited a dentist, and oral health was not seen as a priority amongst the study population. Lee et al., (2012) found that within a sample of 8922 participants from six Asian populations, those with a dependency to betel quid had a higher risk of developing an oral potentially malignant disorder compared to non-users, whereas people who used betel quid but were not dependent were 4 to 6 times more likely develop an oral potentially malignant disorder. However, the study also showed that those aged 18-39 years were more likely to have better oral health than those over 40 years of age. Using smokeless tobacco has also been associated with self-reported oral pain (Croucher, Pau, Jerreat, Begum, & Marcenes, 2003b). The prevalence of self-reported oral pain with the use of smokeless tobacco products was 26% at baseline and 52% at one week follow-up (Croucher et al., 2003b). Riley, Tomar & Gilbert, (2004) found that individuals who currently used tobacco products were at increased risk of experiencing a variety of painful oral symptoms.

Compared to cigarette smoking, there is limited amount of research conducted in regards to the impact smokeless tobacco products has on everyday life. For example smoking cigarettes can also affect an individual in many other ways, i.e. alter the senses of smell and taste, reduces the ability to perform physical exercise and energy levels, has an adverse impact on physical appearance (yellow teeth, prematurely aged skin and unpleasant odour). Furthermore, research has shown that smokers are more likely to experience social and financial repercussion from their habit (Eysenck, 2012). However, there is insubstantial evidence shedding light on the psychosocial repercussion from smokeless tobacco use.

1.2.3 Social and Community networks

Influence of family and friends on smokeless tobacco use

Although literature related to familial influences on the use of tobacco is usually focused on cigarette smoking, there have been a few studies that indicated that family members might also have an influence on the initiation and maintenance to the use of smokeless tobacco products (Noland et al., 1996; Boyle, Claxton, & Forster, 1997). A study by Robinson, Klesges, & Zibikowski, (1998) found that adolescent smokeless tobacco users reported that their family and friends also used smokeless tobacco products. Noland et al., (1996) found that a boy who grew tobacco and also had at the minimum one parent who also used tobacco products, was ten times more likely to have used smokeless tobacco himself within the last seven days, compared to a boy from a non-growing household in which neither parents used tobacco products themselves. Those who used these products also reported more lenient rules at home compared to non-users, it was also found that irrespective of parental tobacco use, how parents interacted with their children and the type of parenting style they employed has an influence on the use of tobacco products amongst adolescents (Glendinning, Shucksmith, & Hendry, 1994). Having a harsh parental discipline and lack of warmth towards children were also found to be important contributing factors (Biglan, Duncan, Ary, & Smolkowski, 1995). It has also been found that smoking-specific discussion, general parenting practices and punishment were significantly related to the uptake in smoking within adolescents (Chassin, Presson, Todd, Rose, & Sherman, 1998). Alongside these, negative life events such as having parents who were unemployed, an accident or sudden illness were also reported to be risk factors in tobacco use amongst

adolescents (Wills, Sandy, Yaeger, Cleary, & Shinar, 2001; Wills, Resko, Ainette, & Mendoza, 2004).

1.2.4 Living and working conditions

Education and smokeless tobacco use

The use of tobacco has been found to be higher among individuals at lower levels of education (Gupta, 1996; Narayan et al., 1996; Rani et al., 2003), of lower castes (Rani et al., 2003; Subramanian et al., 2004) and with lower standards of living (Subramanian et al., 2004). Education is said to be a powerful correlate to tobacco use patterns (Gupta, 1996), for example Sorensen, Gupta, and Rednikar (2005) found that the use of smokeless tobacco products were higher among participants who had no formal education in comparison to participants who had a college education. Another study by Subramanian, Nandy, Kelly, Gordon, and Smith (2004), found similar results, participants were three times more likely to chew tobacco if they had no formal education compared to those who had a postgraduate qualification.

Similarly, Spangler et al., (2001) reported that in a sample of Native Americans, one strong predictor for tobacco use was having a low level of education. A telephone survey conducted on the use of tobacco reported that 60% of individuals did not currently use tobacco, 26% of which currently smoked, 18% currently uses smokeless tobacco, and 5% used both products. The logistic regression analysis within the study showed that participants who were younger in age and infrequent church attendees were more likely to smoke cigarettes, while participants who were older in age were more likely to use smokeless tobacco products (Spangler et al., 2001).

Social class and smokeless tobacco use

The relationship between social class and tobacco use is well documented. A study by Subramanian et al., (2004) found that the use of smoked and smokeless tobacco products are associated with socioeconomic markers. They found that households within the lowest standard of living index were three times more likely to consume tobacco compared to those in the highest fifth, they also found that the incidence of tobacco use was higher in certain castes compared to others (Subramanian et al., 2004). Similarly a study by Jarvis (1994), also found a strong association between smoking and social class indexed by occupation status. Studies have shown that

there is also a relationship between the use of tobacco products and being unemployed (Lee et al., 1991; Novo et al., 2000). Unemployment is an indicator of increased economic disadvantage and associated stressors such as poor housing conditions, food accessibility, poor health, and lack of social contact (Jarvis & Wardle, 2005). There is evidence that expenditure on smokeless tobacco products has become a financial burden amongst those who are unemployed or of low economic status in India (Efroymson, 2002).

1.2.5 Environmental and Cultural conditions

The practice of tobacco chewing is suggested to be rooted in cultural beliefs and tradition, for example, the Areca nut is considered to be sacred in some cultures, there may be a religious significance to its use as it is found within most tobacco mixtures (Auluck et al., 2009). Smokeless tobacco use, in some cases is considered to be a part of someone's cultural identity, and the upheaval of migration for an individual can create a strong attachment to it (NICE, 2012). Within the South Asian population, smokeless tobacco use is also associated with socialising and family tradition (Kakde et al., 2012). Moreover, there are a number of perceived benefits from chewing paan and its components, some smokeless tobacco users have reported that the use of paan specifically freshens the mouth, aids digestion and also creates a feeling of euphoria (Westminster Public Health, 2013). The misconceptions of the perceived health benefits are more alluring to the South Asian population than the harmful effects (Messina et al., 2012). Although, Kakde et al., (2012), found that there is limited knowledge of the harmful effects smokeless tobacco products has on health, for example, oral cancers and other systematic effects. However, Dalton, Sargent, Beach, Bernhardt and Stevens (1999), found that even though the negative effect of tobacco use was discussed, it did not alter the use and belief of the perceived positive effect of tobacco use.

It has been noted that the use of smokeless tobacco products is an emerging public health issue (NICE, 2012). In 2004, UK guidelines were developed to help people to quit smokeless tobacco (West et al., 2004). Even though these guidelines do not have any statutory status, they were recommended by health advocacy organisations and a number of professionals. The guidelines focuses on the South Asian populations as they are the main users of smokeless tobacco in the UK (Croucher et al., 2003a). However, the guidelines were based on the data collected from controlled studies based on participants from non-South Asian populations using non-South Asian

smokeless tobacco products. These studies involved using nicotine replacement therapy (NRT) and counselling (Croucher et al., 2003a; Pau et al., 2003) and it was assumed that these findings could be applied to the South Asian population, and the different smokeless tobacco products that are typically used by this population group (West et al., 2004). NICE (2012) concluded that, the interventions might be effective with other smokeless tobacco users, in some cases, although the evidence of effectiveness was also weak. Therefore, there is a need for further studies on the use of smokeless tobacco products amongst the South Asian population. Specifically in regards to the reasons behind the use of these products.

1.3. STUDY AIMS

This piece of research, therefore aims to:

1) Investigate the opinions and attitudes that encourage or predispose South Asian people in the UK to use smokeless tobacco products.
2) Investigate the reasons for smokeless tobacco use against the main determinants of health as proposed in the layers of influence model (Dahlgren & Whitehead, 1991).

The data gathered would hopefully provide useful information such as identifying a way to ask about the use of smokeless tobacco products in a sensitive and culturally aware manner and provide the individual with information on the harm it causes. This includes challenging any perceived benefits, be able to deliver a brief intervention and referring people to tobacco cessation services if they wish to quit. This piece of research will, therefore, provide a good basis and starting point for the development of a smokeless tobacco cessation programme.

CHAPTER 2- METHODOLOGY

2.1. Methodological Approach

This research was concerned with discovering and exploring the use of smokeless tobacco products; a qualitative research approach was deemed to be the most appropriate (Johnson & Waterfield, 2004). This piece of research, therefore utilised deductive thematic analysis informed by Aronson (1994) and Braun and Clarke (2006). According to Braun and Clarke (2006), thematic analysis is a method that is used to facilitate the interpretation of identifiable themes and patterns of behaviour within the data. Deductive thematic analysis was chosen as this approach as it

complemented the research questions by facilitating an investigation of the interview data from a theoretical perspective, i.e. the use of smokeless tobacco in the wider context of individual, social and environmental determinants of health as proposed by Dahlgren and Whitehead (1991) in the layers of influence model.

2.2. PARTICIPANTS

Results from a number of surveys suggest that older women, those of lower socioeconomic status and people of Bangladeshi origin are more likely to use smokeless tobacco products (Moles et al., 2008; NHS Information Centre, 2006; Prabhu et al., 2001). First generation South Asian migrants, may also be more likely to use these products, in particular, those who are not integrated within the wider community (Prabhu et al., 2001). Therefore the participants for this research consisted of people of South Asian origin, i.e. Indian, Bangladeshi, Pakistani or Sri Lankan origin, both male and female living in London, with an age range of between 18 to 65 years old and who reported the use of any smokeless tobacco products within the last 12 months. These criteria ensured that the qualitative data gained reflected a practical knowledge of the cultural context in smokeless tobacco use. To maintain anonymity, any details that would lead to the identification of the participants were omitted or changed. Pseudonyms were chosen for all participants as described in table 1 (p. 25).

In total twelve participants were recruited opportunistically through promotional events held by Brent council's smoking cessation team. All participants were provided with an information sheet which included details of what they were required to do and some information of what the study entailed (Appendix 1 p. 90). The participants were also given an oral summary of their rights to withdraw at any point, and that they had the right to decline answering any questions they did not wish to answer. All participants also had the opportunity to ask questions and clarify any information they did not understand before giving consent to participate in the research (Appendix 2 p. 92). They were also asked to complete an equality monitoring questionnaire (Appendix 3 p. 93). The equality monitoring process allowed the research to collect and analyse data about the characteristics of all participants that decided to take part. Participant characteristics are shown in table 1, (p. 25). A total of 58% (n = 7) were female and 42% (n = 5) were males, with 33% (n = 4) of the participants between the ages of 55-64, 33% (n = 4) in the age range of

35-44, 17% (n = 2) in the age range 25-34 and lastly 1 participant in the age range of 45-54 and 1 participant in the age range of 18-24. As illustrated in table 1, (p. 25) majority of the participants (75%, n = 9) were of Indian ethnicity, 17% (n = 2) of the participants were of Pakistani origin and 1 participant was Sri Lankan. The participants religious beliefs were also recorded, with 58% (n = 7) of the participants were Hindus', 17% (n = 2) were Muslim, whilst the rest of the participants were Roman Catholic, Christian and Buddhist respectively. This information was recorded to ensure the research criteria had appropriately been met. All equality information that was collected was stored confidentially and in a way which complies with the Data Protection Act 1998.

Pseudonym	Age Range	Gender	Ethnicity	Religious Belief
Maya	55 - 64	Female	Indian	Hindu
Neerav	35 - 44	Male	Indian	Roman Catholic
Ankita	35 - 44	Female	Indian	Hindu
Deepak	35 - 44	Male	Sri Lankan	Buddhist
Rubina	18 - 24	Female	Pakistani	Muslim
Bindu	55 - 64	Female	Indian	Hindu
Priya	55 - 64	Female	Indian	Hindu
Rashmi	45 - 54	Female	Indian	Hindu
Arati	25 - 34	Female	Indian	Christian
Hameed	35 - 44	Male	Pakistani	Muslim
Sanam	55 - 64	Male	Indian	Hindu
Amit	25 - 34	Male	Indian	Hindu

Table 1. Participant's characteristics.

2.3. Materials

An interview schedule consisting of eleven questions was developed (Appendix 5 p. 96), based on current literature regarding the use of smokeless tobacco products. The questions were formed as open and non-leading to discourage one word answers and to encourage participants to express their views. Some examples, of the questions that were asked, were; *"Can you tell me about some of the smokeless tobacco products you may have heard of?", "Can you tell me about your religion's perspective on smokeless tobacco?"* Prompts and probes were also developed for each question to assist the interviewer in getting more information from the participants if deemed necessary. Once drafted, the questions were reviewed by the supervisor to ensure suitability. One advantage of semi-structured interviews is that they allow for the 'voice' of the participants to be heard (Oakley, 1981). It allows there to be a balance between exploring pre-theorised questions and also be open to the possibility that new data may emerge from the spontaneous responses of the interviewee's (Oakley, 1981).

2.4 Procedure

Ethical approval for this research was gained from the London Metropolitan University Ethics Committee. Approval was also gained from the Brent Stop Smoking Service. It was ensured that the information sheet provided (Appendix 1 p. 90) explained the nature of this piece of research with reference to the British Psychological Society's code of ethics and conduct. Participants were also given a consent form (Appendix 2 p. 92) to read and sign before taking part in this research. They were then all informed that they had the right to withdraw at any point up to three weeks after they had their interview, as the process for analysis begun after this. If any participants decided to withdraw from this research, it was made clear that any of their recordings and information collected would be destroyed. At the end of the interview, participants were debriefed (Appendix 4 p. 94) and they were given the researcher's and supervisor's contact details. The researcher was available to answer any questions the participants may have. All data including the audio recordings were kept confidential throughout the research. Participants were also told that their data would be anonymised and their names within the data would be replaced with pseudonyms. All raw data were kept in a lockable place, and accessed only by those within the research team. It was also ensured that any data or

information that may lead to the identification of an individual were removed from the interview transcripts by the researcher.

Pilot interview

A pilot interview was first conducted to determine if there were flaws, limitations within the interview design. This allowed for the opportunity to make necessary revisions and refinement to the research questions prior to data collection (Kvale, 2008). The pilot interview was conducted opportunistically with participant Maya; her responses demonstrated that the questions within the interview were appropriate and understood. Data from the pilot interview was therefore included in the analysis of this research.

2.5. Procedure for analysis

Stage 1: Transcription

All of the interviews were recorded with a digital audio recorder and were transcribed verbatim by the researcher. The transcription was done after the interviews were conducted, as hearing the taped conversation when the interview is still fresh in mind, allowed for ease in the transcription process. Several detailed listening of the audio data was done to familiarise the researcher with all the accounts provided.

Stage 2: Familiarisation with the data

All the interview transcripts were read a number of times, and sets of data were identified. These data sets were then transferred onto a document where any phrases or concepts that the researcher considered interesting or significant were placed within the right margin and any initial thoughts regarding the data were noted in the left margin.

Stage 3: Coding

In this research, a template was developed, based on the research questions and the theoretical framework developed by Dahlgren and Whitehead (1991) on the layers of influence. The template was developed by designing a coding table that contained three columns: the first column contained the five broad categories that were identified in accordance with the proposed theoretical framework. The second column included a brief definition of these five categories. Finally, the last column contained instructions on when to categorise the data in these five categories

(Appendix 6 p. 98). The template served as a useful tool to manage and organise the data for analysis stages of this piece of research (Crabtree & Miller, 1999).

Stage 4: Identifying themes

Braun and Clarke (2006) suggested that a theme can be defined as something important that relates to the research interest and represents meaning within the data. The notes made in reference to the theoretical framework by Dahlgren and Whitehead (1991) were then transformed into specific themes. This was done by writing down each quote on an index card along with references, i.e. which participant said it and where it appeared within the data. The quotes were then sorted into appropriate themes or discarded if they were vague. At this stage, a second independent reviewer was involved in discussing the findings until an agreement was reached, this was done to ensure the validity and appropriateness of each of the themes identified (Johnson & Waterfield, 2004)

Stage 5: Finalising themes

The data was re-read, and the themes identified were refined into more specific clusters, for example, the researcher identified three sub-themes coded in social and community network category. These three themes were refined and clustered into one main theme as family and peer influence (Figure 2 p. 29). To provide evidence of the existence of each theme within the five categories, statements from the raw data were extracted (Table 2 p. 32). A final analysis of the selected extracts was related back to the research question and appropriate literature, following the guideline from Braun and Clarke (2006).
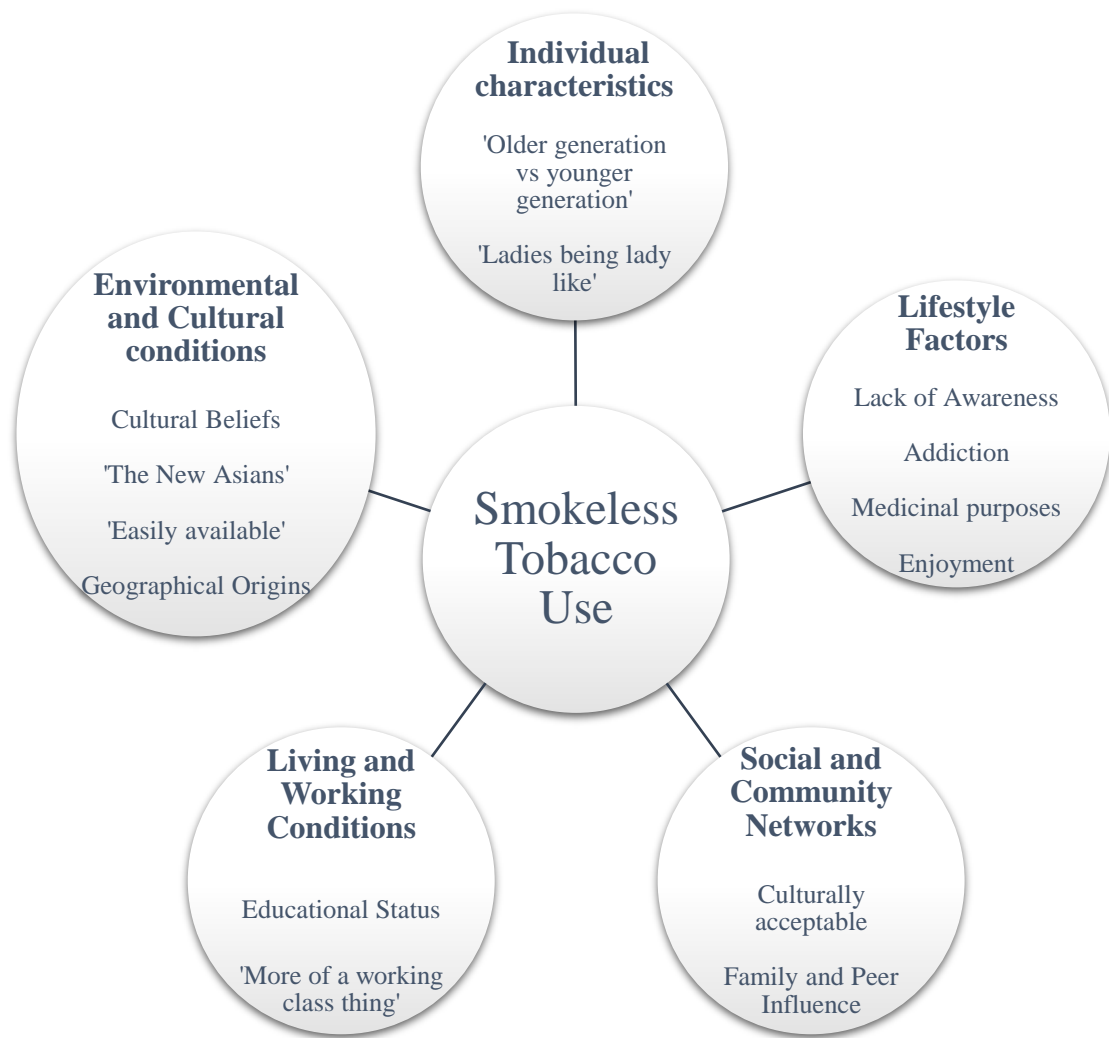
Figure 2: Emerging themes from interview data.

2.6. Quality of the research

Silverman (2013) noted that if the research relates their findings to an existing body of knowledge, it is a key criterion for investigating qualitative data, which is reflective of the present research. This research adopts the qualitative assumption that reality is socially constructed by each individual and results should be interpreted rather than measured, therefore understanding cannot be separated from context (Johnson & Waterfield, 2004). Thus, qualitative data cannot be tested for 'validity' using criteria based on assumptions of objective reality and positivist neutrality (Shepard et al., 1993; Angen, 2000; Barbour, 2001). However in an attempt to equate to the quantitative measurements of validity within this research, the trustworthiness and rigor was assessed using the criteria outlined by Johnson and Waterfield (2004). It has been argued that using these assessments are desirable components of qualitative research (Murphy et al., 1998; Krefting, 1991), hence this research has applied the Johnson and Waterfield (2004) method to ensure research quality. Trustworthiness can be defined as putting measures in place in order to

assess the credibility, value or believability of the research findings (Parahoo 2014). Similarly, as outlined within the Johnson and Waterfield (2004) study, Cope (2014) also suggested that four criteria should be reviewed when assessing trustworthiness, these are: credibility, transferability, dependability and conformability.

Credibility is explained as having assurance in the veracity of the research findings (Amankwaa 2016).One important aspect to ensure the credibility of the research result was the systematic recruitment process of the participants. The participant criteria for the research required people of South Asian origin, i.e. Indian, Bangladeshi, Pakistani or Sri Lankan origin, both male and female living in London, with an age range of between 18 to 65 years old and who reported the use of any smokeless tobacco products within the last 12 months. These criteria ensured that the qualitative data gained reflected a practical knowledge of the cultural context in smokeless tobacco use.

Secondly, as outlined in the paper by Shenton (2004), one method of ensuring credibility is by ensuring every participant who is approached to be part of the research should be given opportunities to refuse to participate. This was done to ensure that the interviews and data collection only involved those who are genuinely willing to take part and prepared to offer data freely. This was evident in this research as all participants were informed that they had the right to withdraw at any point up to three weeks after they had their interview, as the process for analysis begun after this. If any participants decided to withdraw from this research, it was made clear that any of their recordings and information collected would be destroyed.

With regards to the transferability of the research, it is important to note as stated by Merriam (1998), "external validity is concerned with the extent to which the findings of one study can be applied to other situations" (Merriam, 1998 p. 207). According to a positivist theory, study result should be applicable to a wider population (Shenton, 2004). Similarly, Cruz and Tantia (2017) defined transferability as being able to apply the findings to the general population whilst not overlooking the uniqueness of the participants' experiences. However it has been argued that within qualitative research, results are commonly specific to a particular environment or a small number of participants and therefore it is impossible to generalise findings to different types of populations or environments (Erlandson, Harris, Skipper & Allen, 1993). This is reflective within this present research, due to the themes being

developed around individual experiences and personal accounts it would be questionably whether results could be generalised to the wider population of smokeless tobacco users. Furthermore, participants in this present research were recruited through the Brent stop smoking service, it can therefore be argued that participants were already in tuned with the nature of the research aims. Contrastingly, Bassey (1981) proposed that if other researchers believe their studies share similar situations as the research in question, then it may be possible to relate the findings of the research to their own situations.

Cope (2014) defines dependability as the ability to replicate the research using similar methodologies and participant demographics. In light of this, the analysis procedure is provided in detail within this present research in order to try and achieve adequate research dependability. However, Florio-Ruane (1991) suggested that the observations made by researchers are often bound to the current situation revolving the study arguing that the "published descriptions are static and frozen in the ethnographic present" (Florio-Ruane, 1991 p.234), therefore replicating the research to achieve the same results would be impossible.

Confirmability relates to qualitative data that is primarily driven by the participants and not imposed by the researcher (Amankwaa 2016).Overall, there are improvements that could be made regarding the confirmability of this research, specifically by ensuring that not only an internal audit is included but an external audit trail is made evident within the methods section. This would ensure a comprehensive account of all data collection and data analysis activities.

In the present research, rigor was demonstrated by following a set of procedures outlined by Dyson and Norrie (2010). This includes the outlining of each step of the research process including how participants were chosen, how consent was obtained, where and how data was collected, recorded and interpreted. Furthermore, rigor was demonstrated within the reflection section wherein the relationship between the participants and the researcher was dissected and the impact this had on the findings were discussed.

The following section discusses the themes identified from the data in relation to the five categories as described within the layer of influence model (Dahlgren & Whitehead, 1991).

CHAPTER 3 – RESULTS

3.0 Results

Individual, physical, social and environmental factors have been shown to determine the health of an individual (Dahlgren & Whitehead, 1991). Within this piece of research the participants confirmed the importance of the five categories that have been initially identified within the layers of influence model by Dahlgren and Whitehead (1991), these include; individual characteristics, lifestyle factors, social and community networks, living and working conditions and finally environmental and cultural conditions. Table 2 (p. 32) below presents the results within the five categories, the themes and sample extracts identified in relation to the use of smokeless tobacco products.

Determinants of Health (Dahlgren & Whitehead, 1991)	Themes	Example Quotation	Participant, Line No.
Individual Characteristics	'Older generation vs younger generation.'	"…like if I go back in India in the time like the 80's or 70's they were more popular kind of thing. With this new generation, I haven't seen…"	Arati; Line 69 - 70
	'Ladies being ladylike.'	"I don't know I think it's that whole societal pressures of ladies being ladylike… oh, no one will marry you if you look like… if you're acting like a man kind of thing."	Ankita; Line 77 - 78
Lifestyle factors	Medicinal Purposes	"Yeah, I think for sinus problems, like I said if you have a bad cold, they say even people use for their teeth as well maybe strengthens their teeth."	Neerav: Line 40 - 41
	Lack of awareness	"Something strong I think… a variety of things actually… yeah, but I have no idea what exactly they're putting in by name."	Deepak; Line 8 - 9
	Addiction	"No, they know the difference between the two (paan and paan masala), they clearly know the difference between the two they just do it out of habit and addiction."	Maya: Line 118 - 120

	Enjoyment	"Sort of a powder must be the tobacco powder mixed with a nut and then you sort of place it in your gum that gives you a high."	Neerav: Line 57 - 60
Social and community networks	Acceptability	"So it's more of a dessert kind of thing that people tend to have after they like have dinner or something, so it's very occasional, like only if they're going to a party or something".	Rubina: Line 96 - 97
	Family and peer influence	"…they follow what their Fathers do. So if the father used to chew tobacco, it's most likely that the child would start chewing tobacco… because they don't see any harm in it at all."	Maya: Line 54 - 56
Living and working conditions	Educational status	"Those who know obviously if they are educated and if they are concerned about cancer and all that maybe they may stop, but it's like drinking and smoking."	Sanam: Line 66 - 67
	'More of a working-class thing.'	"But they don't… it is mainly man, and it's mainly man who erm… who are from the working class community that seems to do it a lot more."	Maya: Line 67 - 69
Environmental and cultural conditions	Cultural beliefs	"I think yeah, it's racial it's been used by many you know old age people, so it's got to be like you are using it so."	Neerav: Line 23 - 24
	'Easily Available'	"My generation tends to be this Munikchand and Tulsi because it's easily available in packets, you can buy it in most Indian shops."	Ankita: Line 28 - 29
	'The New Asians'	"The unacceptable bit it is when they spit… the new Asians the young Asians at the moment who has come I think that's unacceptable."	Sanam: Line 43 - 44
	Geographical Origins	"I know quite young people who use it but only if they are like from the northern areas they are more prone to do it."	Rubina: Line 70

Table 2. Reasons for the use of smokeless tobacco products.

3.1. Individual Characteristics

As described within the layers of influence model, individual characteristics refer to the biological factors that may have an effect on the use of smokeless tobacco products. Age and gender were identified as two main themes within this layer, as having an impact on an individuals' reasons for smokeless tobacco use. The following subsections make reference to the interview extracts identified as relevant to each of these themes and how they address the aims and objectives of this piece of research.

3.1.1. 'Older generation vs younger generation.'

Within the data some participants described how there was a difference between age in relation to the use of smokeless tobacco products:

> *"Oh yeah especially old people definitely not the young generation…*
> *old…old people yeah." (Deepak: L. 35).*

> *"They are more typical to do that, but the paan masala, the more senior*
> *citizens as I said would use it than the youngsters." (Rubina: L. 73).*

> *"…as I said back home, elders used to use one of that leaf kind of thing but*
> *literally recently I haven't seen. I don't know anybody in my family using it.*
> *The new generation is not, my grandma's generation they would all use all of*
> *those things…" (Arati: L45 - 48).*

As suggested within these interview extracts, the participants believe that the older generations of this population group are the predominant users of smokeless tobacco products. This echo's the findings of a few studies, which found that age as an important determinant of tobacco use (Rani et al., 2003; Neufeld, Peters, Rani, Bonu, & Brooner, 2005; Islam, 2006). Islam (2006) found that the use of these products was equally high amongst middle-aged and older adults. Overall, there seems to be a consensus between this research theme and the studies mentioned above, that as age increases the odds of smokeless tobacco products being consumed also increases. *"…old people you know even up to now they still use it." (Neerav: L. 46).*

The participants in this research also made reference to what they perceived were the reasons for the age difference in using these products. One of the main reasons was thought to be because the younger generation saw the use of smokeless tobacco

products as old-fashioned and that using cigarettes is thought to be more modern in comparison.

> *"...like if I go back in India in the time like the 80's or 70's they were more popular kind of thing. With this new generation, I haven't seen… it seems like it became like kind of old fashion or something. I haven't… I don't think the new generation goes with those things it's more the older generation. If you have a look like if you see someone on the streets in his 40's or 50's using these." (Arati: L69 - 73).*

> *"Here it's not so much a norm people don't have tulsi and munikchand, in my age group its more cigarettes…" (Ankita: L116 - 118).*

> *"Could be that and young people they definitely, they don't want you to know, chewing these things and then having spitting it out, it looks bad… the cigarettes is the coolest thing to do." (Deepak: L62 - 64).*

Research done by Neufeld et al., (2005), found that there was a significant relationship between the participant's age and their preference of tobacco products. With the older men using more than one type of tobacco products, such as smoking cigarettes and chewing paan tobacco, while the younger participants only preferred cigarette smoking. Similarly, Islam (2006) found that amongst the smokers within his research 46% were between the ages of 18 - 29. Whilst amongst participants who were dual tobacco users 44% were between the ages of 45 - 64, this age group was also dominant in the group that only chewed paan tobacco products at 44%. Their findings echoes the findings of similar studies, which suggests that the older generation prefers traditional forms of tobacco which might have been initiated at an early age from their country of origin, whereas the younger group preferred cigarettes over smokeless tobacco products due to the perceived aesthetic disadvantage of using smokeless tobacco products (Rani et al., 2003; Islam, 2006) and the widespread availability of manufactured cigarettes (Newman & Shell, 2005; Islam, 2006). Contrastingly, there have been a few studies who have reported that young individuals consider smokeless tobacco as a very popular and acceptable product, and subsequently become addicted to it (Mishra & Mishra, 2016). It has been suggested that smokeless tobacco products becomes an essential component of adolescent lives, and it is the fourth commonly abused substances worldwide which could develop dependency like alcohol, nicotine and caffeine with both stimulating and relaxing effects (Winstock, 2002; Boucher & Mannan, 2002). Adolescent

children may also get fascinated by the attractive packages and aggressive marketing to purchase these products (Williams et al., 2002; Shrivastava et al., 2017).

There has been a few studies that has also suggested that there may be other factors that could influence the younger population use of smokeless tobacco products, such as family and peer influences (Krishnamurthy, Ramaswamy, Trivedi, & Zachariah 1997; Vaidya, Vaidya, & Naik, 1992). This was also identified as a factor for the use of smokeless tobacco products in the present research, and is discussed further in section 3.3.2.

3.1.2. 'Ladies being ladylike.'

Throughout the data, the participants also referred to gender and the use of smokeless tobacco products. Some participants mentioned how the use of smokeless tobacco products was mostly used by women as it is not culturally acceptable for women to be smoking a cigarette. In South Asia, especially in India, traditional values are not in favour of the young and women smoking. However, this is not the same for smokeless tobacco, therefore most women in this particular population group are more likely to use smokeless tobacco products (Sudarshan, & Mishra, 1999).

> *"Men don't walk around with cigarettes in their hand, certainly not women so I think it's a cultural thing and maybe that it's… I think it has the same effect but not an actual thing like walking around with a cigarette in their hand and if they did… if they were seen with one they would get talked about so I think that… it's socially… it's more socially acceptable than smoking. I think that's why people do it." (Ankita: L47 - 53).*

> *"Culture, like for Muslim's most of the man smokes like if you go to Turkey or wherever even when I went to the middle east all the men smoked, but the women didn't, and I noticed a lot of women had red teeth they probably did the same thing, but obviously it is not culturally acceptable for a woman to walk around with a cigarette in her hand it's not ladylike but yeah…" (Ankita: L59 - 63).*

These quotes in this research suggests that there are cultural differences in the use of smokeless tobacco products in regards to gender. Using smokeless tobacco is more "invisible" compared to cigarette smoking, and therefore it is deemed to be more acceptable for women to use in this community (Sudarshan & Mishra, 1999). One

participant in the present research highlighted that this is because tobacco use is seen as an unattractive trait for a female as it is perceived to be more of a masculine behaviour:

> *"I don't know I think it's that whole societal pressures of ladies being ladylike… oh, no one will marry you if you look like… if you're acting like a man kind of thing, you know… but you get a reputation if you're a girl as a bad girl but if a boy walks around with a cigarette or this Munikchand then its fine which is not fair, but that's the reality yeah." (Ankita: L77 - 80).*

Contrastingly, not all participants agreed that the use of smokeless tobacco is seen as acceptable for women to use in this community. Bindu suggested that even the use of smokeless tobacco, although 'invisible', would be frowned upon by the males in her community.

> *"No they just feel ladies shouldn't be having this… now they seem to have it even here… even the drinking like if I was back home my husband would have never let me have a drink but here all the ladies have a drink now… a cultural thing." (Bindu: L104 - 106).*

As found within similar studies looking at gender and tobacco use, the use of smokeless tobacco products was found to be mostly amongst females, while the males were found to be using more than one type of tobacco such as cigarettes and chewing tobacco (Sinha, Gupta, Ray, & Singh, 2012). Similarly, Gupta and Ray (2003) found that the prevalence of smokeless tobacco use differed between genders, with 57.1% of women and 45.7% amongst men respectively. Similarly a previous study by Sudarshan and Mishra, (1999) found that amongst female tobacco users almost 90% uses smokeless tobacco products, which is much higher as compared to males. However, there is a lack of research investigating the reasons behind why females are more likely to use smokeless tobacco products compared to males.

As described in the interview extracts and from previous studies, individual characteristics outlined within the layers of influence model (Dahlgren & Whitehead, 1991), do have an impact on smokeless tobacco use. However, it is important to note that the individual's characteristics does not solely influence their use of these products but rather a combination of the main determinants may have an impact.

3.2. Lifestyle factors

The next layer of the layers of influence model (Dahlgren & Whitehead, 1991) is lifestyle factors. This refers to the habits, attitudes, beliefs or moral standards that together constitute the mode of living of an individual. For this piece of research, this focuses on the areas where it is recognised that individuals have a certain degree of choice for when deciding to use smokeless tobacco products. Four main themes were identified within this layer; these were Medicinal purpose, Lack of awareness, Addiction and Enjoyment.

3.2.1 Medicinal purpose

This theme refers to the perceived medicinal properties smokeless tobacco products is thought to possess. Gupta and Ray, (2003) found that there is a belief that tobacco, either smoked or smokeless has a medicinal value, for example to cure or relieve common discomforts such as toothaches, headaches and stomach aces. This often leads to the initiation of tobacco as non-users and even children are advised these are beneficial to their health (Gupta & Ray, 2003). Within this piece of research, participants had diverse opinions about the medicinal properties smokeless tobacco products has on their health. Two participants, in particular, expressed that the snuff has homoeopathic properties and that this product can be used to cure common ailments such as a cold.

> *"Yeah, I think for sinus problems, like I said if you have a bad cold, they say even people use for their teeth as well maybe strengthens their teeth." (Neerav: L40 - 41).*

> *"It's powdery like brown in colour, yeah they sniff it through their nose, and it gives them some kind of relief from like headache, some people are in the habit of having that to keep I don't know for what reason." (Priya: L14 - 16).*

Neerav specifically mentioned how he believed the use of this product had been beneficial to him due to having the experience of using the snuff before for the flu.

> *"Yeah medicinal purpose as well, some old people they actually you know put it up their nostrils just to get all… you know the flu released… they use it as a toothpaste… even up to now I think people still use the snuff to brush their teeth.. I've tried it once just to get rid of the flu as well, and it did help actually so." (Neerav: L17 - 25).*

"Because of what I have experienced and what has been told to me that it is beneficial for like you know cold and flu symptoms… I know a gentleman used to use it for ages like you know to brush his teeth and use it for some nasal congestions." (Neerav: L113 - 117).

In these interview extracts, only one particular participant (Neerav) reported perceived health benefits with the use of smokeless tobacco products *'I've tried it once just to get rid of the flu as well, and it helped actually.'* Other participants described health benefits of chewing tobacco in association with traditional beliefs, more likely endorsed by the older generation. This indicates that there is a lack of awareness of the risks of smokeless tobacco use. The data also coincides with the previous finding within this research, which suggests that there was a difference between ages in relation to the use of smokeless tobacco products. As the older generation is thought to be more likely to use these products in comparison to the younger generation who are more likely to associate the use of these products as being old fashioned.

Contrastingly, one participant did not believe that the use of these products were associated with any perceived medical properties, but rather that the use of these products are due to a level of addiction, rather than a set belief.

"No, it is purely a habitual activity."(Maya: L. 97).

Within this research, participants also made more specific reference to the addiction of these products. This is discussed further in section 3.2.3.

Similarly, to Neerav's opinions and beliefs of the medical properties snuff has, there was also reference made by other participants, to other types of smokeless tobacco products used with the belief to aid other common ailments such as headaches and digestion.

"I've seen like they call Burja and they sniff it because sometimes it gives them relief or like if you've got a headache they sniff it and things like that but other than that I really have no idea." (Priya: L6 - 8).

"If it is, it's like a digestive sort of erm… to help digestion erm…" (Sanam; L. 23).

"This is flavoursome and as like a digestion… helps aid digestion. So some people eat it for that reason I think. It's like fennel seeds you eat that after a

meal and you know people enjoy eating it and it also aids digestion.”
(Sanam: L59-61).

The data gathered on the medicinal beliefs about smokeless tobacco product within this piece of research are similar to previous research findings in this field (Gupta & Ray, 2003; Sharan, Mehrotra, Choudhury, & Asotra, 2012). Specifically, chewing paan has been reported by users to aid digestion, freshens the mouth and a way of relieving stress (Gupta & Ray, 2003; Sharan, Mehrotra, Choudhury, & Asotra, 2012). It has therefore been suggested that an ignorance of the health risks and a belief in the perceived medicinal benefits associated with smokeless tobacco products does encourage its use amongst this population group (Gupta & Ray, 2003).

3.2.2 Lack of awareness

Despite the growing evidence in regards to the harmful effects these products has on the individual's health, there is still a lack of awareness amongst its users. As found through the data most participants did not know what the ingredients were of what they have been consuming.

> *"You don't even know what sort of chemicals they use in that…” (Neerav: L75 - 76).*

> *"Something strong I think erm… a variety of things actually… yeah, but I have no idea what exactly they're putting in by name.” (Deepak: L8 - 9).*

Products that were known to contain tobacco were commonly associated with health risks, though the awareness of health risks was less clear for products where tobacco content was unclear or unknown by the participants. For example, participants identified health risks with using products such as guthka and paan, which were defined as containing tobacco:

> *"...the reason why the cancer is so vigorous is because what they add to that paan in addition to the chewing tobacco is the shredded betel nut which is a well known carcinogen, so you've got the sweetness, you've got the betel nut shredded and sweetened, you've got the tobacco all in the paan rolled up in the paan which are all ingredients that are carcinogenic…” (Maya: L129 - 134).*

> *"No, No, No that's totally harmful, because one of my cousins he used to use the paan, I used to actually when I stopped smoking I used that as a*

substitute but just for a brief moment not for very long…" (Neerav: L90 - 92).

However, with products such as the paan masala that contains the Areca nut it became apparent that there was a shared belief that these were harmless. The following are some quote extracts from participants who expressed the paan masala was not harmful to their health:

"…they give it out at weddings just as a mouth freshener at the end to sweeten your mouth, but that's not always with a leaf it can be just the filling and in a bag and you kind of put a bit in a spoon and kind of spoon it into your mouth but that's just to refresh your mouth it hasn't got anything in it like tobacco." (Ankita: L80 - 83).

"Yeah yeah, the sweet paan is ok, that's just the betel leaf, that's not harmful… they use that for digestive purposes you know after a meal." (Neerav: L155 - 156).

"oh yeah, one thing I've tried the paan occasionally but the other one that's the sweet… and it doesn't have tobacco or anything." (Rubina: L113 - 114).

In these interview extracts, participants expressed that they believed that the paan masala or the 'sweet paan' was not harmful to their health as they believed that these products did not contain tobacco. The sweet paan is often made up of various flavourings, sweeteners and it has been shown not to contain tobacco (Gupta & Ray, 2003). *"Yeah, the sweet paan doesn't really have the thing that gives you the high in it, it doesn't have the powder thing, but it's just the leaf, and it's got some like erm… sugar inside… brown sugar they add a bit of it and sweet syrup, but it's got nothing to do with erm… tobacco or the powder or anything." (Rubina: L99 - 102).* The combination of the flavourings and the belief that paan masala does not contain tobacco could be suggested as a reason participants believed that using these products is not harmful to their health. However, most of these products contain heterogeneous and carcinogenic ingredients including slaked lime, Areca or betel nut, and various other spices (Gupta & Ray, 2003). There was a lack of awareness of how harmful these ingredients were amongst the participants that were interviewed: *"You can have gulkhan paan with aniseed and a little bit of betel nut or sweetened betel nut you know shredded betel nut and coriander seeds, and it's quite nice in the actual paan itself." (Rashmi: L9 - 11).* Contrary to claims of harmlessness, smokeless tobacco products are harmful regardless of how they are prepared due to

the carcinogenetic properties of the Areca and betel nut (Vora, Yeoman, & Hayter, 2000; Shetty & Johnson, 1999). The World Health Organization (WHO) published a review of the available literature on smokeless tobacco in 2004 (updated in 2007), including animal studies displaying the carcinogenicity of smokeless tobacco products and observational (both cohort and case-control) studies in populations around the world. A recent study by Garg, Chaturvedi, and Gupta, (2014) found that not only is the Areca nut carcinogenic to the oral cavity, pharynx, oesophagus, liver and uterus, but it also has diverse effects on the human body that can affect almost all the organs. People in South Asian communities are generally not aware that chewing the Areca nut can cause oral cancer (Vora, Yeoman, & Hayter, 2000; Shetty & Johnson, 1999). Similarly, a UK study found that Bangladeshi adolescents living in East London were not aware of the association between oral cancer and the chewing of the Areca nut (Prabhu, Warnakulasuriya, Gelbier, & Robinson, 2001).

In addition, Sorensen et al., (2003) suggested that adults may not be concerned about children using smokeless tobacco products. A reason for this may be because these products are thought to be like 'candies' or confectionery, which was also echoed within this piece of research: *"So you don't really realise that it is actually tobacco that you're eating. They just taste sweet." (Maya: L10 - 11).* While Tiwari et al., (2001) reported that children were allowed to buy smokeless tobacco products for other family members as there is no sale restrictions on these products in India. A study by Warnakulasuriya (2002) also found that many shopkeepers who sell smokeless tobacco products are also not aware of the health risks of using these products, and the lack of legislative policies restricting the sale of these products (Longman et al., 2010) are suggested to be strong contributing factors to the continued use of smokeless tobacco products. Those who were aware, continued to sell these product as this has become a multimillion dollar industry (Auluck et al., 2009). Some of the participants in this research, did voice that the health impact of smokeless tobacco products needs to be more prominent and advertised as there is a lack of awareness within their community:

> *"There really needs to be graphic information made available to them about the impact chewing tobacco has on individual's health." (Maya: L148 - 149).*

> *"Again same as tobacco they…to a certain extent they know, it's not good that it causes cancer, some of the packaging probably can be improved I reckon, like cigarettes and things, but I don't think… there's probably not*

enough out there to explain what it actually does. Some of the packaging for some of the products I have named do have some… some sort of logo's to say that this does cause mouth cancer but I don't think there's a big enough awareness." (Amit: L41 - 46).

A study by Longman et al., (2010) found that out of the 94 pre-packaged products they purchased within their study, 93% had some information written in English, ranging from the product name to the full ingredient list. Less than half of these products (48%) had a form of health warning, and only 15% of these complied with the current legislative requirements. They also found that products from India were more likely to have a health warning in comparison to the products from Bangladesh, although more than half of these health warnings (58%) were still found to be incorrect (Longman et al., 2010).

3.2.3. Addiction

The use of smokeless tobacco products is a concern due to the potential risk of users being addicted and also the associated negative consequences of the use of these products. The participants in this research described the addiction to smokeless tobacco to be so strong that even when experiencing negative health effects the use of these products is continued:

> *"My cousin he dies of it and… cause he couldn't smoke any, he started this and his been addicted to it for many… I don't know how many years maybe 10… 10, 15 years and as a result of which he had throat cancer, and he passed away so." (Neerav: L97 - 100).*

> *"My uncle in law has it all the times, he is like super addicted to it, he erm… he has it all the time. His teeth are red, one of his tooth fell out…" (Ankita: L13 - 15).*

Addiction or the dependence on smokeless tobacco products can be defined as an excessive use of the product despite having an awareness on the reasons not to use these products. A study by Benowitz et al., (1999) found that smokeless tobacco products have much higher levels of nicotine than cigarettes, although the nicotine is absorbed more slowly through the body in comparison. As a result, it is found that the use of smokeless tobacco products can cause addiction and dependence, which may prevent users from quitting successfully (International Agency of research, 2007; Djordjevic & Doran, 2009). In a study by Biglan, Ary, Smolkowski, Duncan

and Black (2000), participants who used smokeless tobacco products were deprived from using them for a period of time which resulted in a greater consumption of the products afterwards. It was concluded within their study, that nicotine reinforces the use of smokeless tobacco. However, more interestingly they found that the habitual use of smokeless tobacco also increased the likelihood of cigarette smoking when smokeless tobacco products were unavailable (Biglan, Ary, Smolkowski, Duncan & Black, 2000). One of the participant's responses within this research reversely echoed the findings within the study by Biglan, Ary, Smolkowski, Duncan and Black (2000) as they suggested that the habitual use of smokeless tobacco increased when cigarettes were unavailable; *"I used to actually, when I stopped smoking I used that as a substitute…" (Neerav: L55 - 56).* The participant also shared that this was the similar case for one of his close relatives, *"My cousin, he was actually a smoker, he was about… he quit smoking because he had a medical condition and he got hooked onto this, and he was so… you know he got throat cancer, and he passed away by the age of 55 or 56 for doing that." (Neerav: L65 - 68).* This suggests that using smokeless tobacco products is a perceived aid in smoking cessation; this leads back to a lack of awareness about these products which was discussed in section 3.2.2 (p. 35).

Benowitz (1999) has also suggested that the reason for the consumption of smokeless tobacco is the same reason that people use cigarettes; for the psychoactive effects of nicotine. This was also described by some of the participants within this research:

> *"I think it's probably a bit like cigarettes you know it's… obviously an addictive item, so you know after you've had it… people taste it from a very young age in you know… in India and they sort of get hooked on to it, so it's very addictive same as tobacco, I think the concept so yeah." (Amit: L30 - 33).*

> *"…as long as you keep getting the hit so once the effect… you just can't feel the umm… the erm… the high kind of thing you just spit it out you don't swallow it yeah… and this Tulsi yeah that's the same thing yeah." (Rubina: L14 - 16).*

However, when describing this as an addiction, all participants referred to other people as being addicted to these products:

"No, they know the difference between the two (paan and paan masala), they clearly know the difference between the two they just do it out of habit and addiction." (Maya: L118 - 120).

"People tend to get the buzz and then spit you know the rest of it and then maybe for a couple hours, and then they just spit it out… and then again maybe who knows if… if you are addicted to it, people probably wait a couple of hours maybe two-three hours use another packet, some people have sworn they are addicted to it that they constantly you know have it so." (Neerav: L90 - 94).

"I have no idea, but I know… once… it's kind of like a sort of addiction for some people I know they chew it and once they've started it, they can't come out of it." (Arati: L35 - 36).

One explanation for this could be due to the fact that using smokeless tobacco products is thought to be unattractive and unhygienic. Therefore, participants would distance themselves as being smokeless tobacco user. Described below are how some participants believed the use of these products is an unhygienic practice;

"Chewing these things and then having spitting it out, it looks bad."(Deepak: L51 - 52).

"I usually see people having it in their mouth, and they just start spitting it out and all sorts of things. Very unhygienic."(Bindu: L41 - 42).

Addiction to these products has been proven to be one reason for the continued use of these products (Biglan et al., 2000) as most participants mentioned in the interviews. Similarly to smoking cessation programmes the dependence on nicotine also needs to be carefully taken into account when designing interventions for smokeless tobacco use.

3.2.4 Enjoyment

This theme refers to the extent to which the participants subjectively experience positive moods such as satisfaction, enjoyment, relaxation and euphoria with the use of smokeless tobacco products.

When asked by the interviewer the reasons why these products are used in that way Hameed described the use of these products as a source of gratification for people who chew tobacco *'just to give them satisfaction I think… make them more relaxed.'*

(Hameed: L9 - 10). Sanam also described the use of these products in the same way *'you know just to have enjoyment from eating it' (Sanam: L22).* Whereas some of the participants suggested that the motivations for habitual use of these products were due to the associated feelings of euphoria:

> *"I've heard people say that the high is like weed so you just get that kind of high and then when the high just stops you just spit it out or just take it out." (Rubina: L39 - 40).*

> *"Just to get a high yeah." (Deepak: L. 38).*

> *"Just for about 5 minutes it gives you a… you know slight kick, but then after that, it's basically some sort of a nut mixed with the… I don't know what… sort of a powder, must be the tobacco powder mixed with a nut and then you sort of place it in your gum that gives you a high." (Neerav: L57 - 60).*

Auluck et al., (2009) found that the Areca nut is often added to smokeless tobacco products such as paan masala and is used as a mild euphoric stimulant as it contains relatively high level of psychoactive alkaloids. One interpretation that can be made is that there is a conditioned association between using smokeless tobacco products and relieving the negative affect induced by the absence of the product. This may generate expectations regarding the user's ability to modulate affect irrespective of the current situation. People who use smokeless tobacco products and report more negative mood symptoms are more likely to state that their chewing habit was motivated by the desire to reduce negative affect (Hatsukami & Severson, 1999). Furthermore, participants within their study suggested that they did have a reduction in negative affect after using these products, this was specifically true if they held such beliefs (Hatsukami & Severson, 1999). Chewing the Areca nut has also been reported to cause a hot sensation within the body and heighten alertness (Auluck et al., 2009). It is also suggested that the use of these products are more prominent among those in lower socio-economic status to avoid boredom and to suppress hunger (Croucher & Islam, 2002; Strickland, 2002; Williams, Malik, Chowdhury, & Chauhan, 2002). A UK study, found that of the South Asian immigrant participants they interviewed 42% said they chewed the Areca nut because this gave them a refreshing feeling; 35% said they chewed because it tasted good; 29% used it as a type of snack, and others used it because they believed that it strengthened the teeth and gums (Prabhu, Warnakulasuriya, Gelbier, & Robinson, 2001). A report produced by Westminster Public health team (2013) that looked into the psychological reasons

for chewing paan or tobacco also found similar results, as the participants reported that, they felt more confident, it helped them concentrate, relieves boredom, they enjoyed it and made them feel happy. If they did not chew paan, they reported experiencing mood changes and agitation. It is therefore important to explore the expectations of the role of affect management surrounding the use of these products, to inform interventions that focus on preventing relapse.

3.3. Social and Community Networks

Social and community network is the next layer described within the layer of influence model (Dahlgren & Whitehead, 1991). This is primarily concerned with how the interactions between groups of people and/or organisations and institutions have an impact on an individual's choice to use smokeless tobacco products. Acceptability and Family and Peer Influence are the two main themes that were identified in this piece of research.

3.3.1. Acceptability

Most participants saw the ritual of chewing paan masala as a traditional social activity that sometimes took place in the company of friends and family. Sharing the paan masala appeared to be central to the sharing experience between family members and the community. Participants also described that some of the smokeless tobacco products were used for several symbolic functions, such as to celebrate wedding rituals (Mukherjea, 2012). The following are some quote extracts participants used to describe how paan is used within a social context.

> *"After weddings also they offer you a sweet paan, after a meal as well they offer you. If you go to a restaurant as well, certain Indian restaurants they still have this sweet paan." (Neerav: L166 - 168).*

> *"So it's more of a dessert kind of thing that people tend to have after they like have dinner or something, so it's very occasional, like only if they're going to a party or something." (Rubina: L96 - 97).*

> *"Yeah, but even if they don't have the green leaf, they'll sell Mukwas after dinner if somebody comes to your place or even you know sometimes after having dinner I might have that." (Priya: L74 - 75).*

> *"It's like you had tea or social drink or something like that." (Rashmi: L. 50).*

In contrast Rubina also stated that the acceptability of these products could be dependable on where the individual's family originates from. The participant mentioned that the norm of chewing in public may be specific to certain communities.

> *"In some cities it is like there are some communities where naswar is fine. Paan is not really… it's kind of acceptable but not in public places you know and some restaurants or offices and something like that but in homes it's kind of acceptable" (Rubina: L46 - 48).*

This echoes the opinions of other participants who illustrated that geographical origins influence the acceptability or ways of consuming smokeless tobacco products. This is discussed further within section 3.5.4.

From these interview extracts, it is suggested that the social aspect of chewing tobacco has been passed down from the previous generations and therefore cementing the acceptability of these products within this population group:

> *"My grandma's generation they would all be using all those things, that was kind of tradition part, like having a cup of tea kind of thing yeah. They used to sit down and do it… as I said once one does it someone else joins you… sit together have it. It's like having… some people enjoy a cup of tea, so someone else joins and have the company." (Arati: L43 - 48).*

In this instance, the interview extracts described the paan masala as having sociocultural characteristics in common with food *'so it's more of a desert kind of thing that people tend to have after they like have dinner'.* Sharing food has been suggested to have a symbolic role in reaffirming social ties, an expression of cultural identity and is often exchanged as gifts (Williams, Malik, Chowdhury, & Chauhan, 2002). It is apparent that the use of these products is an action that is socially acceptable in this community. It is repeatedly described as being shared amongst the participant's social network, suggesting that the participants within this study believed that the use and the sharing of the paan masala is a way to affirm social ties within their social network and has become a norm within this community which has been integrated as part of their daily lives. Maya referred to how the paan masala products would be shared amongst others; *'they would either tear it up and share it between two people or one would be given to one person' (Maya: L34 - 35).* This suggests that the use of these products is socially acceptable and has a positive impact on social interactions when the product is shared.

3.3.2. Family and Peer Influence

The use of smokeless tobacco products by an individual's family and friends is an important influence on the individual's use of smokeless tobacco. It has been suggested that children are more likely to take up the habit if their parents, family members or friends are also users (Messina et al., 2012). This was also apparent in the data of this research:

> *"…they follow what their Father's do. So if the father used to chew tobacco, it's most likely that the child would start chewing tobacco… because they don't see any harm in it at all." (Maya: L54 - 56).*

> *"I would assume if you were a young boy you would do it because your dad's done it, it's normal like smoking. People, who smoke have picked up the habit from people around them, right? I assume that's why young people would do it…" (Ankita: L111 - 113).*

> *"Yeah, it think of you know friends, the social aspect you know friends using it, and you know they use it just as a social thing, and then they eventually get addicted to it and yeah." (Amit: L58 - 59).*

Family and friends are influential factors in the use of smokeless tobacco and have been reported previously in a small study, which found that children under the age of 10 years old reported that they had previously used and experimented with smokeless tobacco or smoking, through imitating their friends, parents or other elders within the family (Krishnamurthy, Ramaswamy, Trivedi, & Zachariah, 1997). Vaidya, Vaidya, and Naik (1992), also found similar results in children aged between 5 and 10 years old; with around 13.4% of boys and 9.5% of girls used smokeless tobacco products (specifically mishri). The study indicated that the most influential factor underlying their use of smokeless tobacco products was due to the influence of their family members who used these products. Furthermore, this finding also corresponds to the theme of Acceptability (section 3.3.1) found within this present research. Sharing the paan masala appeared to be central to the sharing experience between family members and the community because it has been deemed as an acceptable and traditional social activity.

3.4. Living and working conditions

Living and working conditions are suggested to be highly correlated with health outcomes (Wilkinson, & Marmot, 2003). Low employment rates and lower incomes

are suggested to be unambiguously bad for health (Stuckler, Basu, Suhrcke, Coutts, & McKee, 2011), thus socioeconomic status is suggested to be a determinant of both life expectancy and healthy life expectancy (Wilkinson, & Marmot, 2003). Within this piece of research, participants identified the educational status and occupational status as two factors of the living and working conditions that has an impact on the use of smokeless tobacco products.

3.4.1 Educational status

Education is another important determinant of tobacco use (World Health Organisation (WHO), 2004). The use of smokeless tobacco was found to be common amongst those with lower education status in the country (Rani et al., 2003), which can often be attributed to the lack of awareness and knowledge amongst this population group, specifically regarding tobacco products. Some participants within this research mirrored this finding and suggested that education is a factor in the use of smokeless tobacco products.

> *"Here it's not so much a norm people don't have Tulsi and Munikchand in my age group its more cigarettes but not many, cause we have been educated a lot I think… my generation we have been educated a lot especially if you went to school in this country. Tobacco is bad for you, lung disease, cancer but I don't think they are educated like that in other countries so maybe that doesn't help." (Ankita: L116 - 120).*

However, one participant suggested that addiction plays a bigger role with the use of these products in comparison to a person's educational level. Here he is suggesting that smokeless tobacco users are not naïve to the risks of continuous consumption but choose to be ignorant of the facts:

> *"Erm, it's like what I said people do things for enjoyment, some of them are aware of the risks involved and they'll continue doing it." (Sanam: L67 - 69).*

In previous studies, those with low levels of education have been shown to use tobacco the most (Rani et al., 2003). Sorensen et al., (2005) also found that there was a relationship between the use of tobacco and education level. The rate of smokeless tobacco use was found to be highest amongst those who were illiterate and lowest amongst those with a college education in both men and women alike (Sorensen et al., 2005). Similarly, in a study conducted by Binnal, Rajesh, Ahmed and Denny (2016) participants who were classified as graduates and above, involved in semi-

professional or professional occupations and with income of more than Rs.10,001 had significantly better knowledge scores on smokeless tobacco products than their counterparts, which could be attributed to their higher level of education. Rajnarayan et al., (2006) also reported similar findings within their study, as they found that a higher level of education meant that there was a better knowledge of smokeless tobacco products overall. This suggests that education is a significant factor in the patterns of smokeless tobacco use.

3.4.2. 'More of a Working-class thing.'

Not only is occupational status suggested to be an important health determinant (Berkman, Kawachi, & Glymour, 2014), there are a number of ways in which work can affect health, whether this is by direct exposure to hazardous materials, or more indirectly, by influencing health behaviours (Sorense, Emmons, Stoddard, Linnan, & Avrunin, 2002). The data gathered within this piece of research suggests that occupational status is a factor in the use of smokeless tobacco products. Most of the participants stated that it was mainly people who are within the working-class category who were more likely to use these products:

> *"But they don't… it is mainly man, and it's mainly man who erm… who are from the working class community that seems to do it a lot more." (Maya: L67 - 69).*

> *"So it is more of a working class thing than erm, it is with any of the professional erm things. I haven't really seen any of the professionals eat it much, but I have seen shopkeepers being addicted to it. A lot of the Asian shopkeepers from the Indian origin erm are addicted to it and although you tell them… and they are not uneducated some of them are educated, and you tell them this is an addictive product; this has got tobacco and cancer-causing they take no note." (Maya: L72 - 77).*

> *"...a lot of lower class people they do the naswar, so I think it is okay for them to do it in their community but otherwise paan is pretty acceptable yeah." (Rubina: L49 - 51).*

The findings in this research suggest that the use of smokeless tobacco products are common amongst those who do not work or are amongst the working class. Sorensen et al., (2002) found that both men and women professionals were least likely to use or previously used tobacco products, in comparison to those who are

unemployed or unskilled workers. Similarly, with regards to the use of smokeless tobacco in this piece of research, Sorensen et al., (2005) found that highest use of these products were also amongst both women and men who were classed as unemployed and unskilled workers. In general terms, this echoes the tobacco use patterns of the lower socioeconomic groups. They have been found to have higher rates of smoking compared to the higher socioeconomic groups (World Health Organisation (WHO), 2014). It has been suggested that people of low-income status and uses tobacco are more intensely addicted to nicotine (Siahpush, McNeill, Borland and Fong, 2006), this finding could also be applied to the use of smokeless tobacco products, as they have been found to contain higher amounts of nicotine compared to cigarettes (Benowitz et al., 1999).

3.5. General Environmental and Cultural Conditions

The final layer environmental and cultural conditions refer to how variables that may exist in an individual's physical environmental may have an impact on the individual's decision to use smokeless tobacco products. Four themes, in particular, were identified to having an impact on the reasons for smokeless tobacco use. These are as follows; Cultural beliefs, Migration, Availability and Geographical Origins.

3.5.1. Cultural beliefs

Cultural beliefs refer to a set of shared attitudes, values, goals and practices that characterises a community. For the purpose of this piece of research, this theme is specifically associated with the use of smokeless tobacco products.

> *"It's been brought down for generations, and it's… I wouldn't say it's a modern thing to do but in the 60's and 70's it was just a done thing." (Maya: L29 - 33).*

> *"Yeah, in many of them yeah…many of them use it yeah… after… after weddings also they offer you a sweet paan, after a meal as well they offer you. If you go to a restaurant as well, certain Indian restaurants they still have this sweet paan. That's not harmful." (Neerav: L179 - 181).*

Within this interview extract, the participant Maya explains how the use of paan has been integrated into everyday life. She describes a scenario of a person acquiring paan after having their meal *'so after a meal people used to go to the paan seller and just have 3 or 4 paans made up to take with them' (Maya: L32 - 33).* Mukherjea (2012) found similar results in the United States, whereby respondents frequently

reported that their reasons for the use of smokeless tobacco products were socially and culturally influenced. It was concluded that the use of these culturally-specific products was to maintain the tradition, socialise with members of similar ethnic background and engage in celebration events.

Some participants within this piece of research, also expressed that the reasons for chewing paan and using the snuff were also strongly related to the desires to continue traditional practices.

> *"I think yeah, it's racial it's been used by many you know old age people, so it's got to be like you are using it so." (Neerav: L23 - 24).*

Neerav felt that the reason to use smokeless tobacco was because it had been used culturally by the older generation within his community. This suggests that chewing paan is easily and readily available locally to people within his ethnic community and that it is a practice that is expected by the older generation to continue throughout the generations. As participant Maya suggests this could have an impact on the reasons to use smokeless tobacco products. The availability of these products and the impact it could have is discussed at length in section 3.5.2, as availability was identified as one of the themes within this present research.

In addition, participant Maya also felt that the use of these products usually starts at an early age, a tradition that has been carried forward through the years by each new generation *'It's been brought down from generations…' (Maya: L31).* However, most interestingly Maya described how the use of these products is initiated to children within her culture *'a small amount would be torn off and be given to a child.' (Maya: L35).* It is apparent that the older adults are not concerned by the fact young children are indulging in this habit as it is considered to be a part of their lives and culture (Chandra, & Mulla, 2007). This may serve to connect the other generations by encouraging interaction through the shared use of these products. According to a report by the Health Development Agency (2000), the use of smokeless tobacco products were more prevalent amongst older participants, however younger UK born South Asians are being drawn towards this habit. The age of first use with these products varied, between the participants with some starting the chewing habit with their families, as an adolescent, which is consistent with the study by Sinha et al., (2003). As reported within their study, the initiation to smokeless tobacco use starts from as young as the age of 10 years old. In contrast, Ahmed, Rahman and Hull (1997) found that about 75% of smokeless tobacco users

reported that their habits started in Bangladesh, with an average age of 44 years old, but around 25% of both males and females started chewing paan in London at a younger age in comparison, with an average age of 34 years old. Similarly, Pearson et al., (1999), found that the average age of initiation was 20 years old, with some people starting to chew as young as the age of 6 years old and some as late as the age of 56 years old. They found that by the age of 17 years, 50% of the participants were chewing paan, with more males starting the habit earlier at the age of 15 years in comparison to the females. Prabhu et al., (2001) also found in their study, the average age of their participants initiation to smokeless tobacco products were as early as 9 years old with majority (86%) starting the chewing habit while living in London. This finding was also similar to those reported by Summers, Williams and Curzon (1994), which indicated that 18% of their participants were also starting to chew from as young as the age of 10 years old.

3.5.2. Easily available

The availability in this piece of research, referred to how readily obtainable smokeless tobacco products are within South Asian communities. Participants in this research expressed how it was easy for them to obtain these products within their communities. The following are interview extracts where participants have referred to the availability of smokeless tobacco products:

> *"Yeah, they are easily available, they are easily available here as well"* *(Maya: L. 92).*

> *"I don't know if it encourages I do think it's far too readily available especially in Asia. Like Ealing road, Kingsbury there's loads of paan shops so you can just go in and buy stuff. I don't know if there is any restrictions on that, like tobacco you have to be sixteen I don't know if my daughter went and asked for that will they sell it to her. I don't know which is terrible there should be some restrictions on it I think." (Ankita: L93 - 97).*

> *"No, it's like erm… you know these street burger places, so it's little areas that they stand there and sell it and some of them are inside the shops yeah."* *(Hameed: L42 - 43).*

The fact that these products are readily available and easily accessible within this community has been documented in similar studies (Croucher et al., 2009; Longman et al., 2010). Paan products are available in Asian grocery shops, *'comes with a small*

sachet erm... which you erm... you can buy from any convenience store' (Amit: L8 - 9). These products are the takeaway type of paan mixtures which are very popular amongst the men in this population group. They are industrially manufactured in India and Pakistan in large scale and distributed within these countries as well as exported to other countries in the Indian subcontinent. Furthermore, these products are exported to Western countries too (Croucher et al., 2009; Longman et al., 2010). As mentioned before different product types are sold without any regulatory health warnings (Longman et al., 2010). Under the terms of the 2001 EU Tobacco Products Directive, smokeless tobacco products are required to have a health warning (Devlin et al., 2005). However, many of these products fail to comply with the law even though they are readily available in local communities with a large South Asian population (Longman et al., 2010). Some participants within this research noted that the use of some of these products are against the law however the use of these is still prevalent.

> *"No, no, no but this one like munikchand this one is getting illegal, but people still have it... they do... many shops are not supposed to sell it, but they do sell it which is not right." (Bindu: L67 - 68).*

> *"It's actually... it's actually banned you know in India its ban; you're not supposed to sell it or... as far as I know but I'm sure... but still, people sell it you know erm... under the law, you know... I'm not sure of that as far as I... you can't sell it openly or but still, people get it, use it or get to buy it from certain... I'm sure you get here as well so... you see it mostly Asian's so..." (Neerav: L133 - 137).*

The study by Longman et al., (2010) on the accessibility of smokeless tobacco products in England, found that of the ninety-four pre-packaged products purchased only 15% complied with the legal warning requirements. These products were also found to be generally cheaper compared to cigarettes (Longman et al., 2010). Nevertheless, participants in this study stated that the availability and the price of these products were, in fact, influencing factors in the use of smokeless tobacco products within their community:

> *"...it's available, and it's available cheaply. It's available cheaply I believe compared to cigarettes I really do not think that they think..." (Maya: L83 - 84).*

"My generation tends to be this Munikchand and Tulsi because it's easily available in packets, you can buy it in most Indian shops." (Ankita: L28 - 29).

"Erm, obviously not as much as India but I have seen it used especially in our sort of culture, a lot of people do use it here. Obviously, it gets transferred a lot from India, and I think just because of the availability of how easy it is to get a hold of.' (Amit: L64 - 66).

As suggested from the findings, due to availability and ease in accessibility of smokeless tobacco products, its use is quite prevalent amongst teenagers and children in South Asian communities (Longman et al., 2010). Since smoking cigarettes is considered to be taboo in India, the emergence of cheap and easily available smokeless tobacco products has led to a dramatic rise in the use of these products, even amongst women and children (Sauvaget, Ramadas, Thara, Thomas & Sankaranarayanan, 2008). The use of these products was also described as common practice between the participants in this piece of research and widely used throughout the country by South Asian communities, Amit said:

"They're very widely used in the country that I am originally from which is India." (Amit: L. 7).

Priya also referred to the popularity of these products, *'...in India, you would see a lot of people with… you know in the streets; you'll see people making paan like hocus they have a paan like stall.' (Priya: L63 - 65).* With the products being so common to use within South Asian countries it may affect people's decisions to use these products. Echoing Priya's statement, Hameed also said *'...you know these street burger places, so its little areas that they stand there and sell it and some of them are inside the shops.' (Hameed: L40 - 41).* Both Priya and Hameed referred to how the sale of these products have become integrated into this particular ethnic's group community, with smokeless tobacco products being easily accessible in shops and even roadside stalls. This raises various concerns as it suggests that these products are commonly used and increasingly so, with the potential in enticing new consumers to start using smokeless tobacco. The study by Gupta and Ray (2003), reported that one of the factors that encourages people to continue the use of smokeless tobacco products includes the affordability and the ease of purchasing and producing such products.

3.5.3. 'The new Asians'

The process of migration can have a positive or negative impact on health outcomes just as health status can affect the migration outcomes. The migration process on its own is not a risk to health, but the conditions that surrounds migration can increase the vulnerability to certain health risk factors (Davies, Bastern & Frattini, 2009). Health risk factors and legal status of migrants are often linked together, which determines an individual's level of access to health and social services. Further contributing factors include poverty, housing, education status, gender, culture, discrimination, social exclusion, socio-cultural norms, separation from family and differences in language (Davies, Bastern & Frattini, 2009). The participants within this piece of research have made clear associations with migration and the use of smokeless tobacco products:

> *"Yeah or the typical Indian's whose sort of come in recent years and stayed here kind of thing I think so… very recent ones yeah."(Rashmi: L96 - 97).*

> *"I've seen a lot of Asian's who have come from India chew the… I don't know what it is, its red betel nut or whatever it is and just spits it everywhere which is disgusting."(Sanam: L16 - 18).*

> *"The unacceptable bit is when they spit… the new Asians the young Asians at the moment who has come I think that's unacceptable." (Sanam: L43 - 44).*

Within this research, the participants mentioned that these products were predominantly being used by people who have recently moved to the UK and are still following practices done in the countries they originate from. The study by Vora, Yeoman and Hayter, (2000) found that the chewing tobacco habits amongst the first- and second-generation Asian living in Leicester, suggested that there was a continued use of the products long after the migration process and served as a way to culturally bond with the community and similar ethnic groups within the area. The ethnic variations with smokeless tobacco use has been recognised, with the predominant group retaining the chewing habits after migration, are adults of Bangladeshi origins (Khan, Robinson, Warnakulasuriya, Newton, Gelbier, & Gibbons, 2000). Lower socioeconomic status, the inability to speak English and social deprivation have been suggested to be positive determinants for the use of smokeless tobacco products within this population group (Warnakulasuriya, 2002).

3.5.4. Geographical Origins

There are some parts of India where the use of smokeless tobacco is more common than cigarette smoking such as the states of Bihar and Maharashtra (Gupta & Ray, 2003). Echoing this finding some participants within this research also stated that there are specific areas of India that are more prone to using smokeless tobacco products:

> *"There is one particular Asian community which are from Diu and Dhaman which are the two islands off the coast of Gujarat… it is mainly the Gujurati community who are prolific user of chewing tobacco, but those who are from Diu and Dhaman are hardened people…"* (Maya: L91 - 94).

> *"I think Bengali uses the red tooth powder right? They use some kind of powder that makes their tooth red… okay and none of the others."*(Ankita: L8 - 10).

> *"I know quite a few young people who use it but only if they are like from the northern areas, they are more prone to do it but not like erm… yeah, the northern areas they more… they are more typical to do that, but the paan masala the more senior citizens as I said would use it than youngsters."* (Rubina: L70 - 73).

Gupta and Ray, (2003) suggested that apart from the regional preferences of smokeless tobacco due to the various socio-cultural norms, the preference to using these products are also inversely related to income and education, as discussed within this present research in section 3.4. However, a number of other studies have found that the use of smokeless tobacco products does vary in geographical locations (Subramanian et al., 2004; Rani et al., 2003). In the study by Subramanian et al., (2004), it was found that the use of smokeless tobacco products varied from 7.2% to 59.4% within the different states of India. For example, in places such as Goa, West Bengal and Dehli cigarette smoking prevailed over smokeless tobacco use while in Maharashtra, Uttar Pradesh and Assam smokeless tobacco use prevailed over the use of cigarettes (Subramanian et al., 2004). Similarly, Rani et al., (2003) found that the prevalence of both cigarette smoking and smokeless tobacco use varied significantly among different states in India. With the prevalence of smokeless tobacco use being higher within the Central, Eastern, Western and North-eastern states of India compared to in the Northern and Southern states. However, in areas where smokeless tobacco is less prevalent, there was a higher rates of cigarette smoking. An exception

to this was found in the Punjab area where it is prohibited to use any form of tobacco amongst the majority of the Sikh population (58%) due to their religious beliefs. Echoing their findings, the participants in this present research suggests that regional patterns for the use of these products do in fact exist.

CHAPTER 4

4.1. DISCUSSION

It has been argued that the use of smokeless tobacco products is an emerging public health issue worth investigating in the UK (NICE, 2012). The use of these products has been found to be a significant contributor to a number of adverse health effects amongst its users (Gupta & Ray, 2003). However, given the number of known health risks associated with smokeless tobacco use, it is surprising that limited evidence on effective cessation programs exist to help tackle this issue (NICE, 2012). The scarcity of effective cessation programs could be due to by the lack of research that exist to explore the reasons behind the use of these products. The few studies that have investigated the use of these products have also suggested that the reasons behind their use are multi-factored and complex (Gupta & Ray, 2003; West et al., 2004; Roth, Aitsi-Selmi, Wardle, & Mindell, 2009; Kakde et al., 2012; Sharan, Mehrotra, Choudhury, & Asotra, 2012; Mahendran, 2015). Kakde et al., (2012) found that amongst the South Asian population, the use of products are ingrained within this population's traditions and cultural beliefs. This echoes the findings in the study by Mahendran, (2015) which suggested that the use of paan in particular were used in symbolic functions such as wedding ceremonies. Similarly, West et al., (2004) found that within the Bangladeshi culture is it customary for paan to be offered to family members and guests after a meal. The study by Gupta and Ray, (2003) however, found that the use of these products were because it was believed that smokeless tobacco products possess properties that would aid with certain health issues. Specifically, in the study by Sharan, Mehrotra, Choudhury and Asotra, (2012), it was suggested that the use of paan was thought to aid with digestion, help to freshen the mouth and relieve stress. It is clear that more research is needed, in order to aid in the development of a multifaceted approach to address the use of smokeless tobacco products, the impact it has on individuals' health by raising public awareness, linking in with the local community and developing targeted and culturally sensitive cessation services.

The qualitative approach adopted in this present research aimed to explore the use of smokeless tobacco products amongst people of South Asian origins, in relation to the main determinants of health. To the best of our knowledge this is one of the first UK study to examine the influences on the use of culturally specific tobacco i.e. smokeless tobacco. The broader objective of this thesis was to investigate the opinions, and attitudes that would encourage the use of smokeless tobacco products within this population group. The rationale for this research was to address the lack of knowledge surrounding users' perspectives of these products and provide a starting point for the development of a smokeless tobacco cessation programme. Therefore, the aim of this thesis was to explore the reasons for the use of smokeless tobacco products from the participant's viewpoint using the layers of influence model as a framework (Dahlgren & Whitehead, 1991).

The themes identified within this piece of research confirms that the layers of determinants as described within the Dahlgren and Whitehead, (1991) model, can be used to understand an individual's use of smokeless tobacco products. For example, the results of this piece of research suggests that the use of smokeless tobacco was related to age, with the 'older generation' being the prime users of these products. This echoes previous studies that found that the use of smokeless tobacco was higher amongst the middle-aged and elderly males and females compared to the younger generation (Rani et al., 2003; Neufeld, Peters, Rani, Bonu, & Brooner, 2005; Islam, 2006). Participants from this study explained that this was because the younger generation saw the use of smokeless tobacco products as old-fashioned and that using cigarettes is thought to be more modern in comparison. Contrast to the findings within this research a few studies have found that some young individuals do consider the use of smokeless tobacco products to be as a very popular and acceptable (Mishra & Mishra, 2016). It has been suggested that smokeless tobacco use has become an essential component of adolescent lives, and it is the fourth commonly abused substances worldwide (Winstock, 2002; Boucher & Mannan, 2002). Adolescent children may also get fascinated by the attractive packages and aggressive marketing to purchase and use these products (Williams et al., 2002; Shrivastava et al., 2017). The findings from both this present research and previous studies are encouraging for the development of a specifically targeted cessation program, in regards to age. However, due to local areas having different make-up in demographics it might be useful to ensure that a scoping exercise is done primarily to ensure that the cessation programme is developed is appropriate.

Moreover, the findings in this present research showed that gender also played a role in regards to the use of smokeless tobacco, with women mostly using these products compared to men. Similarly, in previous studies that has investigated the trends in gender in smokeless tobacco use it was found that the prevalence of smokeless tobacco use differed between genders (Gupta & Ray, 2003), with 57.1% of women and 45.7% amongst men respectively (Sinha, Gupta, Ray, Singh, 2012). The study by Sudarshan and Mishra, (1999) also found that around 90% of their female participant used smokeless tobacco products, which is much higher as compared to males. However, there was a lack of explanation in regards to the differences in gender. The findings in this research could provide such explanation as it was suggested by the participants that smoking cigarettes is not considered to be acceptable for women within the South Asian culture. It is thought of more as a masculine behaviour, therefore using smokeless tobacco products is considered to be more discrete and 'ladylike' in comparison. The findings in this present research could be used to ensure that it challenges the women's reason for the use of tobacco and they are made more aware of the dangers that using smokeless tobacco could cause on their health. Whilst also ensuring that support is provide for the men in regards to the dual use of smokeless tobacco products and cigarettes.

It can be interpreted that the reasons for using smokeless tobacco products are not solely affected by an individual's characteristics, but rather as a combination between determinants of health within the layers of influence model. As seen in the results some participants believed that there was a medicinal benefit to using smokeless tobacco products. Having a lack of awareness to the associated health risks and belief in the perceived benefits to a range of health issues such as dental problems and stress, encouraged the use of smokeless tobacco products amongst the participants. This suggests that a majority of participants may be exposing themselves to the carcinogens found in those products, but are unaware of the risk. It is essential that health professionals understand the cultural significance and the adverse health effects of using chewing tobacco products, in order to empower users to understand the associated health effects.

Most participants in this research also associated the use of these products with feelings of euphoria and satisfaction. Similar results have been echoed in a number of studies where participants reported that their chewing habit was motivated by a desire to relieve boredom, feeling confident and happy (Hatsukami & Seeverson, 1999; Croucher & Islam, 2002; Strickland, 2002; Williams, Malik, Chowdhury, &

Chauhan, 2002). It is therefore important to explore the role of affect management surrounding the use of these products, in order to inform interventions that focus on preventing relapse. There have been questions raised about the perception of consumers regarding the safety of smokeless tobacco products due to the recent growth in these products promotion and consumption, specifically in vulnerable and high-risk populations. Previous research has mostly focused on smokers' attitudes and beliefs on smoking cigarettes in regards to the risk perceptions of tobacco products (Hamilton et al., 2004; Institute of Medicine, 2011; Shiffman, Pillitteri, Burton, & Di Marino, 2004), meaning there is a lack of evidence in regards to the use of smokeless tobacco products. The results from this present research suggests that factors such as attitudes, knowledge and beliefs have a role in influencing an individuals' behaviour to using smokeless tobacco products. This research makes similar connections to the study by Messina et al., (2013) which found that contextual factors such as stress, traditional messages, health beliefs and the lack of awareness of the health risks are potential factors that could influence the use of smokeless tobacco. There is a need for further research on the use of these products in regards to risk perceptions to aid in the development of appropriate interventions. It would be beneficial to have a structured intervention with the inclusion of theories such as the Health Belief Model (Rosenstock, 1994), Theory of Reasoned Action and Planned Behaviour (Azjen & Fishbein, 1988), which would be effective with challenging the beliefs this population group associate with the use of these products. These theories could aid in highlighting the importance of understanding the individuals' health motivations and beliefs about the potential harm and severity of consequences regarding the use of smokeless tobacco products.

Moreover, the results from this piece of research highlights that social support can act both as a facilitator to continued use of smokeless tobacco and as a barrier to the successful cessation of these products. The association with cultural traditions and socialising with friends and family members are found to be compelling factors that perpetuate the use of smokeless tobacco products between the generations (Anwar et al., 2005). It is important that these factors are considered when planning and designing smokeless tobacco cessation programmes, which can be two fold. One by ensuring that information regarding the potential health risks of the use of these products are disseminated to all family members. Secondly, there is overarching evidence that social support and constructive social relationships are important contributors to positive health outcomes (Feeney & Collins, 2015). Social support

can provide the emotional and practical resources individuals' need in order to maintain their health. Belonging to a social network of mutual obligation provides individuals with a sense of being cared for, loved, esteemed and valued, which can have a powerful effect on health behaviours. It is therefore important that any cessation programme developed include an element of social support, to ensure successful cessation to these products.

Reference to the level of education and the use of smokeless tobacco products were made by the participants in this research. It was suggested that those with low levels of education were more likely to use these products, which can be attributed to the lack of awareness and knowledge about the health risks of smokeless tobacco products. Similarly, studies have shown that education is a strong predictor than both among men and women in the use of these products (Rani et al., 2003; Sorensen et al., 2005). Echoing the findings of this research, Bobak, Jha, Nguyen, Jarvis and Mundial (2000) suggested that prevalence of smokeless tobacco use is higher amongst the lower income group due to a lack of education regarding health risk associated with tobacco consumption and wider determinants of health such as poor housing. Furthermore, it has been suggested that this population group are more likely to engage in risk taking behaviours (Bobak et al., 2000). The results in this piece of research also suggested that occupational status was also an important factor in the use of these products. It was suggested by the participants that mainly people who are within the working-class category who were more likely to use smokeless tobacco. This confirms other findings found within studies investigating why these products are used. Sorensen et al., (2002) found that both men and women professionals were less likely to use or previously used tobacco products, in comparison to those who are unemployed or unskilled workers.

It is therefore important that any intervention aimed at lowering the use of smokeless tobacco products and creating awareness of health risks associated, take into account the needs of these disadvantage groups of people that represent the gap associated with smokeless tobacco ill health and morbidity (Bobak et al., 2000). It is essential that interventions are designed and evaluated in accordance to the target service user group's needs, i.e. their culture and socioeconomic status.

Finally the results of this present research refers to the environmental and cultural conditions that may have an impact on an individuals' use of smokeless tobacco products. In particular, references were made by the participants on cultural beliefs,

migration, the availability of these products and also geographical origins. Firstly, in regards to the cultural beliefs associated with the use of smokeless tobacco products, one participant explained how the use of paan has been integrated into the everyday life of the community. Whereby this product is shared after a meal and even at social events such as wedding ceremonies. It was concluded that the use of these products was to maintain the tradition, socialise with members of similar ethnic background and engage in celebration events (Mukherjea, 2012). Secondly, the participants in this research also highlighted how migration could also impact the use of smokeless tobacco products. It was mentioned that these products were pre-dominantly being used by people who have recently moved to the UK and are still following practices done in the countries they originate from. The study by Vora, Yeoman and Hayter, (2000), could provide an explanation of why that is. Within their study they found that using smokeless tobacco products were primarily amongst those who were classed as first- and second-generation of the community. Their findings suggested that the continued use of these products even after migration, served as a way to culturally bond with the community and similar ethnic groups within the area. Considering these findings, it is important that interventions focusing on cessation challenges the cultural traditions behind these products and ensure that support is also made available to people who have recently migrated into the country, by challenging their beliefs and also on another level providing the support with them engaging with the community in a more health positive way.

Another contributing factor identified within the present research is the reference made by the participants in regards to the availability and the ease of accessibility to smokeless tobacco products. Most of the participants expressed how it was easy for them to obtain these products within their communities. The fact that these products are readily available and easily accessible within this community is a cause for concern, which has been documented in a few studies (Croucher et al., 2009; Longman et al., 2010). This is because it has been found that majority of smokeless tobacco products in the UK are sold without any regulatory health warnings (Longman et al., 2010). Under the terms of the 2001 EU Tobacco Products Directive, smokeless tobacco products are required to have a health warning (Devlin et al., 2005). However, many of these products fail to comply with the law even though they are readily available in local communities with a large South Asian population (Longman et al., 2010). These finding should prompt higher legislations and even appropriate organisations to take action in enforcing this law. This should

include stricter rules into the sales of smokeless tobacco products which would hopefully have an effect on the prevalence of their use. However, it is important that effective interventions are put in place at the same time, so support and treatment is provided for people who decides to quit.

Lastly, there were references made to how there are specific areas in India that were more prone to using smokeless tobacco products. Similar studies have suggested that the use of these products does vary in geographical locations (Subramanian et al., 2004; Rani et al., 2003). It is important that public health strategists and commissioners recognises these differences and are able to apply this to the development of support services to ensure a truly targeted approach is taken and thus provide effective interventions.

The use of smokeless tobacco products are widely accepted within the South Asian population, irrespective of age, sex and location. This piece of research illustrated that the use of smokeless tobacco products is an integral part of the South Asian culture; thus, little stigma is associated with its use. In addition to this, marketing strategies conducted by tobacco companies such as: having influential personalities advertising tobacco products, alongside the low cost and the lack of legislation, further encourages the use of these products - especially amongst the adolescent and younger generations (Longman et al., 2010).

The themes identified in the present research may aid in understanding the different motivations for the use of smokeless tobacco products, which could inform the design of public health interventions. For example, constructing interventions that combine psychosocial elements alongside health education to dispel any false assumptions regarding the use of smokeless tobacco. This research, therefore, offers an alternative approach to understanding the use of smokeless tobacco products, which is complementary to the existing body of knowledge (Greenhalgh, 1998; Graham, 1993; Gupta & Ray, 2003; Kakde et al., 2012). Hatsukami, Ebbert, Feuer, Stepanov, and Hetch, (2007) summarised the evidence for effective interventions in smokeless tobacco cessation and concluded that interventions focusing on pharmacological methods were ineffective for long-term abstinence. Rather, having a deep understanding of the users' views and perspective is essential in designing cessation interventions for the use of smokeless tobacco products (Kakde et al., 2012). It is clear that a multifaceted approach is needed in order to address this habit

and the impact it has on health, which includes reviewing policies on the regulation of sales, raising public awareness, and linking in with the local community.

One of the strengths of this piece of research is the use of semi-structured interview to investigate the use of smokeless tobacco products, whilst still providing the participants with the opportunity to offer new meaning to the research focus. However, one way this could have been improved is by adapting a hybrid method i.e. by structuring the interview schedule into different segments for data collection. For example by first starting with open ended questions then moving on to theoretically driven questions as the interview progresses further. This would have allowed the research to draw attention on the participants lived experiences while also focusing on the theoretically driven variables of interest (Galletta, 2013).

One limitation pertains to the small group design employed within this research. Having a small number of participants may have prohibited the generation of more themes. However, having a small group design was effective in generating information which helped in elucidating the cultural context sought after in this research. Another limiting factor is that only one reviewer analysed the data. Although the themes were then individually refined by two reviewers at a later stage, having an extensive collaborative approach at the onset of the data analysis could have resulted in a high level of scrutiny pertaining to the data and the research question.

Future Research

The way forward for smokeless tobacco cessation is to integrate complementary strategies that can facilitate long-term abstinence. As mentioned in the discussion there is a need for a multifaceted cessation programme which can be split in to four areas; integrating appropriate intervention programmes of smokeless tobacco cessation; education and training for health professionals to understand the users perspective and the cultural context of chewing tobacco; campaigns to raise awareness of the dangers and harm related to chewing tobacco and a reconsideration of national control policies. This research emphasises that consideration should be given to integrating interventions in order to achieve long-term cessation. Therefore, questions need to be asked about what kind of further interventions or support can be followed up. The answers can be found in their narratives. The use of smokeless tobacco products are thought of as a social activity and enjoyment of them in social situations indicate that creating a programme oriented towards peer support and

group interaction as well as individualised health advice would be beneficial. Evidence suggests that the combination of advice and behavioural support may increase the abstinence rates by 5-10% (West et al., 2004). It is therefore appropriate to recommend that dentists, GPs and other health professionals should assess and record the use of smokeless tobacco products routinely and ensure that patients who do use these products are made aware of the potential health risks and what services are available to aid them in quitting. Furthermore, to achieve success, health and social care professionals may need relevant education and training in issues related to smokeless tobacco use, dependence and cessation.

Raising public awareness of the harm related to smokeless tobacco needs to be considered alongside delivering a treatment programme. Future research should investigate the effectiveness of utilising existing health promotion programmes and networks; for example, stroke and cardiovascular disease prevention campaigns can incorporate smokeless tobacco cessation messages as these products has been found to be a risk factor for both those conditions. This research contends that it is necessary to raise awareness on a local level as well as on a national level.

CONCLUSION

The use of smokeless tobacco products is a pressing public health concern globally. Despite the demonstrable health risks these products have, there is little known about predictors and reasons for its use amongst the South Asian population. The present research draws attention to the involvement of multiple factors that can impact the reasons for the use of smokeless tobacco products. The themes identified within this piece of research confirms that the layers of determinants such as socio-demographics, social interactions and cultural motivations (Dahlgren and Whitehead, 1991) all play a role in the initiation and continued use of these products. This research provides a starting point for the development of interventions for the cessation of smokeless tobacco which is currently lacking in the UK. It is clear that a multifaceted approach is needed to tackle this concern by implementing various measures such as: licensing regulations and ban on the advertisements of these products. Such measures are required in order to link in with any targeted cessation interventions and to successfully reduce the health disparities caused by the use of smokeless tobacco products amongst this population group.

Reflections

Whilst conducting the research, I found the process in recruiting participants quite straightforward due to working within the Brent Stop smoking service. Although it was difficult to conduct these interviews as quite a number of people refused to be asked about their use of smokeless tobacco products because to the stigma attached. Due to the limited number of smokeless tobacco users taking part in the study, this inversely added a level of pressure to my research timescale. One way I thought I could manage this effectively was to convey the message of the urgency in gaining participants I needed, by building a good relationship and using my communication skills effectively. This involved having meetings with the stop smoking service manager and the stop smoking advisors in order to gain their permission to recruit more participants through the service itself. Working within the stop smoking service and having worked with some of these participants in regard to their stop smoking attempts consequently made it easier to access them, but it also made it slightly difficult in being an objective researcher as I was going through the interview process having prior knowledge of the participants. Moreover, as these participants had voluntarily approached the stop smoking service, it could be assumed that they were perhaps more aware of the dangers of tobacco in comparison to the target population. Furthermore, it could be argued that having the therapeutic nature of the relationship between the participants and myself could have produced biased responses. In spite of this Miyazaki and Taylor (2008) recognised that a researcher being present to collect data inevitably creates researcher bias within a study. In addition, I attempted to minimise bias by ensuring that the participants interviewed were not part of my clinical case load.

Whilst conducting the interview with one of the participants specifically, it felt that he did not understand my questions very well at times. This created a level of doubt to whether the interview schedule I had created was not only appropriate but also effective in gaining appropriate data from the participants. Which in turn made me question if the other participants struggled to understand these questions too. Although I had made sure before beginning data collection to test my interview schedule through a pilot interview. In hindsight it may have been useful to run the pilot amongst a few participants to ensure the interview schedule was applicable. In some of the interviews, especially with participants who were already part of the stop smoking service, it felt at times that I was constantly probing around their

knowledge of smokeless tobacco products. However by doing this it provided me with the opportunity to obtain more data and also created a great rapport with the participants. Retrospectively, I feel my frustrations were around the expectations that I had created, in assuming all participants would know the ingredients within something they consume. Once it was apparent that this was not the case overall, there was some fear present as to the impact this would have on the richness of my data and hence the overall quality of my research. It could be argued that this is part of a research process and the uncertainty of what the data may reveal, contributed to an identifiable gap in the literature on smokeless tobacco.

In order to analyse the data I thought it would be more appropriate to use thematic analysis. However upon reflection, I noticed that whilst going through the analytical process I became very aware of my own ideas and biases around the research topic. I found it very difficult to remain fully objective as it is a topic that I have had a lot of experiences with professionally. However I tried to be as methodical in my process to ensure that the data was not misinterpreted. One way I did this was by having regular meetings with other colleagues and even my supervisor to go through my data interpretations and compare initial thoughts. Having gone through this process I think has contributed greatly not only to my research but also within my development as a health psychologist.

Another reflection was an improvement in my writing style. This was noted gradually over the course of completing the professional doctorate but also as a result of completing the research. This had been a result of; wider reading for my research and related topics, completing university workshop courses on writing styles and referencing as well as reading a book on writing skills as suggested by one of my university supervisors. This has all contributed to developing my skills as a component health psychologist.

Having spent a few years studying this topical area, I learned and understood the extent to the use of smokeless tobacco is becoming a growing challenge in the UK. The NICE guidance recommended ways to manage this problem but there is still room for improvement. I have agreed that after the completion of this research, a short report summarising the findings will be presented to the service, as well as a formal presentation to the local public health teams. This reinforces continued development in my role as a health psychologist. Conducting this research has been influential in many ways in my professional practice. This included being more

aware of the gaps within the service and what can be done to improve the local stop smoking service in order to provide the most appropriate support for the populations need.

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APPENDIX

Janice Constance

London Metropolitan University Student

Email:

Project Supervisor: ▮▮▮▮▮▮▮

Email

Smokeless tobacco use amongst South Asian people.

Information Sheet

I am a health psychologist in training conducting a research project for my university Doctorate course. Please read the following information before deciding to take part in this research study, as it is important for you to understand the purpose of this research and also what it will involve. Do not hesitate to ask if there is anything that is not clear or if you would like more information. Thank you.

What is the purpose of the study?

Many people in England, specifically of South Asian origin use different types of smokeless tobacco products. Therefore the main purpose of this study is to gain more information on the use of smokeless tobacco product from the perspective of a person from the South Asian origin.

Why have I been chosen?

You have been chosen to take part in this study because you are of South Asian origin living in London, with an age range of between 18 to 65 years old, and have used any type of smokeless tobacco product within the last 12 months.

Do I have to take part?

Taking part in this study is completely voluntary; you are not obliged to take part if you do not wish to. If you do decide to take part you will be asked to sign a consent form, your details will be kept strictly confidential and the data gained from you will only be used for the purpose of this study. However at any point of the study you are still free to withdraw from taking part, without having to give a reason and your data will not be used. If after taking part in you decide to retract your answers from the data set please do not hesitate to contact me on JAC0722@my.londonmet.ac.uk no later than the 31st of January, 2017.

What do I have to do?

If you are interested in taking part in this study, please complete and return the consent form accompanying this information sheet. After signing the consent form you will be asked to take part in an interview. The interview is set out to ask about your use of smokeless tobacco and the reasons why. This interview should last approximately for 30 minutes.

Please note that this interview will be recorded on a digital recorder and then transcribed manually. All recordings will be destroyed after transcription and no personal information will be collected from you at any point in this research therefore you will not be identified by your responses. Please also keep in mind that there are no right or wrong answers.

What are the possible disadvantages and risks of taking part?

There is no estimated risk that will be involved with taking part in this study. However please remember that you can withdraw from this study at any time.

What are the possible benefits of taking part?

We hope that the information gathered will lead to the development of a smokeless tobacco cessation programme.

Who is organising and funding the research?

The researches is being carried out by Janice Constance, as part of a Doctorate research project and thus have the responsible for ensuring that this research study is conducted safely, ethically and according to best practice has no financial interest in the program. This research was approved by the London Metropolitan Psychology Research Ethics Committee.

Contact for Further Information

Email: JAC0722@my.londonmet.ac.uk

Thank you for taking the time to read this information sheet which is yours to keep, if you take part in the study you will also be given a copy of your consent form for you to keep.

Consent Form

University Name: London Metropolitan University

Title of Project: Use of smokeless tobacco amongst South Asian

Name of Researcher: Janice Constance

Please initial all boxes

1. I have read and understood the information sheet provided for the above research. I have also had the chance to consider the information presented and ask questions.

2. I understand that participation in this research is voluntary and I am free to withdraw at any time without giving any reason.

3. I understand that the data collected from my answers during the study, may be looked at by individuals from London Metropolitan University.

4. I understand that my personal details will remain anonymous and not be used throughout the whole research.

5. I understand that my responses during the research will be recorded using a voice recorder.

6. I understand that all recordings will be destroyed after transcription.

7. I agree to take part in this piece of research.

Name of Participant	Date	Signature

Name of Person taking consent.	Date	Signature

APPENDIX 3

Standard equality monitoring questions

About you

Please tell us a bit more about you to help us ensure that all our services are delivered fairly. We appreciate that some of these questions are personal. We ask for this information to help us ensure that we are meeting the needs and criteria set in this research. If you do not wish to answer one of the questions, please select 'prefer not to say'. The information will be treated confidentially in line with the Data Protection Act 1998.

What is your age group?

18 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65+	Prefer not to say

What is your ethnicity?

Indian	Bangladeshi	Mixed background
Pakistani	Sri Lankan	Prefer not to say
If you are of **Mixed background** please specify your ethnicity:		

What is your gender?

Female	Male	Prefer not to say

What is your religion or belief?

No religion or belief	Buddhist	Christian
Hindu	Jewish	Muslim
Sikh	Other	Prefer not to say
If **Other** please specify your Religion or Belief:		

APPENDIX 4

Janice Constance

London Metropolitan University Student

Email:

Project Supervisor: ▮▮▮▮▮▮▮▮▮

Email:

Study Debriefing

This research is concerned with the cultural motivations (stemming from religion, culture and traditions) to use smokeless tobacco among people of South Asian origin. Previous studies have only speculated that smokeless tobacco products are, to a large extent, tied into the culture and traditions of some South Asian communities. This study is therefore aimed to finding out whether culture, religion, traditions or whether other factors have an impact on the use of smokeless tobacco on South Asian community.

How was this tested?

In this study, you were asked to attend a semi structured interview, to answer questions on why you use smokeless tobacco and your culture's perspective on the use of smokeless tobacco. Your answers were recorded using a voice recorder; they will be transcribed manually and compared with other answers gained from this research.

I would also like to take this opportunity to remind you that your responses are confidential and anonymous. You still have the right to withdraw your responses, as your participation is completely voluntary. To do withdraw simply send an email to JAC0722@my.londonmet.ac.uk no later by the 31st of January, 2017 and your data will be excluded from this study. All recorded response will be destroyed after transcription.

Why is this important to study?

There are many studies that have been conducted on health implications of using smokeless tobacco, however there are a very limited number of studies that investigates the factors and motivations people of South Asian origin has to use smokeless tobacco. The data gathered would hopefully provide useful information to help design interventions, such as a smokeless tobacco cessation program that would be appropriate for people of South Asian origin.

What if I want to know more?

If you are interested in learning more about smokeless tobacco amongst South Asian communities you may want to consult:

National Institute for Health and Clinical Excellence (NICE) (2012) Smokeless Tobacco: South Asian Communities. [Online]. Available at: https://www.nice.org.uk/guidance/ph39.

If you would like to receive a report of this research when it is completed (or a summary of the findings), please contact Janice Constance at JAC0722@my.londonmet.ac.uk. However please note there will not be any individual responses generated in the research, all findings will be presented as a group.

If you have any concern raised by taking part in this research please do not hesitate to contact any of these organizations:

- **Brent Stop Smoking Service** from Monday to Friday 9am to 7pm, either by emailing them at Stopsmoking@brent.gov.uk or telephone number: 020 8795 6669.

- **Samaritans**, available 24hours a day – By phone on 116 123, this number is FREE to call. By email: jo@samaritans.org or you can write to them using this address:

    Freepost RSRB-KKBY-CYJK
    Chris
    PO Box 9090
    STIRLING FK8 2SA

Thank you again for your participation.

APPENDIX 5

Interview questions – Smokeless tobacco project

I appreciate that some of these questions are personal, this information is only asked to help ensure that the research criteria is fully met. The information will be treated confidentially in line with the Data Protection Act 1998.

Smokeless tobacco is defined as any product containing tobacco that is placed in the mouth or nose and not burned.

- **Can you tell me about some of the smokeless tobacco products you may have heard of?**

  - Paan/ Pan Masala / Betel quid
  - Nass / Naswar / Niswar
  - Zarda
  - Gutkha
  - Gul / Gadakhu
  - Creamy Snuff
  - Dry Snuff
  - Khaini
  - Misri / Mishri / Masheri / Misheri
  - Qimam / Kiman / Qiwam / Kima
  - Mawa
  - Manipuri
  - Red tooth powder
  - Snus / Snuff

Probe: Pictures of smokeless tobacco products

Probe: Can you describe the form of the products?

  - Loose leaf
  - Twist or roll
  - Paste
  - Lozenges
  - Strips/sticks
  - Moist
  - Dry

- **How are these products used?**

  - Placed between cheek and gum
  - Chewed / Sucked
  - Mixed with other products – Slaked lime, betel liquid, areca nuts
  - Spit / swallowed

- **Could you please tell me why they are used in that way?**

Probe: Is there any benefits in using them in such a way? If so could you tell me more about these benefits? If not, could you tell me more about it?

- **Thinking of your culture and ethnic community how is smokeless tobacco viewed?**

Probe: Is it acceptable to use these products? If so why? If not why?
Are there any traditions within your culture to use smokeless tobacco?

- **Can you tell me about your religion's perspective on smokeless tobacco?**

Probe: Are there any spiritual reasons for using or not using these products?
Is it acceptable to use these products? If so why? If not why?

- **Have you ever used any of these products?**

If so, what type of products have you used? Is there any particular reason why you have used these products?
If not, is there any particular reason why you haven't?

- **Do you feel that there are other factors that encourages or discourages the use of smokeless tobacco within your community? If so, could you tell me a bit more about them?**

That is the end of the interview, I should have all the information that I need. Thank you for your participation and the time you took in order to help with this interview).
Please remember if you like to withdraw your answers from the data set please do not hesitate to contact me onno later than Tuesday the 30th June 2017.

Label	Definition	Instructions
Individual Characteristics (Dahlgren and Whitehead, 1991).	These are biological factors such as sex, age, ethnic group, and hereditary factors.	**Use:** If biological factors are mentioned as having an impact on smokeless tobacco use. **Do not use:** No mention of smokeless tobacco use, or biological factors having an impact on the use of smokeless tobacco.
Lifestyle factors (Dahlgren and Whitehead, 1991).	Personal behaviours that can be either health compromising or health promoting. These can include behaviours such as smoking, alcohol use, and physical activity.	**Use:** If lifestyle factors are mentioned as having an impact on smokeless tobacco use. **Do not use:** No mention of smokeless tobacco use, or lifestyle factors having an impact on the use of smokeless tobacco.
Social and community networks (Dahlgren and Whitehead, 1991).	This is concerned with the interactions between groups of people and/or organisations and how it has an impact on the individuals' use of smokeless tobacco products.	**Use:** If interactions with groups of people or organisations are mentioned as having an impact on smokeless tobacco use. **Do not use:** No mention of interactions between people as having an impact on the use of smokeless tobacco.
Living and working conditions (Dahlgren and Whitehead, 1991).	These include access and opportunities in relation to jobs, housing, education and welfare services and how they might impact an individuals' health.	**Use:** If factors relating to living and working conditions are mentioned as having an impact on smokeless tobacco use. **Do not use:** No mention of smokeless tobacco use, or factors relating to living and working conditions as having an impact on the use of smokeless tobacco.
Environmental and cultural conditions (Dahlgren and Whitehead, 1991).	Variables that exists in an individual's physical environments that may have an impact on the individual's decision to use smokeless tobacco products.	**Use:** If factors relating to the individuals' environmental and cultural conditions are mentioned as having an impact on smokeless tobacco use. **Do not use:** No mention of smokeless tobacco use, factors relating to the individuals' environmental and cultural conditions as having an impact on the use of smokeless tobacco.

APPENDIX 6 - Template based on the research questions and theoretical framework developed by Dahlgren and Whitehead (1991).

SECTION A2
SYSTEMATIC REVIEW

Diabetes management interventions for homeless adults with Type 2 diabetes mellitus
A systematic Review

CONTENTS   **PAGE**

SECTION

Abstract

Recent studies investigating diabetes show that the inequalities to the access of appropriate care still persists. Whilst most of the general population are able to access a suitable quality of care, there are a number of groups that fail to receive the same standard of care (i.e. people who are classified as homeless). The objective of this review was to identify existing diabetes management interventions specifically for homeless adults.

A literature search was done within PsychInfo, PubMed, Web of Science and the Cochrane Database of Systematic reviews. Manual searches of various reference lists was also conducted. Papers identified which focused on the management of diabetes in homeless people and associated interventions were included in this review. Data was extracted from the papers based on the study's characteristics, participant characteristics, descriptions of the interventions and study findings. The quality of each of the papers was assessed through the use of the Downs and Black Checklist and the CASP Tool checklist.

Of the 1222 potentially relevant articles identified, 6 papers met the inclusion criteria. Effective strategies for addressing the challenges and obstacles that the homeless population face, requires innovative, diverse, multi-sectored, flexible and well-coordinated models of care. Every individual with diabetes should be understood and consulted as a "whole person". This acknowledgment builds rapport between the patients and the health care professionals, and ultimately, improve care. This review suggests homeless individuals often experience obstacles in the management of their diabetes. Being homeless comes with a set of comorbidities and challenging social problems, which can often be overwhelming. It is important that appropriate support is available and accessible. Without appropriate support, these groups of people are more prone to experience poor control of their diabetes and thus have an increased risk of developing major health complications.

Introduction

Diabetes is a disease that remains throughout a person's lifetime. It occurs when the body does not produce enough or no insulin, in order to utilise glucose within the blood stream. If it is left untreated this could lead to high blood glucose level which can cause serious health complications. There are more than 2 types of Diabetes but the two main types of diabetes are; Type 1 and Type 2 diabetes. Type 1 diabetes occurs and develops when the body is not able to produce any insulin at all. Whereas Type 2 diabetes develops when the body is not able to produce enough insulin or the cells in the body are not reacting to the insulin being produced. There are a few factors that can increase the likelihood of an individual developing Type 2 diabetes, such as being overweight, family history, age and ethnicity. In 2017, it was estimated that over 3.9 million people in England aged 16 and older have diabetes, this equates to around 8.7% of the adult population. This is expected to rise to 4.6 million by 2030, which equates to nearly 10% of the UK population (National Cardiovascular Intelligence Network (NCVIN), 2016). Although around 3.9 million people are estimated to have diabetes, it is suggested that 90% of these cases are in fact Type 2 diabetes (NCVIN, 2016), which is preventable and also manageable by making some lifestyle changes (Diabetes UK, 2016). Keeping this in mind, this review will be concentrating specifically on type 2 diabetes. Supporting people with Type 2 diabetes to manage their condition will help them reduce their risk of complications and live healthier, longer lives. Giving people the knowledge and confidence about what they need to do to manage their Type 2 diabetes could also reduce their anxieties around living with the condition.

In recent years, there have been numerous developments in the treatment of Type 2 diabetes (Marín – Peñalver, Martín-Timón, Sevillano-Collantes, & del Cañizo-Gómez, 2016). Better insights into the pathogenesis of Type 2 diabetes, the availability of new therapies, the importance of structured care and risk factor control have all contributed to the transformation in which most people receive diabetes care (American Diabetes Association, 2011). It has been noted that people with Type 2 diabetes should have a dominant role in their own diabetes care and treatment, to effectively implement any necessary lifestyle changes to their diet, medication management, exercise regime, smoking status and attendance to their medical appointments, such as blood glucose testing and inspections of the eyes and feet (Heinrich, Schaper, & de Vries, 2010). However, inequalities in access to health still persists, whilst the vast majority are able to access an appropriate quality of

diabetes care, there are still groups of people that are difficult to reach and therefore fail to receive the same standard of care (i.e. people who are classified as homeless) (Diabetes UK, 2006). These groups of people are suggested to be on the outer edge of the healthcare system, they do not have regular contact or interactions with healthcare professionals and they frequently report with major complications or as emergency cases. Healthcare professionals' ability to provide a high quality of care to these groups of people is further affected due to the scarcity of research and the lack of understanding of this particular population group needs and complications (Bellary, 2011).

Although the number of individuals classified as homeless has declined considerably over the past decade, the issue of homelessness is still an important one. The most recent UK government figures suggest that there are over 14930 individuals classified as homeless and a further 74630 households in temporary accommodation in England alone. (National Statistics, 2016). Approximately 3569 individuals were estimated to be sleeping rough in England (National Statistics, 2015). The definition of homeless is quite broad, as many households have more than one individual living at an address, the actual number of homeless individuals could be considerably bigger than estimated. Prevalence rates of diabetes amongst the homeless population in the UK are very limited. However, diabetes prevalence rates have been reported in those living in France. With rates of 6.2% in the homeless as compared with 4.9% in the general population (Arnaud et al., 2010). Reports from Canada suggests a prevalence rate of about 3%, which is not as prominent compared to that of the general population (Hwang & Bugeja, 2000).

The obstacles in diabetes self-management are more prominent in homeless populations due to the difficulties in relation to the social determinants of health, which includes lack of family and social support, unemployment, mental illness, food and shelter instabilities. All these factors can affect an individual's capacity and ability to adhere to the management of their diabetes care (i.e. management of their diet, medications, and self-monitoring of their blood glucose) (Hwang & Chiu, 2006). Hwang and Bugeja (2000), found that one of the major difficulties reported by homeless people were difficulties in prioritising their diabetes conditions over other problems they may be experiencing, having access and securing insulin needles and syringes, obtaining medications and exercising.

Homeless people are suggested to be one of the hardest to reach groups of people, due to the constant change in their abode, accessing health care might not be as simple compared to the general population (Jones & Gable, 2014). Even though classified as vulnerable, there is very little research into this population group and information about recognising and providing appropriate treatment to these individuals remains poor. More research is needed to identify effective strategies to improve care. A few studies have suggested that addressing this particular population health care needs requires a coordinated effort from healthcare professionals and other organisations to ensure better access to community and specialist diabetes services (Gilani, 2014; Jones & Gable, 2014). Developing registers and contacting these individuals through social networks and charities could be explored further. Sharing of best practice and developing innovative approaches may be another way to highlight the issues related to the homeless population.

Objectives

To the best of our knowledge, there is no specific systematic review investigating the efficacy of Type 2 diabetes management interventions in homeless adults. Therefore the objectives were to:

- Identify existing interventions for managing Type 2 diabetes amongst homeless adults.
- Ascertain the effectiveness of these interventions.

For this review, the term homeless was defined in accordance with the Homelessness legislation, first introduced in 1977 as the Housing (homeless persons) Act (Burrow, Pleace & Quilgars, 1997). It defines an individual as homeless if they don't have the legal right to reside in an accommodation, or if it is not suitable for them to live in. It can be various circumstances such as:

- Not having an accommodation
- Having an accommodation but it is not appropriate to live in, even in a short term capacity (because of health or violence).
- Inability to access an accommodation that they have legal right to (e.g. being evicted illegally).
- Living in an accommodation, they do not have the legal right to reside in (e.g. squatting).

Methods

This review was conducted according to the PRISMA guidance (Moher, Liberati, Tetzlaff, & Altman, 2009). Following scoping searches a review protocol was developed, describing the search strategy and methods for data collection and analysis (appendix 1 p.133).

Search Strategy

Using the PICO model, the population and intervention elements of the review question was used in order to generate the search terms (see Table 1 p.107). No search terms based on comparators or outcomes were used. The search strategy was piloted, to ensure that relevant articles were identified from each database during the scoping search. In order to identify all relevant studies focusing on the management of type 2 diabetes amongst the homeless population, the following databases were searched: PubMed, Web of Science databases, PsychINFO and the Cochrane Database of Systematic Reviews. Medical subject headings (MeSH) and other relevant terms related to type 2 diabetes, lifestyle interventions and the homeless population were used in order to build the search strategy. Adaptations were made where necessary for each database. Boolean operators "OR" and "AND" were used when appropriate to combine these terms. An example of the database search strategy is provided in appendix 2 (p.135). The search strategy was aimed to increase the possibility of finding relevant papers on the management of Type 2 Diabetes. A manual search of reference list of all relevant papers identified was also conducted. The search was conducted in February 2017.

Table 1

List of search terms used for database search.

	Type 2 Diabetes	Intervention	Homeless
	Intermediate hyperglyc*	Diet	Homeless person
	Subdiabetic hyperglyc*	Exercise	Street people
	Sub-diabetic hyperglyc*	Diet therapy	Street person
	Nondiabetic hyperglyc*	Dietary intervention	Unstable house
	Non-diabetic hyperglyc*	Physical activity	Roofless
	Borderline diabetes	Preventive health service	Houseless
	Borderline diabetic	Behavior modification	Inadequate hous*
	Borderline HbA1c	Behaviour modification	Inadequate home
	Borderline hyperglyc*	Nutrition	Inadequate accommodation
	Borderline hemoglobin A1c	Diabetes education	Insecure hous*
	Borderline haemoglobin A1c	Behavior change	Insecure home
Free text terms	Borderline A1c	Behaviour change	Insecure accommodation
	Prediabetes	Lifestyle modification	Insecure tenan*
	Prediabetic	Life-style modification	Vagrant
	Pre-diabetes	Sport	Destitute
	Pre-diabetic	Harm reduction	Skid row
	Impaired fasting glucose	Nutritional counsel*	Rough sleep*
	Impaired fasting glyc*	Behavior therapy	Transition hous*
	Impaired glucose regulation	Behaviour therapy	Transition home
	Impaired glycemic function	Dietetics	Substandard hous*
	Impaired glycaemic function	Dietician	Substandard home
	Prediabetes state	Nutritionist	Substandard accommodation
	Prediabetes states	Lifestyle intervention	Sub-standard hous*
	Prediabetic state	Life-style intervention	Sub-standard home
	Prediabetic states	Non-pharmacological intervention	Sub-standard accommodation
	Pre-diabetes state	Prevention intervention	Emergency hous*

(Key: * = Wildcard Character)

Table 1

List of search terms used for database search.

Pre-diabetes states	Preventative intervention	Emergency home
Pre-diabetic state	Workout	Emergency accommodation
Pre-diabetic states	Work-out	Sheltered hous*
Glucose tolerance impairment	Risk reduction behavior	Sheltered home
Latent diabetes	Risk reduction behaviour	Sheltered accommodation
Latent diabetic	Community based intervention	Shelters
Prediabetes stage	Community based program*	unsheltered
Prediabetic stage	Prevention program*	
Pre-diabetes stage	Patient education	
Pre-diabetic stage	Self care skills	
Intermediate glycemic control	Self-care skills	
Intermediate glycaemic control	Disease management	
Impaired glucose sensitivity	Health attitudes	
Glucose dysregulation	Program evaluation	
	Programme evaluation	
	Lifestyle advice program*	
	Life-style advice program*	
	Prevention	

MeSH terms:		
Impaired glucose tolerance	Lifestyle	Homeless
Non-insulin dependent diabetes mellitus	Risk reduction	Homelessness
Type 2 Diabetes mellitus	Health education	
Glucose intolerance	Health promotion	
	Intervention	

(Key: * = Wildcard Character)

Eligibility criteria

Types of studies

To fulfil the purpose of this review, studies were included if they met the following criteria:

- Studies investigating the management of Type 2 diabetes amongst homeless adults.
- Studies written in English
- Studies conducted in any year
- Full-length studies published in peer review journals
- Primary studies, using either retrospective or prospective design or either quantitative and/or qualitative design (studies with measurable outcomes)

Studies were excluded if:

- It was a commentary, editorial or case study on transition
- The primary focus was not the management of diabetes among homeless adults

Types of interventions

- Studies were included if the outcomes were measured for the diabetes management intervention and consisted of adults who have Type 2 diabetes (age ≥16years).

Studies were excluded if the intervention included:

- Participants without a diagnosis of Type 2 diabetes
- Participants who are not categorised as homeless
- Participants younger than 16 years of age, which included trials that involved both children and adults
- Specifically targeted healthcare professionals
- Focused specifically on the management of being homeless
- Focused specifically on the prevalence of diabetes
- Focused solely on the clinical improvements as the only outcome measure (because management interventions can also be targeted towards behaviour change, which does not always lead to clinical improvements).

There were no restrictions on variables such as culture, stage of illness, occupational class or education. The searches were limited to the English language as the time and cost of translation are not feasible within the reviews timeline.

<u>Types of outcome measures</u>

Studies were included if the intervention outcomes included one or more of the following:

- Glycaemic control: HbA1c, blood glucose levels
- Cardiovascular risk factors (e.g. Cholesterol, blood pressure, weight, BMI and serum creatinine
- Mortality
- Hospital admissions

Studies were also included if the intervention outcomes included self-reported measures such as:

- Diet improvement
- Well-being, quality of life, perceived health scores on a validated generic or disease specific measure
- Medication adherence

Study Selection

Data extraction and study quality

A standardised data extraction form was developed (see Table 2, p.115). Data was extracted using the following variables: Study characteristics (i.e. name of primary author, publication year, country of study, and the research aims and objectives); Participant characteristics (i.e. age, gender and other sociodemographic data); Study design; descriptions of interventions; intervention measures and the key findings. The quality of the quantitative papers identified was assessed using the Downs and Black checklist (Downs & Black, 1998). The checklist has been found to have a high internal consistency, inter-rater reliability and test-retest reliability (To, Brothers, & Van Zoost, 2016). The Downs and Black checklists assesses papers on items relating to reporting, for example objectives, participants, the outcomes, study findings, cofounders, internal validity, external validity and power. A score of 31 is the maximum that could be gained using this checklist (Downs & Black, 1998). Whilst the quality of the qualitative studies included were assessed based on the Critical Appraisal Skills Programme (CASP) (Critical Appraisal Skills Programme, 2018). The assessment included the following areas: aims, methodology, design, recruitment, data collection, data analysis, reflexivity, ethical considerations,

findings, and research contribution. The overall quality assessment of "high,"
"medium," or "low" was given to each qualitative paper and discrepancies were
resolved by two reviewers.

Results

The search strategy generated a number of potentially eligible papers. After
screening through the papers titles and abstract, 1173 papers were identified as
potentially relevant and their abstracts were accessed to determine whether they met
the inclusion criteria. Of those 1173 papers, 1167 were excluded as their participants
did not include homeless adults, or did not include any interventions for the
management of diabetes. Therefore, 6 papers were included in the analysis of this
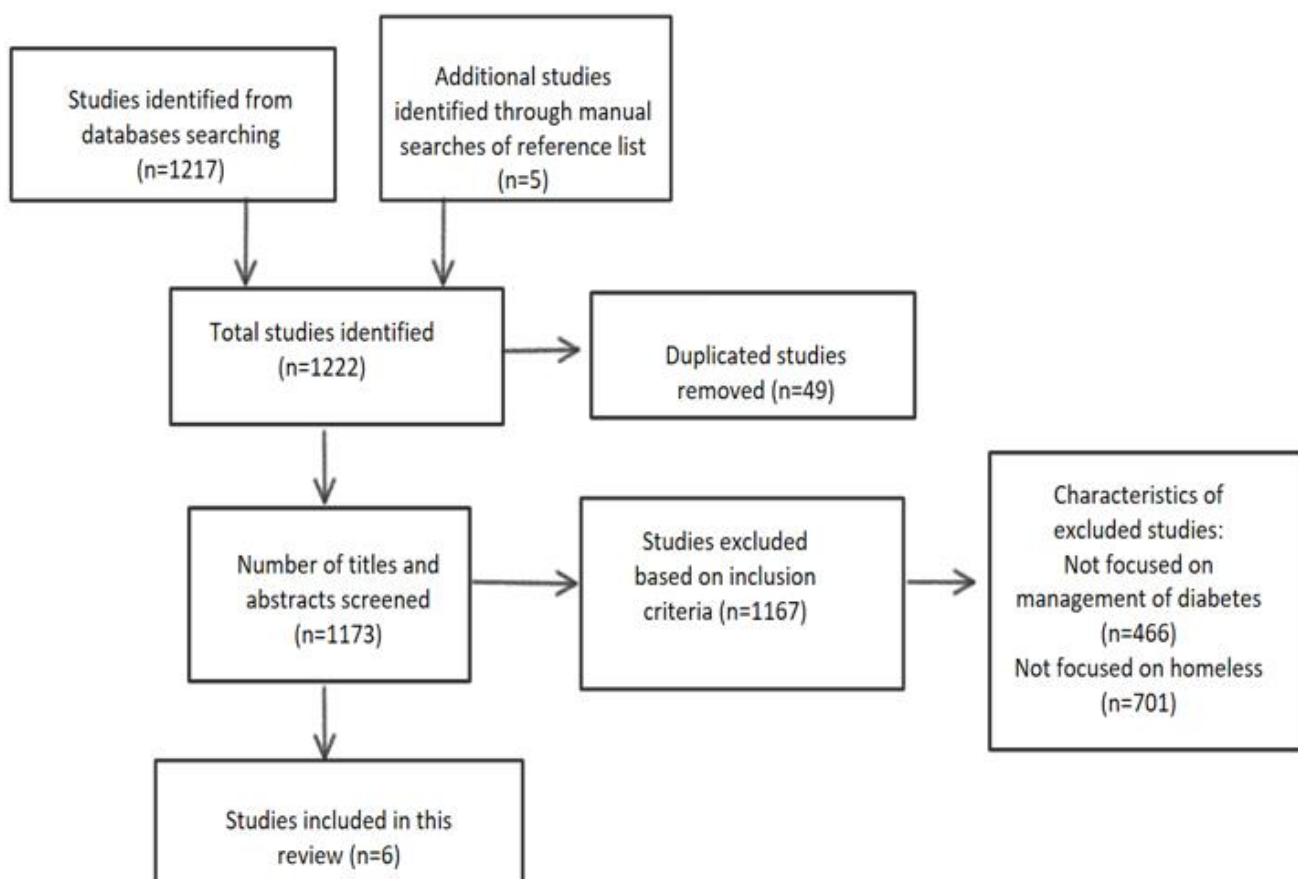review (Figure 1, p.111). The included studies are presented below in Table 2
(p.115).

Figure 1: Flowchart of selection process

Setting

Three of the studies included within this review was conducted in Canada (Thompson et al., 2014; Davachi et al., 2012; Pauley et al., 2016) and the other three studies were conducted within the United States (Beggs & Karst, 2016; O'Toole et al., 2010; Savage et al., 2014). All of the studies included participants who attended organisations that are dedicated in serving vulnerable populations. One study included patients from a nurse-run clinic (Savage et al., 2014). Another study recruited participants from three supportive inner-city housing facilities (Pauley et al., 2016). One study recruited participants who volunteered at a homeless oriented primary care clinic (O'Toole et al., 2010) and another study included participants from a rehab centre (Davachi et al., 2012). One of the studies recruited participants from a community health care (Thompson et al., 2014) and lastly one study recruited participants from a local outreach organisation (Beggs & Karst, 2016).

Sample

The studies included in this review had an average number of 167 participants (range 8 – 524). Across all six studies the mean age of the participants was 54 years old (range from 37 years to 76 years old). Three of the studies did not provide the mean ages of their participants (Davachi et al., 2012; Beggs & Karst, 2016; Savage et al., 2014). All of the studies recruited a majority of male participants which ranged from 35 – 100% of the participants. The definitions of homeless also varied across all the studies. However, two studies included the definition of homelessness as a criteria of their study enrolment (O'Toole et al., 2010; Savage et al., 2014). While one study recorded the duration of homelessness (Pauley et al., 2016), no details were provided about the participants' housing transitions. Two of the studies included previous diabetes diagnosis as a criteria for study enrolment (Thompson et al., 2014; Savage et al., 2014). Information on the participants' ethnic background was included in half of the studies (Thompson et al., 2014; Beggs & Karst, 2016; O'Toole et al., 2010). Most of the participants in the studies were individuals from minority populations, for example African-American. However, no studies investigated whether there was a difference in outcomes by ethnic race. Out of the six studies, only one study provided details on their participants' education level, employment status and income (Beggs & Karst, 2016).

Funding

One of the studies was supported by a government agency (Thompson et al., 2014). One other study reported they had funding from a non-governmental source (Davachi et al., 2012), whilst the other four studies did not report any sources of funding (Pauley et al., 2016; Beggs & Karst, 2016; O'Toole et al., 2010; Savage et al., 2014).

Study design

The majority of the studies were randomised controlled trials measuring the effects of an intervention for diabetes care, which included a participant questionnaire alongside various assessments for diabetes. Two of the studies (33%) involved a clinical assessment as one of the outcome measures of their intervention (Davachi et al., 2012; O'Toole et al., 2010). The clinical assessments performed were blood pressure, haemoglobin A1c [HbA1c], and low density lipoprotein [LDL] and fasting glucose tests. One study retrieved information about participants' diabetes management through self-reported survey data only (Savage et al., 2014). Half of the studies assessed the effectiveness of their intervention through gaining feedback from the participants (Thompson et al., 2014; Pauley et al., 2016; Beggs & Karst, 2016). None of the studies assessed participants' diabetes management over a long period of time.

Methodological quality

The methodological quality reported in the quantitative studies were generally moderate with a median score of 19 (range 15-26) (see Table 2 p.115). One of the study lacked details on participants' characteristics such as age, gender, other socio-demographic data and how participants were recruited (Thompson et al., 2014). Details on participants who did not complete the interventions were not reported in any of the four quantitative studies (Davachi et al., 2012; Beggs & Karst, 2016; O'Toole et al., 2010; Savage et al., 2014). One of the study scores was low on internal and external validity (Beggs & Karst, 2016), whilst one other study was found to be insufficiently powered to detect clinically meaningful differences (Savage et al., 2014). It was concluded that a meta-analysis would not be an appropriate method of evaluating the findings as the included studies differed in the study aim and outcome measures. In addition the quality assessment revealed the majority, five out of six studies were of low quality. Therefore there would have been no meaningful outcome in pooling together the data.

With regards to the methodological quality of the qualitative studies, it was found that both studies used qualitative methodology in an appropriate way as their research design addressed the aims of their research (see Table 3 p.118). Both studies recruited participants in a way that was appropriate to the aims of their research. It was unclear in either studies if the relationship between researcher and participants had been adequately considered and whether ethical issues had been taken into consideration. Only one of the studies included a clear statement of the findings (Pauley et al., 2016). Overall, the main study objectives were clear in all 6 of the studies, and the main outcomes were adequately described irrespective of quantitative or qualitative methodology.

Table 2: Summary of included studies.

Authors (Year)	Research aims	Sample Size (%male) %Homeless	Mean Age (range)	Setting	Description of Intervention	Assessment of intervention	Key results	Quality Score[1]
Thompson (2014)	Assess the effectiveness of the GMV program for individuals with a diagnosis of diabetes or at risk of developing diabetes.	52 participants in GMV program. 9 took part in interviews. (100%) 100%	54.5 years (46 – 62)	Community health Care in Canada.	The intervention consisted of monthly GMV's. Each session included group discussion of a topic relating to diabetes management, medical care, an evaluation of behavioural goals.	Semi-structured interviews	Participants described how the group medical visits programme was implemented, their thoughts on the qualities of a good facilitator. Also what the role of the group members had in supporting their behaviour change in diabetes management and provided feedback and suggestions for improvement.	N/A
Davachi (2012)	To identify the barriers that could impact the homeless participants' ability to manage their diabetes. To develop an accessible and effective diabetes management support for the homeless population especially those at risk or already diagnosed with diabetes.	524 (74%) 100%	Not recorded (≥18 years)	Calgary Drop-in & Rehab Centre (CDIRC) in Canada.	The project for the management support included components such as diabetes awareness, screening, group visits and also individual case management.	A reduction in participants fasting blood glucose (FBG) and their HbA1c levels. Which will be measured at 3 and 12 months.	Amongst the 524 participants' screened, 11% were found to have pre-existing diabetes, 16% had high blood glucose levels. Baseline results and results captured at the 3 to 12 months follow-ups were only available for 10 patients with pre-existing diabetes. However although the low numbers of follow-up data collected, the mean reductions in FBG of 4mmol/L and HbA1c of 1.1% is significant for this population.	21

(Abbreviations: CDSM = Chronic Disease Self-Management; FBG = Fasting Blood Glucose; GMV = Group Medical Visits; SD = standard deviation; NR = not reported; N/A = Not applicable; [1]Assessed by Downs and Black checklist)

	Aim	Participants (N, %)	Age	Setting	Intervention	Outcome measure	Results	Score
Pauley (2016)	To evaluate the feasibility of cluster care and a supportive housing model integrated for the participants.	212 (35%) 100% Participants with Diabetes (8%).	55.5 years (37-76)	Three participating supportive inner-city housing facilities in Toronto, Canada.	Integration of cluster care and supportive housing models. In the supportive housing model, services and housing are combined in the same location. Components of cluster care included the following: (1) care at a given site is provided by a single provider agency. (2) The agency deploys teams of care providers instead of individual workers. (3) Care plans are structured on the basis of assessment and care plan specific tasks rather than block of time.	Goal attainment scale and interviews	During a 15 month period, 20 clients received this service (pre-implementation). Which increased to 147 clients (post-implementation) during a 16 month period, with a 60% reduction in cost. The results shows that regular team meetings promoted efficient service delivery; greater client satisfaction associated with goal achievement and finally reported client satisfaction where staff and client goals were aligned closely together.	N/A
Beggs (2016)	To assess the effectiveness of an education programme led by pharmacy students with adults experiencing homelessness.	17 pharmacy students (NR) 0% Participants with diabetes 8 (100%) 100%	NR	Local outreach organisation in Nashville, USA.	Bingo games focused on a wide variety of questions related to the health topic, including basics of the disease, anatomy, statistics, medicines, diet, lifestyle, environmental concerns, and common misconceptions. Each group led a one-hour class using Bingo games over the course of one week.	Survey	In total 37 surveys were completed. The results showed that the classes led by pharmacy students were effective in increasing the knowledge of each of the health topics presented. All participants stated they would attend future classes that are led by pharmacy students.	15

(Abbreviations: CDSM = Chronic Disease Self-Management; FBG = Fasting Blood Glucose; GMV = Group Medical Visits; SD = standard deviation; NR = not reported; N/A = Not applicable; ¹Assessed by Downs and Black checklist)

Study	Aim	Sample	Age	Participants/Setting	Intervention	Outcome measures	Results	Score
O'Toole (2010)	To determine if a population tailored approach delivered to homeless veterans of how primary care is organised would lead to better health care and outcomes.	Homeless: 79 (96%) 100% Control: 98 (96.7%) 100%	Homeless: 51.8 SD= 0.94 (NR) Control: 52.9 SD= 7.7 (NR)	The participants in the intervention group voluntarily enrolled in a homeless oriented primary care clinic, located in Providence VA Medical Centre (USA). Participants within the control group were new to primary care.	The Homeless- Oriented Primary Care Clinic was structured to address 4 core elements of the chronic care model specifically tailored to homeless persons. The clinic had an open-access care model with onsite services that included food, housing assistance, clothes and veterans' benefits.	Clinical assessment measures such as blood pressure checks for hypertension, HbA1c for diabetes, and low density lipoprotein [LDL].	The patients showed improvements in their hypertension, diabetes and in lipid control. The use of the primary care was higher during the initial 6 months but started to stabilise 6 months after. The use of the emergency department also saw an increase, although there was a 40% decrease in the non-acute emergency department visits. Excluding the abuse of substances and admissions due to mental health, hospitalisations decreased amongst the homeless veterans in the 2 6 months periods compared to the control group.	26
Savage (2014)	To examine the rate of retention in homeless adults and investigating the feasibility of a CDSM diabetes intervention.	9 (NR) 100%	NR	The participants were recruited through a nurse-led clinic for homeless people in Ohio (USA).	The intervention included the use of educational sessions with the integration of behaviour change strategies. In addition the intervention also included the use of assessments led by nurses and outcomes achievements.	Surveys were conducted at baseline and also at 12 weeks. Participants' self-efficacy was measured using the Managing chronic Disease questionnaire. Health behaviours was measured using a cognitive symptom management questionnaire and a communication with physicians' questionnaire.	Only 5 out of the 9 participants stayed for the full 12 weeks, whilst 2 out of 3 participants completed the intervention.	16

(Abbreviations: CDSM = Chronic Disease Self-Management; FBG = Fasting Blood Glucose; GMV = Group Medical Visits; SD = standard deviation; NR = not reported; N/A = Not applicable; [1]Assessed by Downs and Black checklist)

Questions		1	2	3	4	5	6	Total
Section A	Was there a clear statement of the aims of the research?	+		+				2/2
	Is a qualitative methodology appropriate?	+		+				2/2
	Was the research design appropriate to address the aims of the research?	+		+				2/2
	Was the recruitment strategy appropriate to the aims of the research?	+		+				2/2
	Was the data collected in a way that addressed the research issue?	+		-				1/2
	Has the relationship between researcher and participants been adequately considered?	CT		CT				0/2
Section B	Have ethical issues been taken into consideration?	CT		CT				0/2
	Was the data analysis sufficiently rigorous?	-		-				0/2
	Is there a clear statement of findings?	-		+				1/2

Table 3. CASP Tool.

(Abbreviations: CT = Can't tell).

Diabetes Management interventions

There were a number of interventions that have been identified within the studies included in this review. All interventions aimed to help participants with the management of their diabetes. In the study by Thompson et al. (2014), participants had monthly group medical visits, co-facilitated by a nurse practitioner and a dietician. Each session included group discussion of a topic relating to diabetes management, medical care and evaluation of behavioural goals. Participants also had access to the agency's social programs, including housing supports, women's health and advocacy services, and child-development programs. In the study by Davachi et al. (2012) the intervention consisted of diabetes awareness sessions, screening sessions, group visits and also individual case management. The intervention was delivered by a multidisciplinary team consisting of a general practitioner, nurse, dietitian, volunteer adult care workers and therapists who were able to meet and reach the homeless regardless where they were living. However almost all of these sessions took place at the Calgary Drop-In & Rehab Centre (CDIRC). Staff members who were part of this projects and also the volunteers were trained in interviewing and standardised screening procedures. Whilst in the study by Pauley et al. (2016) investigated the Inner City Access Program (ICAP). This was a new service delivery model employed by the Toronto Central Community Care Access Centre, which combined supportive housing services and health care for people who were homeless. The study looked at the effectiveness of ICAP in facilitating access to health services, supporting goal-setting, and promoting case management. The client interviews conducted within this study examined care goals, goal achievement, and satisfaction; whilst staff interviews determined client-centeredness of staff-identified care goals and planning. In the study by Beggs and Karst (2016) educational bingo games were used, which focused on a wide variety of questions related to diabetes, including basics of the disease, anatomy, statistics, medicines, diet, lifestyle, environmental concerns, and common misconceptions. The bingo games where led by pharmacy students, who delivered the content via a one-hour class offered to adults experiencing homelessness at a local outreach organization. Whereas the study by O'Toole et al. (2010) developed a Homeless-Oriented Primary Care Clinic, which was adapted from the ambulatory care model. The primary care clinic was structured to address four core elements of the Chronic Care Model but adapted specifically for people who were considered homeless. The clinic operated as a

hospital-based, open-access care model with nurse case management, onsite services that included food, housing assistance, clothes and veterans' benefits. Lastly in the study by Savage et al. (2014) the intervention, combined nursing case management with elements of nursing assessment, access to care and outcomes achievements, alongside diabetes self-management strategies. This focused on educational sessions to enhance diabetes-related knowledge and integrated behaviour change strategies to promote self-efficacy. The intervention consisted of six meetings to address blood glucose balance, healthy diet, physical activity and medicines. All studies included within this review highlighted not only the need of diabetes management programmes for the homeless but also highlights the barriers and obstacles that this population group faces in accessing care for their diabetes. There is a need for effective and innovative models of care to help overcome these disparities.

A few studies have suggested that diabetes is a "holistic and social" disease amongst people who are homeless. It is described as an additional challenge to a person's daily life struggles (Davachi et al., 2012; Pauley et al., 2016; O'Toole et al., 2010). Effective strategies for addressing the challenges and obstacles that the homeless population face demands for not only well-coordinated models of care, but there is a need for them to be flexible, diverse and most importantly multi-sectored. All individuals with diabetes need to be understood and consulted as a "whole person". This acknowledgement will build rapport between patients and healthcare professionals, and ultimately improve their care (Thompson et al., 2014; Davachi et al., 2012; Pauley et al., 2016).

Two of these studies suggested that healthcare professionals should be knowledgeable about the process of behaviour change, they should understand how aspects of the socio-cultural context associated with social advantages might influence the change process and should be able to provide appropriate referrals, facilitate discussion and mobilise group support to address the challenges that this particular population face (Thompson et al., 2014; Pauley et al., 2016). It is necessary that healthcare professionals receive sufficient and appropriate training to understand how to incorporate the principles of patient-centred care when working with the homeless population. Having a collaboration between the healthcare professionals and the patients for the provision of care will likely lead to both greater concordance and goal achievement within the management of the patient's diabetes.

Diabetes Education

The majority of the studies included in this review provided participants with educational sessions on what diabetes is, educational materials and access to disease management classes as part of the described intervention provided (Pauley et al., 2016; Beggs & Karst, 2016; O'Toole et al., 2010; Savage et al., 2014). However, in a few of the studies there were no outcomes related data to enable the comparison of the effects of participants with or without diabetes following a class such as improvements in HbA1c levels for participants with diabetes (Pauley et al., 2016; Beggs & Karst, 2016; Savage et al., 2014). It is unclear in the study by O'Toole et al (2010) whether the recorded decrease in HbA1c was a direct result of participants attending the diabetes education component of the intervention.

Medication support and supplies for blood monitoring

The most common challenges that is experienced by the homeless population is the lack of access they have to medication such as insulin due to not having health insurance and the lack of support in gaining prescriptions. A few of these studies as part of their intervention, the participants received blood glucose monitoring supplies (Davachi et al., 2012; Savage et al., 2014), medication, advice on medication management and assistance with their prescriptions (Davachi et al., 2012; Pauley et al., 2016; Savage et al., 2014).

Improvements in self-care behaviours

Participants also received dietary supplements, had access to food sources and assistance with meal preparations in the majority of the studies (Davachi et al., 2012; Pauley et al., 2016; O'Toole et al., 2010; Savage et al., 2014). However, only one study noted that there was an improvement in the access to healthier foods by the participants (Davachi et al., 2012). Although baseline and follow-up assessments were done for all the participants who had diabetes in this study, the assessments were only available for 15 participants (34%). It was noted that there was an improvement in the access to healthier foods, for example fruits, vegetables and whole grains. A dietitian was also available to support the participants in making the best choices from the healthy food options that were available. However the study found that only 27% of the participants would be consuming 3 meals a day, this is because the majority of the participants left the shelter after having breakfast. While in another study participants were also provided with sessions on preventing

complications whilst living on the streets which included an introduction to physical activity, stress management and relaxation strategies (Savage et al., 2014).

Improvements in diabetes control

Amongst the six studies included in this review only two studies recorded improvements in the participants' blood pressure, LDL and HbA1c levels (Davachi et al., 2012; O'Toole et al., 2010). One study found that amongst their entire sample size only 28 of the participants with diabetes had their baseline results available. Amongst these participants, 16 (75%) had elevated fasting blood glucose (mean 9.5 mmol/L; min 5.0mmol/L, max 23.4 mmol/L). However both the baseline and follow-up results were only available for 10 (36%) of these participants. The 3 and 12 month follow-up results showed that there was significant improvements in their fasting blood glucose and HbA1c levels with a reduction of -4.0mmol/L and -1.1% respectively (Davachi et al., 2012). Whilst another study found that there was a decrease in HbA1c levels (-2.3%) within the intervention group and contrastingly and increase within the control group (HbA1c: +0.2%). In the study by O'Toole et al. (2010), 65.4% of the participants within the intervention group achieved their target goal in comparison to 45.5% in the control group. The study also noted that there was a decrease in the LDL levels in both the intervention and control groups (-6.4mg/dL and -1.1mg/dL respectively).

Patient empowerment and engagement

As the homeless population has a daily struggle in securing the basic necessities such as food and shelter, diabetes in this population is often gone unnoticed or not appropriately recognised as often their symptoms are screened and diagnosed as other diseases or conditions. One study however, did focus and was successful in raising awareness on diabetes and empowering their participants to manage the disease (Davachi et al., 2012).

Whereas another study found that participants perceived group peer support as enhancing their capacities for diabetes management through group problem solving, modelling, the provision of information, emotional support, accountability, competition and social comparison (Thompson et al., 2014). Supportive intragroup relationships have long been recognised as a therapeutic mechanism in group therapy, are increasingly seen as a supporting change in group-based diabetes self-management programming, and have been identified as an advantage.

Community engagement and partnerships

Two studies out of the six included in this review concluded that having a multi-sectored approach does result in greater community support and actions with aiding the homeless. There is a need for further partnerships with other organisations such as food agencies and pharmaceutical companies which would aid with the provision of medications, food supplements and blood glucose monitoring supplies (Davachi et al., 2012; O'Toole et al., 2010). These two studies (Davachi et al., 2012; O'Toole et al., 2010) also included on-site integration of homeless-specific services within their interventions (i.e. housing and benefits assistance staff available on-site). One of these studies interpreted the improvement in blood pressures, HbA1c readings, and LDL values as a direct result of the participants having and increase contact with a primary care and also case management services (O'Toole et al., 2010).

Whereas two other studies (Thompson et al., 2014; Savage et al., 2014) concluded that the healthcare provider plays an important role in fostering supportive and helpful relationships among group members by orienting participants to their roles in the group, monitoring and encouraging supportive interactions among group members, and modelling warmth and empathy, acceptance and positive regard.

Discussion

Homelessness is a major social problem, there is also a significantly under-recognised population of hidden homeless (National Statistics, 2016). Being homeless comes with a set of comorbidities and challenging social problems, which can often be overwhelming for the individuals or the healthcare teams. Homeless people with diabetes living in shelters are less likely to adhere to meal times or even have access to healthy food items. They are also less likely to monitor their blood glucose levels or see a doctor (Roberston & Cousineau, 1986). Some of the other problems reported by homeless people with diabetes include: difficulties in exercising, scheduling and prioritising diabetes over other problems, securing insulin needles, syringes, and obtaining medications (Hwang & Bugeja, 2000). Using a patient-centred approach is key to working with this particular client group. As a healthcare professional providing specialist diabetes care, it may be a requirement to help individuals overcome barriers and help them to navigate what can be a confusing array of services. Using resources such as the mental health service and the third sector can help people overcome their barriers to better diabetes care.

The aim of the review was to identify diabetes management interventions specifically designed for homeless adults and evaluate the effectiveness interventions for managing Type 2 diabetes amongst homeless adults. In order to achieve these objectives, published literature that were related to delivering interventions to homeless persons with type 2 diabetes were reviewed. All interventions identified in this review aimed to help participants with the management of their diabetes, this included group medical visits, diabetes education programmes, individual case management and access to food and medical resources. Although there are limited number of strategies in place to aid in the improvement of diabetes care that the homeless population receive, studies have shown that community based and disease management models targeted specifically at diabetes are effective within this population (Plumb, McManus, & Carson, 1996). It has been shown that community based services that are led by nurses and supported by various multidisciplinary teams are effective in addressing the socioeconomic barriers vulnerable populations encounter when accessing appropriate care (Savage, Lindsell, Gillespie, Lee, & Corbin, 2008). Results also confirms the importance of engaging not only this vulnerable population but also the healthcare system and key partners within the community to address the obstacles and improving the health outcomes. Further work needs to be done in order to address the significant gaps that still exists in delivering appropriate diabetes care and services that are not only accessible but sustainable to the homeless population. Such knowledge is vital when it comes to planning and delivering service models that are effective in improving health.

Healthcare professionals that provide care and services to this population group also face complex challenges, for example adapting their services or practices in order to appropriately address the inflexibilities of diabetes care while also accommodating the harsh realities their patients face on a daily basis. Healthcare professionals should recognise the need to take their patients living situations and also any co-occurring conditions into consideration when they are developing their care plans. Having an integrated and co-ordinated model of care in specialised and social services have shown to improve the health outcomes in this vulnerable population (Baty, Viviano, Schiller, & Wendling, 2010). Additionally, tailored services specifically to individuals who are classified as homeless have shown to improve the management of chronic disease such as diabetes (O'Toole et al., 2010).

It is important to note that this review was limited due to the small number of papers available related to the management of diabetes amongst the homeless population.

Furthermore, there was a limited number of studies reporting the improvements of clinical outcomes as a primary outcome within their studies. Thus, evaluating the effectiveness of these interventions proved to be challenging. The review may also not have been representative of the entire homeless population due to the low reported quality of the studies included, which was further demonstrated from the lack of details available on the participants characteristics.

Even though it is suggested that people who are homeless have poor control with their diabetes, it is difficult to establish this without having robust data. The reported differences in glycaemic control and the rates of complications between studies may reflect the differences in population backgrounds of homeless people and methods of data collection, for example, higher rates of foot complications have been reported in one study, but this has not been shown in other studies (Arnaud et al., 2010). The studies within this review emphasised the daily struggles and the obstacles that the homeless population face to meet their basic needs (i.e. finding shelter, clothes, food and remaining safe) were more of a priority to them than effectively managing their diabetes. Addressing these obstacles and the barriers the homeless population has in accessing diabetes care is a challenge as they are often hard to reach or cannot "meet us" within normal healthcare settings. Other problems, such as mental health problems and substance abuse, are also common in homeless people and may also contribute to poor health outcomes (Hwang & Bugeja, 2000; Hwang et al., 2011). In London, there has been efforts to improve the access to healthcare, which included developing an integrated model of service delivery to ensure access to a package of care within health, social care, housing and the voluntary sector. Support was also offered by specialist homeless GPs, primary care teams, outreach workers, hostels, day centres, intermediate respite care, and good transitional care for homeless individuals in the Westminster borough (Jones & Gable, 2014).

The review adds to the body of literature on the obstacles the homeless population often experience with managing their diabetes (Hwang & Chiu, 2006; Hwang & Bugeja, 2000). The findings have important implications to service provision and public health concerns given the prevalence and the significant morbidity of diabetes. The findings emphasise the importance of recognising that homelessness and the health of this population cannot be addressed in isolation. There needs to be action taken across the healthcare systems, for example, by commissioning our health services to better tackle and prevent poor health that this vulnerable population experiences.

The results from this review are consistent with previous studies that emphasise the need for management interventions amongst homeless individuals who have diabetes, which suggests that more quality data is needed (Gilani, 2014; Jones & Gable, 2014). However, despite the reported diabetes prevalence within this population, there are still significant gaps between the importance of managing the condition and the studies available to address those needs.

Future studies should focus on exploring the health outcomes relating to the management of diabetes longitudinally and also assess the demographic and health indicators which are associated with participants concerns in relation to their diabetes condition. There is a need for comparative studies between the homeless and individuals who are housed in order to yield more epidemiologic data and also identify areas for further intervention. These will aid in investigating the barriers and challenges in maintaining and managing the disease and also with accessing services for diabetes care. However the priority should be given to the development of effective interventions and services in addressing the health needs of this vulnerable population group. Studies focusing on diabetes interventions should explore the use of multidisciplinary treatments, the provision of the basic necessities such as medication and healthy meals combined with outreach and educational programmes. Given the high burden of unmet medical and social needs, mobile interventions could prove to be particularly effective in this population group.

CONCLUSIONS

Due to the chronic nature of diabetes, it is important that appropriate support is available and accessible to individuals with diabetes all through their life. This synthesis of what interventions are available among the homeless population highlights the need for more evidence base and high quality interventions to address the health needs within this population. Having targeted efforts in screening for the disease and support in managing the associated psychosocial factors of diabetes could aid in the improvement of the health and social outcomes. A major challenge for healthcare providers is providing high-quality diabetic care across all sections of society, which can prove to be more difficult where certain population groups are hard to reach and engage with. Without appropriate support, such population groups are more likely to experience poor diabetes control and also be at a higher risk of developing major complications. Healthcare professionals and providers must recognise that this population group is a representation of those who are the most

126

vulnerable and are more likely to benefit from effective interventions. However the challenge would be identifying, engaging and treating these individuals due to the scarcity of resources. Similarly strong commitments and support from policymakers and politicians are needed to ensure that the needs of this population group are met. Successful approaches to diabetes management for the hard-to-reach population should be championed and learnings disseminated widely to promote replication in other areas and other population groups.

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APPENDIX

Appendix 1: Systematic review Protocol

Research question	What interventions have been used to help people who are homeless manage their diabetes?
Methods	
Search Databases	PubMed; Web of Science, PsychInfo, Cochrane Database of Systematic reviews
Search terms (in title/abstract)	(Diabetes mellitus type 2 OR Hyperglycaemia OR Hypoglycaemia OR Non-insulin dependent diabetes mellitus OR Glucose intolerance) AND (Homeless person OR Homeless OR Homelessness OR Street people OR Unstably house) AND (Health Education OR Client Education OR Coping Behaviour OR Self Care Skills OR Disease Management OR Treatment Compliance OR Adherence OR Health Attitudes OR Health Behaviour OR Health Promotion OR Intervention OR Program Evaluation OR Behaviour Therapy OR Lifestyle OR Diet)
Inclusion criteria:	
Types of studies	Studies investigating the management of Type 2 diabetes amongst homeless adults. Studies written in English Studies conducted in any year Full-length studies published in peer review journals Primary studies, using either retrospective or prospective design or either quantitative and/or qualitative design (studies with measurable outcomes) Studies excluded if: It was a commentary, editorial or case study on transition The primary focus was not the management of diabetes among homeless adults
Types of participant	Adults who are homeless with a diagnosis of Type 2 diabetes (age ≥16years).
Types of Studies	•Full-length studies published in peer review journals •Primary studies, using either retrospective or prospective design or either quantitative and/or qualitative design (studies with measurable outcomes) Studies were excluded if: •It was a commentary, editorial or case study on transition •The primary focus was not the management of diabetes among homeless adults
Types of outcome measure	Studies were included if the intervention outcomes included one or more of the following: •Glycaemic control: HbA1c, blood glucose levels •Cardiovascular risk factors (e.g. Cholesterol, blood pressure, weight, BMI and serum creatinine •Mortality •Hospital admissions

	Studies were also included if the intervention outcomes included self-reported measures such as: •Diet improvement •Patient satisfaction •Well-being, quality of life, perceived health scores on a validated generic or disease specific measure •Medication adherence
Other	English only; Conducted in any year
Data collection and analysis:	
Selection of studies	All the titles and abstracts of the potentially relevant papers will be examined by one reviewer. If it is unclear if a particular paper met the inclusion criteria set, the full text of the paper will be accessed to determine the eligibility and be examined by two reviewers. Papers that meet the inclusion criteria will be included in the analysis of this review. The results of the study selection process will be presented in a PRISMA format flow chart.
Data extraction	Data will be extracted using the following variables: Study characteristics (i.e. name of primary author, publication year, country of study, and the research aims and objectives); Participant characteristics (i.e. age, gender and other sociodemographic data); Study design; descriptions of interventions; intervention measures and the key findings.
Assessment of methodological quality	Qualitative studies will be assessed using the CASP checklist. As there is no definitive criteria of what counts as quality, studies will be included if they at least contain credible and clear findings. Quantitative papers identified will be assessed using the Downs and Black checklist.
Data synthesis	Narrative synthesis summarising findings, key themes and concepts. Descriptive summaries about the breadth of topics addressed, methods used and key themes will be presented. Gaps highlighted.

Appendix 2: Pubmed search strategy

1. Type 2 diabetes mellitus [MeSH Terms]
2. Non-insulin dependent diabetes mellitus [MeSH Terms]
3. Impaired glucose tolerance[MeSH Terms]
4. Glucose intolerance[MeSH Terms]
5. Intermediate hyperglyc*[Text Word]
6. Subdiabetic hyperglyc*[Text Word]
7. Sub-diabetic hyperglyc*[Text Word]
8. Nondiabetic hyperglyc*[Text Word]
9. Non-diabetic hyperglyc*[Text Word]
10. Borderline diabet*[Text Word]
11. Borderline HbA1c[Text Word]
12. Borderline hyperglyc*[Text Word]
13. Borderline hemoglobin A1c[Text Word]
14. Borderline Haemoglobin A1c[Text Word]
15. Borderline A1c[Text Word]
16. Prediabetes[Text Word]
17. Prediabetic[Text Word]
18. Pre-diabetes[Text Word]
19. Pre-diabetic[Text Word]
20. Impaired fasting glucose[Text Word]
21. Impaired fasting glyc*[Text Word]
22. Impaired glucose regulation[Text Word]
23. Impaired glycemic function[Text Word]
24. Impaired glycaemic function[Text Word]
25. Prediabetes state[Text Word]
26. Prediabetes states[Text Word]
27. Prediabetic state[Text Word]
28. Prediabetic states[Text Word]
29. Pre-diabetes state[Text Word]
30. Pre-diabetes states[Text Word]
31. Pre-diabetic state[Text Word]
32. Pre-diabetic states[Text Word]
33. Glucose tolerance impairment[Text Word]
34. Latent diabetes[Text Word]
35. Latent diabetic[Text Word]
36. Prediabetes stage[Text Word]
37. Prediabetic stage[Text Word]
38. Pre-diabetes stage[Text Word]
39. Pre-diabetic stage[Text Word]
40. Intermediate glycemic control[Text Word]
41. Intermediate glycaemic control[Text Word]
42. Impaired glucose sensitivity[Text Word]
43. Glucose dysregulation[Text Word]
44. #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43

45. Lifestyle[MeSH Terms]
46. Risk reduction[MeSH Terms]
47. Health education[MeSH Terms]
48. Health promotion[MeSH Terms]
49. Intervention[MeSH Terms]
50. Diet[Text Word]
51. Exercise[Text Word]
52. Diet therapy[Text Word]
53. Dietary intervention[Text Word]
54. Physical activity[Text Word]
55. Preventive health service[Text Word]
56. Behavior modification[Text Word]
57. Behaviour modification[Text Word]
58. Nutrition[Text Word]
59. Diabetes education[Text Word]
60. Behavior change[Text Word]
61. Behaviour change[Text Word]
62. Lifestyle modification[Text Word]
63. Life-style modification[Text Word]
64. Sport[Text Word]
65. Harm reduction[Text Word]
66. Nutritional counsel*[Text Word]
67. Behavior therapy[Text Word]
68. Behaviour therapy[Text Word]
69. Dietetics[Text Word]
70. Dietician[Text Word]
71. Nutritionist[Text Word]
72. Lifestyle intervention[Text Word]
73. Life-style intervention[Text Word]
74. Non-pharmacological intervention[Text Word]
75. Prevention intervention[Text Word]
76. Preventative intervention[Text Word]
77. Workout[Text Word]
78. Work-out[Text Word]
79. Lifestyle risk reduction[Text Word]
80. Risk reduction behavior[Text Word]
81. Risk reduction behaviour[Text Word]
82. Community based intervention[Text Word]
83. Community based program*[Text Word]
84. Prevention program*[Text Word]
85. Patient education[Text Word]
86. Self care skills[Text Word]
87. Self-care skills[Text Word]
88. Disease management[Text Word]
89. Program evaluation[Text Word]
90. Programme evaluation[Text Word]
91. Lifestyle advice program*[Text Word]
92. Life-style program*[Text Word]
93. Prevention[Text Word]

94. #45 OR #46 OR #47 OR #48 OR #49 OR #50 OR #51 OR #52 OR #53 OR #54 OR #55 OR #56 OR #57 OR #58 OR #59 OR #60 OR #61 OR #62 OR #63 OR #64 OR #65 OR #66 OR #67 OR #68 OR #69 OR #70 OR #71 OR #72 OR #73 OR #74 OR #75 OR #76 OR #77 OR #78 OR #79 OR #80 OR #81 OR #82 OR #83 OR #84 OR #85 OR #86 OR #87 OR #88 OR #89 OR #90 OR #91 OR #92 OR #93
95. #44 AND 94
96. Homeless[MeSH Terms]
97. Homelessness[MeSH Terms]
98. Homeless person[Text Word]
99. Street people[Text Word]
100. Street person[Text Word]
101. Unstable house*[Text Word]
102. Vagrant[Text Word]
103. Destitute[Text Word]
104. Skid row[Text Word]
105. Inadequate hous*[Text Word]
106. Insecure hous*[Text Word]
107. Insecure tenan*[Text Word]
108. Rough sleep*[Text Word]
109. Insecure home[Text Word]
110. Transition hous*[Text Word]
111. Transition home[Text Word]
112. Inadequate home[Text Word]
113. Substandard hous*[Text Word]
114. Inadequate accommodation[Text Word]
115. Insecure accommodation[Text Word]
116. Emergency hous*[Text Word]
117. Sheltered hous*[Text Word]
118. Sheltered home[Text Word]
119. Sheltered accommodation[Text Word]
120. Emergency home[Text Word]
121. Emergency accommodation[Text Word]
122. Sub-standard hous*[Text Word]
123. Substandard home[Text Word]
124. Substandard accommodation[Text Word]
125. Sub-standard home[Text Word]
126. Sub-standard accommodation[Text Word]
127. Shelters[Text Word]
128. Unsheltered[Text Word]
129. #96 OR #97 OR #98 OR #99 OR #100 OR #101 OR #102 OR #103 OR #104 OR #105 OR #106 OR #107 OR #108 OR #109 OR #110 OR #111 OR #112 OR #113 OR #114 OR #115 OR #116 OR #117 OR #118 OR #119 OR #120 OR #121 OR #122 OR #123 OR #124 OR #125 OR #126 OR #127 OR #128
130. #95 AND #129

Appendix 3

Study 1: Thompson et al. (2014)

CASP
Critical Appraisal
Skills Programme

Section A: Are the results valid?

1. Was there a clear statement of the aims of the research?

Yes ✓
Can't Tell ☐
No ☐

HINT: Consider
- what was the goal of the research
- why it was thought important
- its relevance

Comments:

2. Is a qualitative methodology appropriate?

Yes ✓
Can't Tell ☐
No ☐

HINT: Consider
- If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants
- Is qualitative research the tight methodology for addressing the research goal

Comments:

Is it worth continuing?

3. Was the research design appropriate to address the aims of the research?

Yes ✓
Can't Tell ☐
No ☐

HINT: Consider
- if the researcher has justified the research design (e.g. have they discussed how they decided which method to use)

Comments:

4. Was the recruitment strategy appropriate to the aims of the research?

Yes ✓

Can't Tell

No

HINT: Consider
- If the researcher has explained how the participants were selected
- If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study
- If there are any discussions around recruitment (e.g. why some people chose not to take part)

Comments:

5. Was the data collected in a way that addressed the research issue?

Yes ✓

Can't Tell

No

HINT: Consider
- If the setting for the data collection was justified
- If it is clear how data were collected (e.g. focus group, semi-structured interview etc.)
- If the researcher has justified the methods chosen
- If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews are conducted, or did they use a topic guide)
- If methods were modified during the study. If so, has the researcher explained how and why
- If the form of data is clear (e.g. tape recordings, video material, notes etc.)
- If the researcher has discussed saturation of data

Comments:

6. Has the relationship between researcher and participants been adequately considered?

Yes ☐
Can't Tell ✓
No ☐

HINT: Consider
- If the researcher critically examined their own role, potential bias and influence during (a) formulation of the research questions (b) data collection, including sample recruitment and choice of location
- How the researcher responded to events during the study and whether they considered the implications of any changes in the research design

Comments:

Section B: What are the results?

7. Have ethical issues been taken into consideration?

Yes ☐
Can't Tell ✓
No ☐

HINT: Consider
- If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained
- If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study)
- If approval has been sought from the ethics committee

Comments:

140

8. Was the data analysis sufficiently rigorous?

Yes ☐
Can't Tell ☐
No ✓

HINT: Consider
- If there is an in-depth description of the analysis process
- If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data
- Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process
- If sufficient data are presented to support the findings
- To what extent contradictory data are taken into account
- Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation

Comments:

9. Is there a clear statement of findings?

Yes ☐
Can't Tell ☐
No ✓

HINT: Consider whether
- If the findings are explicit
- If there is adequate discussion of the evidence both for and against the researcher's arguments
- If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst)
- If the findings are discussed in relation to the original research question

Comments:

141

Study 3: Pauley et al. (2016)

CASP
Critical Appraisal
Skills Programme

Section A: Are the results valid?

1. Was there a clear statement of the aims of the research?

Yes ✓
Can't Tell ☐
No ☐

HINT: Consider
• what was the goal of the research
• why it was thought important
• its relevance

Comments:

2. Is a qualitative methodology appropriate?

Yes ✓
Can't Tell ☐
No ☐

HINT: Consider
• If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants
• Is qualitative research the tight methodology for addressing the research goal

Comments:

Is it worth continuing?

3. Was the research design appropriate to address the aims of the research?

Yes ✓
Can't Tell ☐
No ☐

HINT: Consider
• if the researcher has justified the research design (e.g. have they discussed how they decided which method to use)

Comments:

4. [illegible]
[illegible]
[illegible]
[illegible]

Yes ✓
Can't Tell
No

HINT: Consider
• If the researcher has explained how the participants were selected
• If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study
• If there are any discussions around recruitment (e.g. why some people chose not to take part)

Comments:

5. [illegible]
[illegible]
[illegible]

Yes
Can't Tell
No ✓

HINT: Consider
• If the setting for the data collection was justified
• If it is clear how data were collected (e.g. focus group, semi-structured interview etc.)
• If the researcher has justified the methods chosen
• If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews are conducted, or did they use a topic guide)
• If methods were modified during the study. If so, has the researcher explained how and why
• If the form of data is clear (e.g. tape recordings, video material, notes etc.)
• If the researcher has discussed saturation of data

Comments:

6. Has the relationship between researcher and participants been adequately considered?

Yes [ ]

Can't Tell [✓]

No [ ]

HINT: Consider

- If the researcher critically examined their own role, potential bias and influence during (a) formulation of the research questions (b) data collection, including sample recruitment and choice of location
- How the researcher responded to events during the study and whether they considered the implications of any changes in the research design

Comments:

Section B: What are the results?

7. Have ethical issues been taken into consideration?

Yes [ ]

Can't Tell [✓]

No [ ]

HINT: Consider

- If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained
- If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study)
- If approval has been sought from the ethics committee

Comments:

8. Was the data analysis
sufficiently rigorous?

Yes [ ]
Can't Tell [ ]
No [✓]

HINT: Consider
- If there is an in-depth description of the analysis process
- If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data
- Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process
- If sufficient data are presented to support the findings
- To what extent contradictory data are taken into account
- Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation

Comments:

9. Is there a clear statement of findings?

Yes [✓]
Can't Tell [ ]
No [ ]

HINT: Consider whether
- If the findings are explicit
- If there is adequate discussion of the evidence both for and against the researcher's arguments
- If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst)
- If the findings are discussed in relation to the original research question

Comments:

Appendix 4: Downs and Black's Checklist

Study 2: Davachi et al. (2012)

Reporting

1. Is the hypothesis/aim/objective of the study clearly described?

Yes	1
No	0

2. Are the main outcomes to be measured clearly described in the Introduction or Methods section?

If the main outcomes are first mentioned in the Results section, the question should be answered no.

Yes	1
No	0

3. Are the characteristics of the patients included in the study clearly described?

In cohort studies and trials, inclusion and/or exclusion criteria should be given. In case-control studies, a case-definition and the source for controls should be given.

Yes	1
No	0

4. Are the interventions of interest clearly described?

Treatments and placebo (where relevant) that are to be compared should be clearly described.

Yes	1
No	0

5. Are the distributions of principal confounders in each group of subjects to be compared clearly described?

A list of principal confounders is provided.

Yes	1
No	0

6. Are the main findings of the study clearly described?

Simple outcome data (including denominators and numerators) should be reported for all major findings so that the reader can check the major analyses and conclusions. (This question does not cover statistical tests which are considered below).

Yes	1
No	0

7. Does the study provide estimates of the random variability in the data for the main outcomes?

In non-normally distributed data the inter-quartile range of results should be reported. In normally distributed data the standard error, standard deviation or confidence intervals should be reported. If the distribution of the data is not described, it must be assumed that the estimates used were appropriate and the question should be answered yes.

Yes	1
No	0

8. Have all important adverse events that may be a consequence of the intervention been reported?

This should be answered yes if the study demonstrates that there was a comprehensive attempt to measure adverse events. (A list of possible adverse events is provided).

Yes	1
No	0

9. Have the characteristics of patients lost to follow-up been described?

This should be answered yes where there were no losses to follow-up or where losses to follow-up were so small that findings would be unaffected by their inclusion. This should be answered no, where a study does not report the number of patients lost to follow-up.

Yes	1
No	0

10. Have actual probability values been reported (e.g. 0.035 rather than <0.05) for the main outcomes except where the probability value is less than 0.001?

Yes	1
No	0

External validity

All the following criteria attempt to address the representativeness of the findings of the study and whether they may be generalised to the population from which the study subjects were derived.

11. Were the subjects asked to participate in the study representative of the entire population from which they were recruited?

The study must identify the source population for patients and describe how the patients were selected. Patients would be representative if they comprised the entire source population, an unselected sample of consecutive patients, or a random sample. Random sampling is only feasible where a list of all members of the relevant population exists. Where a study does not report the proportion of the source population from which the patients are derived, the question should be answered as unable to determine.

Yes	1
No	0
Unable to determine	0

12. Were those subjects who were prepared to participate representative of the entire population from which they were recruited?

The proportion of those asked who agreed should be stated. Validation that the sample was representative would include demonstrating that the distribution of the main confounding factors was the same in the study sample and the source population.

Yes	1
No	0
Unable to determine	0

13. Were the staff, places, and facilities where the patients were treated, representative of the treatment the majority of patients receive?

For the question to be answered yes the study should demonstrate that the intervention was representative of that in use in the source population. The question should be answered no if, for example, the intervention was undertaken in a specialist centre unrepresentative of the hospitals most of the source population would attend.

Yes	1
No	0
Unable to determine	0

Internal validity - bias

14. Was an attempt made to blind study subjects to the intervention they have received?

For studies where the patients would have no way of knowing which intervention they received, this should be answered yes.

Yes	1
No	0
Unable to determine	0

15. Was an attempt made to blind those measuring the main outcomes of the intervention?

Yes	1
No	0
Unable to determine	0

16. If any of the results of the study were based on "data dredging", was this made clear?

Any analyses that had not been planned at the outset of the study should be clearly indicated. If no retrospective unplanned subgroup analyses were reported, then answer yes.

Yes	1
No	0
Unable to determine	0

17. In trials and cohort studies, do the analyses adjust for different lengths of follow-up of patients, or in case-control studies, is the time period between the intervention and outcome the same for cases and controls?

Where follow-up was the same for all study patients, the answer should yes. If different lengths of follow-up were adjusted for by, for example, survival analysis the answer should be yes. Studies, where differences in follow-up are ignored, should be answered no.

Yes	1
No	0
Unable to determine	0

18. Were the statistical tests used to assess the main outcomes appropriate?

The statistical techniques used must be appropriate to the data. For example, nonparametric methods should be used for small sample sizes. Where little statistical analysis has been undertaken but where there is no evidence of bias, the question should be answered yes. If the distribution of the data (normal or not) is not described it must be assumed that the estimates used were appropriate and the question should be answered yes.

Yes	1
No	0
Unable to determine	0

19. Was compliance with the intervention/s reliable?

Where there was non-compliance with the allocated treatment or where there was contamination of one group, the question should be answered no. For studies where the effect of any misclassification was likely to bias any association to the null, the question should be answered yes.

Yes	1
No	0
Unable to determine	0

20. Were the main outcome measures used accurate (valid and reliable)?

For studies where the outcome measures are clearly described, the question should be answered yes. For studies which refer to other work or that demonstrates the outcome measures are accurate, the question should be answered as yes.

Yes	1
No	0
Unable to determine	0

Internal validity - confounding (selection bias)

21. Were the patients in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited from the same population?

For example, patients for all comparison groups should be selected from the same hospital. The question should be answered unable to determine for cohort and case-control studies where there is no information concerning the source of patients included in the study.

Yes	1
No	0
Unable to determine	0

22. Were study subjects in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited over the same period of time?

For a study which does not specify the time period over which patients were recruited, the question should be answered as unable to determine.

Yes	1
No	0
Unable to determine	0

23. Were study subjects randomised to intervention groups?

Studies which state that subjects were randomised should be answered yes except where the method of randomisation would not ensure random allocation. For example, alternate allocation would score no because it is predictable.

Yes	1
No	0
Unable to determine	0

24. Was the randomised intervention assignment concealed from both patients and healthcare staff until recruitment was complete and irrevocable?

All non-randomised studies should be answered no. If assignment was concealed from patients but not from staff, it should be answered no.

Yes	1
No	0
Unable to determine	0

25. Was there adequate adjustment for confounding in the analyses from which the main findings were drawn?

This question should be answered no for trials if: the main conclusions of the study were based on analyses of treatment rather than intention to treat; the distribution of known confounders in the different treatment groups was not described, or the distribution of known confounders differed between the treatment groups but was not taken into account in the analyses. In non-randomised studies, if the effect of the main confounders was not investigated or confounding was demonstrated, but no adjustment was made in the final analyses the question should be answered as no.

Yes	1
No	0
Unable to determine	0

26. Were losses of patients to follow-up taken into account?

If the numbers of patients lost to follow-up are not reported, the question should be answered as unable to determine. If the proportion lost to follow-up was too small to affect the main findings, the question should be answered yes.

Yes	1
No	0
Unable to determine	0

Power

27. Did the study have sufficient power to detect a clinically important effect where the probability value for a difference being due to chance is less than 5%?

Sample sizes have been calculated to detect a difference of x% and y%.

	Size of *smallest* intervention group	
A	$<n_1$	0
B	$n_1 - n_2$	1
C	$n_3 - n_4$	2
D	$n_5 - n_6$	3
E	$n_7 - n_8$	4
F	n_8+	5

Study 4: Beggs & Karst. (2016)

Reporting

1. Is the hypothesis/aim/objective of the study clearly described?

Yes	1
No	0

2. Are the main outcomes to be measured clearly described in the Introduction or Methods section?

If the main outcomes are first mentioned in the Results section, the question should be answered no.

Yes	1
No	0

3. Are the characteristics of the patients included in the study clearly described?

In cohort studies and trials, inclusion and/or exclusion criteria should be given. In case-control studies, a case-definition and the source for controls should be given.

Yes	1
No	0

4. Are the interventions of interest clearly described?

Treatments and placebo (where relevant) that are to be compared should be clearly described.

Yes	1
No	0

5. Are the distributions of principal confounders in each group of subjects to be compared clearly described?

A list of principal confounders is provided.

Yes	1
No	0

6. Are the main findings of the study clearly described?

Simple outcome data (including denominators and numerators) should be reported for all major findings so that the reader can check the major analyses and conclusions. (This question does not cover statistical tests which are considered below).

Yes	1
No	0

7. Does the study provide estimates of the random variability in the data for the main outcomes?

In non-normally distributed data the inter-quartile range of results should be reported. In normally distributed data the standard error, standard deviation or confidence intervals should be reported. If the distribution of the data is not described, it must be assumed that the estimates used were appropriate and the question should be answered yes.

Yes	1
No	0

8. Have all important adverse events that may be a consequence of the intervention been reported?

This should be answered yes if the study demonstrates that there was a comprehensive attempt to measure adverse events. (A list of possible adverse events is provided).

Yes	1
No	0

9. Have the characteristics of patients lost to follow-up been described?

This should be answered yes where there were no losses to follow-up or where losses to follow-up were so small that findings would be unaffected by their inclusion. This should be answered no, where a study does not report the number of patients lost to follow-up.

Yes	1
No	0

10. Have actual probability values been reported (e.g. 0.035 rather than <0.05) for the main outcomes except where the probability value is less than 0.001?

Yes	1
No	0

External validity

All the following criteria attempt to address the representativeness of the findings of the study and whether they may be generalised to the population from which the study subjects were derived.

11. Were the subjects asked to participate in the study representative of the entire population from which they were recruited?

The study must identify the source population for patients and describe how the patients were selected. Patients would be representative if they comprised the entire source population, an unselected sample of consecutive patients, or a random sample. Random sampling is only feasible where a list of all members of the relevant population exists. Where a study does not report the proportion of the source population from which the patients are derived, the question should be answered as unable to determine.

Yes	1
No	0
Unable to determine	0

12. Were those subjects who were prepared to participate representative of the entire population from which they were recruited?

The proportion of those asked who agreed should be stated. Validation that the sample was representative would include demonstrating that the distribution of the main confounding factors was the same in the study sample and the source population.

Yes	1
No	0
Unable to determine	0

13. Were the staff, places, and facilities where the patients were treated, representative of the treatment the majority of patients receive?

For the question to be answered yes the study should demonstrate that the intervention was representative of that in use in the source population. The question should be answered no if, for example, the intervention was undertaken in a specialist centre unrepresentative of the hospitals most of the source population would attend.

Yes	1
No	0
Unable to determine	0

Internal validity - bias

14. Was an attempt made to blind study subjects to the intervention they have received?

For studies where the patients would have no way of knowing which intervention they received, this should be answered yes.

Yes	1
No	0
Unable to determine	0

15. Was an attempt made to blind those measuring the main outcomes of the intervention?

Yes	1
No	0
Unable to determine	0

16. If any of the results of the study were based on "data dredging", was this made clear?

Any analyses that had not been planned at the outset of the study should be clearly indicated. If no retrospective unplanned subgroup analyses were reported, then answer yes.

Yes	1
No	0
Unable to determine	0

17. In trials and cohort studies, do the analyses adjust for different lengths of follow-up of patients, or in case-control studies, is the time period between the intervention and outcome the same for cases and controls?

Where follow-up was the same for all study patients, the answer should yes. If different lengths of follow-up were adjusted for by, for example, survival analysis the answer should be yes. Studies, where differences in follow-up are ignored, should be answered no.

Yes	1
No	0
Unable to determine	0

18. Were the statistical tests used to assess the main outcomes appropriate?

The statistical techniques used must be appropriate to the data. For example, nonparametric methods should be used for small sample sizes. Where little statistical analysis has been undertaken but where there is no evidence of bias, the question should be answered yes. If the distribution of the data (normal or not) is not described it must be assumed that the estimates used were appropriate and the question should be answered yes.

Yes	1
No	0
Unable to determine	0

19. Was compliance with the intervention/s reliable?

Where there was non-compliance with the allocated treatment or where there was contamination of one group, the question should be answered no. For studies where the effect of any misclassification was likely to bias any association to the null, the question should be answered yes.

Yes	1
No	0
Unable to determine	0

20. Were the main outcome measures used accurate (valid and reliable)?

For studies where the outcome measures are clearly described, the question should be answered yes. For studies which refer to other work or that demonstrates the outcome measures are accurate, the question should be answered as yes.

Yes	1
No	0
Unable to determine	0

Internal validity - confounding (selection bias)

21. Were the patients in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited from the same population?

For example, patients for all comparison groups should be selected from the same hospital. The question should be answered unable to determine for cohort and case-control studies where there is no information concerning the source of patients included in the study.

Yes	1
No	0
Unable to determine	0

22. Were study subjects in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited over the same period of time?

For a study which does not specify the time period over which patients were recruited, the question should be answered as unable to determine.

Yes	1
No	0
Unable to determine	0

23. Were study subjects randomised to intervention groups?

Studies which state that subjects were randomised should be answered yes except where method of randomisation would not ensure random allocation. For example, alternate allocation would score no because it is predictable.

Yes	1
No	0
Unable to determine	0

24. Was the randomised intervention assignment concealed from both patients and healthcare staff until recruitment was complete and irrevocable?

All non-randomised studies should be answered no. If the assignment was concealed from patients but not from staff, it should be answered no.

Yes	1
No	0
Unable to determine	0

25. Was there adequate adjustment for confounding in the analyses from which the main findings were drawn?

This question should be answered no for trials if: the main conclusions of the study were based on analyses of treatment rather than intention to treat; the distribution of known confounders in the different treatment groups was not described, or the distribution of known confounders differed between the treatment groups but was not taken into account in the analyses. In non-randomised studies, if the effect of the main confounders was not investigated or confounding was demonstrated, but no adjustment was made in the final analyses the question should be answered as no.

Yes	1
No	0
Unable to determine	0

26. Were losses of patients to follow-up taken into account?

If the numbers of patients lost to follow-up are not reported, the question should be answered as unable to determine. If the proportion lost to follow-up was too small to affect the main findings, the question should be answered yes.

Yes	1
No	0
Unable to determine	0

Power

27. Did the study have sufficient power to detect a clinically important effect where the probability value for a difference being due to chance is less than 5%?

Sample sizes have been calculated to detect a difference of x% and y%.

	Size of *smallest* intervention group	
A	$<n_1$	0
B	$n_1 - n_2$	1
C	$n_3 - n_4$	2
D	$n_5 - n_6$	3
E	$n_7 - n_8$	4
F	n_8+	5

Study 5: O'Toole et al. (2010)

Reporting

1. Is the hypothesis/aim/objective of the study clearly described?

Yes	1
No	0

2. Are the main outcomes to be measured clearly described in the Introduction or Methods section?

If the main outcomes are first mentioned in the Results section, the question should be answered no.

Yes	1
No	0

3. Are the characteristics of the patients included in the study clearly described?

In cohort studies and trials, inclusion and/or exclusion criteria should be given. In case-control studies, a case-definition and the source for controls should be given.

Yes	1
No	0

4. Are the interventions of interest clearly described?

Treatments and placebo (where relevant) that are to be compared should be clearly described.

Yes	1
No	0

5. Are the distributions of principal confounders in each group of subjects to be compared clearly described?

A list of principal confounders is provided.

Yes	1
No	0

6. Are the main findings of the study clearly described?

Simple outcome data (including denominators and numerators) should be reported for all major findings so that the reader can check the major analyses and conclusions. (This question does not cover statistical tests which are considered below).

Yes	1
No	0

7. Does the study provide estimates of the random variability in the data for the main outcomes?

In non-normally distributed data the inter-quartile range of results should be reported. In normally distributed data the standard error, standard deviation or confidence intervals should be reported. If the distribution of the data is not described, it must be assumed that the estimates used were appropriate and the question should be answered yes.

Yes	1
No	0

8. Have all important adverse events that may be a consequence of the intervention been reported?

This should be answered yes if the study demonstrates that there was a comprehensive attempt to measure adverse events. (A list of possible adverse events is provided).

Yes	1
No	0

9. Have the characteristics of patients lost to follow-up been described?

This should be answered yes where there were no losses to follow-up or where losses to follow-up were so small that findings would be unaffected by their inclusion. This should be answered no, where a study does not report the number of patients lost to follow-up.

Yes	1
No	0

10. Have actual probability values been reported (e.g. 0.035 rather than <0.05) for the main outcomes except where the probability value is less than 0.001?

Yes	1
No	0

External validity

All the following criteria attempt to address the representativeness of the findings of the study and whether they may be generalised to the population from which the study subjects were derived.

11. Were the subjects asked to participate in the study representative of the entire population from which they were recruited?

The study must identify the source population for patients and describe how the patients were selected. Patients would be representative if they comprised the entire source population, an unselected sample of consecutive patients, or a random sample. Random sampling is only feasible where a list of all members of the relevant population exists. Where a study does not report the proportion of the source population from which the patients are derived, the question should be answered as unable to determine.

Yes	1
No	0
Unable to determine	0

12. Were those subjects who were prepared to participate representative of the entire population from which they were recruited?

The proportion of those asked who agreed should be stated. Validation that the sample was representative would include demonstrating that the distribution of the main confounding factors was the same in the study sample and the source population.

Yes	1
No	0
Unable to determine	0

13. Were the staff, places, and facilities where the patients were treated, representative of the treatment the majority of patients receive?

For the question to be answered yes the study should demonstrate that the intervention was representative of that in use in the source population. The question should be answered no if, for example, the intervention was undertaken in a specialist centre unrepresentative of the hospitals most of the source population would attend.

Yes	1
No	0
Unable to determine	0

Internal validity - bias

14. Was an attempt made to blind study subjects to the intervention they have received?

For studies where the patients would have no way of knowing which intervention they received, this should be answered yes.

Yes	1
No	0
Unable to determine	0

15. Was an attempt made to blind those measuring the main outcomes of the intervention?

Yes	1
No	0
Unable to determine	0

16. If any of the results of the study were based on "data dredging", was this made clear?

Any analyses that had not been planned at the outset of the study should be clearly indicated. If no retrospective unplanned subgroup analyses were reported, then answer yes.

Yes	1
No	0
Unable to determine	0

17. In trials and cohort studies, do the analyses adjust for different lengths of follow-up of patients, or in case-control studies, is the time period between the intervention and outcome the same for cases and controls?

Where follow-up was the same for all study patients, the answer should yes. If different lengths of follow-up were adjusted for by, for example, survival analysis the answer should be yes. Studies, where differences in follow-up are ignored, should be answered no.

Yes	1
No	0
Unable to determine	0

18. Were the statistical tests used to assess the main outcomes appropriate?

The statistical techniques used must be appropriate to the data. For example, nonparametric methods should be used for small sample sizes. Where little statistical analysis has been undertaken but where there is no evidence of bias, the question should be answered yes. If the distribution of the data (normal or not) is not described it must be assumed that the estimates used were appropriate and the question should be answered yes.

Yes	1
No	0
Unable to determine	0

19. Was compliance with the intervention/s reliable?

Where there was non-compliance with the allocated treatment or where there was contamination of one group, the question should be answered no. For studies where the effect of any misclassification was likely to bias any association to the null, the question should be answered yes.

Yes	1
No	0
Unable to determine	0

20. Were the main outcome measures used accurate (valid and reliable)?

For studies where the outcome measures are clearly described, the question should be answered yes. For studies which refer to other work or that demonstrates the outcome measures are accurate, the question should be answered as yes.

Yes	1
No	0
Unable to determine	0

Internal validity - confounding (selection bias)

21. Were the patients in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited from the same population?

For example, patients for all comparison groups should be selected from the same hospital. The question should be answered unable to determine for cohort and case-control studies where there is no information concerning the source of patients included in the study.

Yes	1
No	0
Unable to determine	0

22. Were study subjects in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited over the same period of time?

For a study which does not specify the time period over which patients were recruited, the question should be answered as unable to determine.

Yes	1
No	0
Unable to determine	0

23. Were study subjects randomised to intervention groups?

Studies which state that subjects were randomised should be answered yes except where method of randomisation would not ensure random allocation. For example, alternate allocation would score no because it is predictable.

Yes	1
No	0
Unable to determine	0

24. Was the randomised intervention assignment concealed from both patients and healthcare staff until recruitment was complete and irrevocable?

All non-randomised studies should be answered no. If assignment was concealed from patients but not from staff, it should be answered no.

Yes	1
No	0
Unable to determine	0

25. Was there adequate adjustment for confounding in the analyses from which the main findings were drawn?

This question should be answered no for trials if: the main conclusions of the study were based on analyses of treatment rather than intention to treat; the distribution of known confounders in the different treatment groups was not described, or the distribution of known confounders differed between the treatment groups but was not taken into account in the analyses. In non-randomised studies, if the effect of the main confounders was not investigated or confounding was demonstrated, but no adjustment was made in the final analyses the question should be answered as no.

Yes	1
No	0
Unable to determine	0

26. Were losses of patients to follow-up taken into account?

If the numbers of patients lost to follow-up are not reported, the question should be answered as unable to determine. If the proportion lost to follow-up was too small to affect the main findings, the question should be answered yes.

| Yes | 1 |
| No | 0 |

Unable to determine	0	

Power

27. Did the study have sufficient power to detect a clinically important effect where the probability value for a difference being due to chance is less than 5%?

Sample sizes have been calculated to detect a difference of x% and y%.

	Size of *smallest* intervention group	
A	$<n_1$	0
B	$n_1 - n_2$	1
C	$n_3 - n_4$	2
D	$n_5 - n_6$	3
E	$n_7 - n_8$	4
F	n_8+	5

Study 6: Savage et al. (2014)

Reporting

1. Is the hypothesis/aim/objective of the study clearly described?

Yes	1
No	0

2. Are the main outcomes to be measured clearly described in the Introduction or Methods section?

If the main outcomes are first mentioned in the Results section, the question should be answered no.

Yes	1
No	0

3. Are the characteristics of the patients included in the study clearly described?

In cohort studies and trials, inclusion and/or exclusion criteria should be given. In case-control studies, a case-definition and the source for controls should be given.

Yes	1
No	0

4. Are the interventions of interest clearly described?

Treatments and placebo (where relevant) that are to be compared should be clearly described.

Yes	1
No	0

5. Are the distributions of principal confounders in each group of subjects to be compared clearly described?

A list of principal confounders is provided.

Yes	1
No	0

6. Are the main findings of the study clearly described?

Simple outcome data (including denominators and numerators) should be reported for all major findings so that the reader can check the major analyses and conclusions. (This question does not cover statistical tests which are considered below).

Yes	1
No	0

7. Does the study provide estimates of the random variability in the data for the main outcomes?

In non-normally distributed data the inter-quartile range of results should be reported. In normally distributed data the standard error, standard deviation or confidence intervals should be reported. If the distribution of the data is not described, it must be assumed that the estimates used were appropriate and the question should be answered yes.

Yes	1
No	0

8. Have all important adverse events that may be a consequence of the intervention been reported?

This should be answered yes if the study demonstrates that there was a comprehensive attempt to measure adverse events. (A list of possible adverse events is provided).

Yes	1
No	0

9. Have the characteristics of patients lost to follow-up were described?

This should be answered yes where there were no losses to follow-up or where losses to follow-up were so small that findings would be unaffected by their inclusion. This should be answered no, where a study does not report the number of patients lost to follow-up.

Yes	1
No	0

10. Have actual probability values been reported (e.g. 0.035 rather than <0.05) for the main outcomes except where the probability value is less than 0.001?

Yes	1
No	0

External validity

All the following criteria attempt to address the representativeness of the findings of the study and whether they may be generalised to the population from which the study subjects were derived.

11. Were the subjects asked to participate in the study representative of the entire population from which they were recruited?

The study must identify the source population for patients and describe how the patients were selected. Patients would be representative if they comprised the entire source population, an unselected sample of consecutive patients, or a random sample. Random sampling is only feasible where a list of all members of the relevant population exists. Where a study does not report the proportion of the source population from which the patients are derived, the question should be answered as unable to determine.

Yes	1
No	0
Unable to determine	0

12. Were those subjects who were prepared to participate representative of the entire population from which they were recruited?

The proportion of those asked who agreed should be stated. Validation that the sample was representative would include demonstrating that the distribution of the main confounding factors was the same in the study sample and the source population.

Yes	1
No	0
Unable to determine	0

13. Were the staff, places, and facilities where the patients were treated, representative of the treatment the majority of patients receive?

For the question to be answered yes the study should demonstrate that the intervention was representative of that in use in the source population. The question should be answered no if, for example, the intervention was undertaken in a specialist centre unrepresentative of the hospitals most of the source population would attend.

Yes	1
No	0
Unable to determine	0

Internal validity - bias

14. Was an attempt made to blind study subjects to the intervention they have received?

For studies where the patients would have no way of knowing which intervention they received, this should be answered yes.

Yes	1
No	0
Unable to determine	0

15. Was an attempt made to blind those measuring the main outcomes of the intervention?

Yes	1
No	0
Unable to determine	0

16. If any of the results of the study were based on "data dredging", was this made clear?

Any analyses that had not been planned at the outset of the study should be clearly indicated. If no retrospective unplanned subgroup analyses were reported, then answer yes.

Yes	1
No	0
Unable to determine	0

17. In trials and cohort studies, do the analyses adjust for different lengths of follow-up of patients, or in case-control studies, is the time period between the intervention and outcome the same for cases and controls?

Where follow-up was the same for all study patients, the answer should yes. If different lengths of follow-up were adjusted for by, for example, survival analysis the answer should be yes. Studies, where differences in follow-up are ignored, should be answered no.

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Unable to determine	0

18. Were the statistical tests used to assess the main outcomes appropriate?

The statistical techniques used must be appropriate to the data. For example, nonparametric methods should be used for small sample sizes. Where little statistical analysis has been undertaken but where there is no evidence of bias, the question should be answered yes. If the distribution of the data (normal or not) is not described it must be assumed that the estimates used were appropriate and the question should be answered yes.

Yes	1
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19. Was compliance with the intervention/s reliable?

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Yes	1
No	0
Unable to determine	0

20. Were the main outcome measures used accurate (valid and reliable)?

For studies where the outcome measures are clearly described, the question should be answered yes. For studies which refer to other work or that demonstrates the outcome measures are accurate, the question should be answered as yes.

Yes	1
No	0
Unable to determine	0

Internal validity - confounding (selection bias)

21. Were the patients in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited from the same population?

For example, patients for all comparison groups should be selected from the same hospital. The question should be answered unable to determine for cohort and case-control studies where there is no information concerning the source of patients included in the study.

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Unable to determine	0

22. Were study subjects in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited over the same period of time?

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23. Were study subjects randomised to intervention groups?

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Unable to determine	0

24. Was the randomised intervention assignment concealed from both patients and healthcare staff until recruitment was complete and irrevocable?

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Yes	1
No	0
Unable to determine	0

25. Was there adequate adjustment for confounding in the analyses from which the main findings were drawn?

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Yes	1
No	0
Unable to determine	0

26. Were losses of patients to follow-up taken into account?

If the numbers of patients lost to follow-up are not reported, the question should be answered as unable to determine. If the proportion lost to follow-up was too small to affect the main findings, the question should be answered yes.

Yes	1
No	0

Unable to determine	0

Power

27. Did the study have sufficient power to detect a clinically important effect where the probability value for a difference being due to chance is less than 5%?

Sample sizes have been calculated to detect a difference of x% and y%.

	Size of *smallest* intervention group	
A	$<n_1$	0
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C	$n_3 - n_4$	2
D	$n_5 - n_6$	3
E	$n_7 - n_8$	4
F	n_8+	5

SECTION B
PROFESSIONAL PRACTICE

SECTION B1

GENERIC PROFESSIONAL SKILLS COMPETENCY

1.0 Generic Skills Competency

CONTENTS

SECTION	PAGE

INTRODUCTION

This commentary describes and reflects upon my professional practice as a trainee health psychologist over a two-year period within my positions as a smoking cessation officer and a health delivery specialist (NHS Health checks) both held at Brent Council.

1.1 PROFESSIONAL AUTONOMY & ACCOUNTABILITY
1.1A PRACTICE WITHIN THE LEGAL ETHICAL BOUNDARIES

In doing the professional doctorate course and developing as a health psychologist, I have ensured to follow the British Psychological Society's professional and ethical standards alongside the Health and Care Professions Council standards (Professional Practice Board of the British Psychological Society, 2008; Ethics Committee of the British Psychological Society, 2009; Health and Care Professions Council, 2012). Both of my roles involved directly working with service users' sensitive information and details, which I documented and recorded using appropriate secure systems in line with the Data Protection Act 1998. For example, within my role as a smoking cessation officer, I would input service users details such as identifiable information, which stop smoking medication they have decided to use and their weekly progression of their quit attempt onto an online system called Quit Manager. Also within my health delivery specialist role I use a system called Nebouxii to input and analyse clinical data of any patient who have received and NHS Health check. My experience of using both these systems highlighted that good record keeping is an integral part of my practice and essential to providing safe and effective care to all clients that access the services.

Throughout my role as a smoking cessation officer I always ensured that the service users understood how and when their information would be used, including where information may need to be shared without their consent, should there be a concern of significant harm to themselves or others. This is also in line with the council's policies on confidentiality and information governance, which I made certain to attend the annual updates and reviews. An example of this would be informing the General Practice (GP) should one of their patients that is accessing the stop smoking service be using Champix or Zyban (a prescription-only medication used to support a quit attempt). This is because of the various contra-indications associated with the products, meaning that the patient's medical records would need to be updated and the GP would also then be able to monitor any physical effects, as well as taking the

appropriate measures to alter a patient's current medication if Champix is likely to interact.

During the course of my two years supervised practice, I did not come across any clients that were a risk of seriously harming themselves or others, but I became competent in assessing the risks for this. I would often go through the risk assessment process with service users wanting to quit smoking, which included assessing their feelings and behaviours in relation to their quit attempt, particularly as the process of quitting smoking is linked to depressive symptoms (Hughes & Hatsukami, 1986).

Throughout my role as a health delivery specialist and within these two years, I also had plenty of opportunities to strengthen my experience in management, although I had no previous management experience when I started the course. Having management experience in the health sector helped me develop my abilities in ensuring the providers that the health checks and stop smoking services commissions, are also delivering the service within ethical and legal boundaries. One way I did this was by supervising the pharmacies and the General practices (GP) ensuring they worked in accordance with the NHS Confidentiality Code of Practice (Department of Health, 2003), for example, I would provide guidance on the correct protocol in keeping service users data securely stored. Working within smoking cessation also gave me the opportunity of developing a new system to ensure all data from both GP's and pharmacies were accurately and appropriately recorded. It was a great opportunity for me to be involved in such a project as I had not previously been involved in developing a system for record keeping, which contributed to an improvement in the data quality and the service being recognised in all the departments within the council. Another way I did this was to make sure that all GP's that deliver the NHS health checks received a copy of the best practice guidelines. I also designed and delivered training twice a year to both GP's and pharmacies to ensure that they are clear on the services' legal and ethical requirements. One of the most important things I learned was that I needed to be knowledgeable on various policies, specific requirements and the ethical aspects that relates to my areas' of work in order to be able to give the providers appropriate advice.

I further demonstrated my competence for practising within legal and ethical boundaries in areas outside of my professional roles, for example, when asked by the

Living Well organisation to do an evaluation of the life coaching programme they provide, from the perspective of their clients. Throughout this project I ensured that all the audio recordings of the interviews I conducted were stored safely and securely. I also ensured participants' anonymity and confidentiality was maintained whilst preparing the article for publication. Additionally, whilst conducting my qualitative research on the use of smokeless tobacco products within the South Asian population, I collected sensitive data such as age, gender, ethnicity and smoking status, as well as ensuring it was securely stored to safeguard the confidentiality of the service users. I also made sure confidentiality was adhered to throughout my practice logs and my overall Health Psychology portfolio whereby identifiable information was removed unless otherwise agreed by the service users themselves. Whilst going through the process of developing into a competent health psychologist there have been instances where I have had to demonstrate my qualifications and capabilities as a trainee health psychologist. This has been a huge learning point for me, particularly in non-clinical settings, as the understanding of what a health psychologist is and the benefits they can bring are not always understood by other health professionals as the area is still relatively new. However, this pushed me to learn how to demonstrate the range of skills and qualities I possess as not only a trainee but as an equal professional working within these setting and my skills and experience could have benefits to a project. Being able to reflect constantly using my professional daily logs helped me to further engage in this ongoing process. Using the Gibbs model of reflection (Gibbs, 1998) in practice meant I would use my logs to describe various experiences related to everyday activities, consider the influencing factors, if there was something I could have done differently in a particular situation, as well as making a plan to address the situation better, if it arose again. This has given me the confidence and ability to discuss health psychology and its application within different contexts, compared to when I first started the course.

Coming towards the end of the course now I am confident with demonstrating my skills in the various competencies that I completed throughout these two years; including teaching and training, consultancy, research and behaviour change interventions and I am pleased with all the experience I have gained through how I have applied these skills in different environments. Throughout my two years of professional practice I have worked with a range of audiences from young people to older adults and with a range of conditions such as mental illness, cancer and respiratory conditions. I have also worked in areas of public health and prevention

including physical activity, diet, smoking behaviour and sexual health. The wide range of areas has strengthened my ability to work as a health psychologist with varied audiences and in all cases practised in a non-discriminatory manner. On some occasions, I have observed and actively worked to minimise the power imbalance between practitioners and clients. For example, working with the stop smoking service, as a team, we would receive a large number of calls from clients who wish to stop smoking but are unsure of the processes involved or whom to contact. When dealing with such calls, as well as using appropriate communication skills to make sense of the callers queries, I would provide them with the most appropriate information to their questions, where they would be able to receive support and providing them with what they should expect if they chose to access the stop smoking service to help minimise the power imbalance that would occur in the therapeutic relationship. I developed my skills in dealing with this by making use of my workplace supervision and logs to reflect on how I dealt with each situation and considered if I felt I could have dealt with it better, learning from each enquiry that came through (Gibbs, 1988).

1.1B PRACTICE AS AN AUTONOMOUS PROFESSIONAL

Over the course of the 2 years, I have practiced as an autonomous professional, knowing the limits of my practice and also when it is appropriate to seek advice from another health professional. For example, within my role as a smoking cessation officer, as I would often be dealing with telephone or email enquiries. This often resulted with the client's needing to be referred to other services as the queries would fall out of our service remit. Majority of the time this included clients from outer boroughs wanting to access the service, which in such cases I would refer back to their own GP, the concerning borough council services or the national stop smoking helpline. On other occasions a caller may have specific needs, i.e. relating to mental health or pregnancy and stopping smoking, where I would refer them to the appropriate specialist advisor to provide them with specialised support they may require in order to meet their needs appropriately.

I have used a range of systems to monitor my professional performance and reflect on daily professional experiences, including regular individual supervision and group supervisions with other trainees. I found these sessions particularly useful as I was able to enrich my learning by engaging with others of a similar status. Individual supervision sessions with my university supervisor and workplace supervisor have

provided space to reflect on my professional and personal development, as well as reviewing my progress of development as a competent health psychologist, such as work challenges and associated emotional strain, which has enabled me to build up my professional resilience (Rajan-Rankin, 2013).

My ability to identify when work-related challenges are affecting my wellbeing has been strengthened throughout the process through the use of critical reflection. Related to this, the toughest part of the Professional Doctorate I experienced was towards the end, the service was going through a shortage of staff, which led to me taking, even more, responsibilities on top of my two roles as a smoking cessation officer and a health delivery specialist. The experience of being and practising as a health psychologist trainee in the public sector was increasingly difficult. I felt I was battling between working efficiently as a trainee health psychologist and fitting within the organisation's priorities and strategic vision in a high pressured, changing and challenging environment. However, I learnt a lot from this, including the appreciation and understanding of the impact of transference and counter-transference dynamics within the workplace, where unconscious processes that are hard to locate and understand, influence the organisation dynamics and performance (Diamond & Allcom, 2003). The importance of self-reflection during these difficult times enabled reflective learning where I have learnt to listen and trust my feelings of concern and share them with appropriate professionals rather than sitting on feelings of discomfort (Boud, Keogh & Walker, 1985).

Another key skill I developed over the two years was time management, where I often used strategies such as prioritisation using 'to do' lists, maintaining updated project Gantt charts and fully utilising my diary to manage the demands of work, study and personal life. Keeping a clear vision of work and development objectives, including completing the Professional Doctorate, coupled with my hard work, determination, enthusiasm and commitment, contributed to me excelling in project tasks, growing as reflective practitioner and demonstrating my proficiency as a health psychologist.

1.1C DEMONSTRATE THE NEED TO ENGAGE IN CONTINUING PROFESSIONAL DEVELOPMENT

Being a British Psychological Society member and within this, a member of the Division of Health Psychology has been a useful way to keep up to date with developments in the profession. Over the two years, I have actively sought opportunities to engage in CPD activities, including attending all the London

Metropolitan University Health Psychology workshops, which have provided a useful opportunity to discuss with my peers issues concerning legal, ethical and professional practice, but have also provided a learning platform on implementation of health psychology theory in applied settings. I have also attended other events, either through my own arrangement or through my work placement, which have contributed to my development across the competencies, some of these events have included the Health Psychologist Networking event, and events focused on improving smoking cessation, diabetes care and health economics. Additionally, I identified various other resources necessary for my own psychological practice, such as accessing relevant journals and articles, as well as using resources beyond the psychological literature such as the National Institute for Care and Excellence (NICE) guidance and also Department of Health publications.

Furthermore, the opportunity to shadow health professionals including a consultant in public health and a mental health smoking cessation specialist, whilst working at Brent Civic Centre. This experience gave me a deeper understanding of other health professionals' challenges and concerns, which was useful when developing the behaviour change intervention to assist their work. For example, when I shadowed the mental health specialist advisor it was interesting to see the amount of information the advisor goes through with the clients every session. This was helpful when developing the 'My Smoke-free Journey' booklet to aid as an additional tool within the stop smoking programme.

I also fully engaged and utilised the appropriate systems for monitoring continuing professional practice at my places of work. In addition to ensuring that my work placement was aware and supportive of my Professional Doctorate training as a Health Psychologist. This was helpful as there was transparency about my learning objectives as a health psychologist and I would ensure I had regular meetings with my line manager to review my practice and work projects. I also took an active role in guiding the nature of those meetings by using an agenda, which was a process I learnt very early on in the Professional Doctorate and one I used effectively to guide my supervision sessions with my university supervisor, which I ensured I made full use of our available time. Other opportunities over the two years where I have actively sought feedback and acted appropriately following feedback received, have included teaching and training where I used methods of triangulation (Felder & Brent, 2004), to evaluate my methods, obtaining feedback from a professional, the learners and self-feedback using video material. Another example of this is when I

developed a feedback form for my client whilst conducting the consultancy project, to gain an understanding of our working relationship and my ability to work towards the clients' aims and objectives. The professional doctorate has increased my confidence in my ability to ask and gain feedback from other professionals and use these in order to improve within my own professional practice. Over the past two years, I have maintained reflective logs documenting my practice, and I have seen a clear development in my level of self-reflection and analysis. Reflection helped me make each situation explicit, thinking back as to how I could have done things differently and identifying areas of learning and limitations. This helped me grow and develop where I have been able to integrate knowledge, skills and values, which often led to improved action, as explained in Kolb's model of reflection (Kolb, 1984).

1.2 PROFESSIONAL SKILLS

1.2A COMMUNICATE EFFECTIVELY

Within both of my roles I found it essential being able to communicate effectively, with both health professionals and also the general public. My knowledge of how verbal and non-verbal communication is affected by a range of different factors such as ethnicity, age, socio-economic status, culture and religious beliefs have increased (Professional Practice Board of the British Psychological Society, 2008). I found this new knowledge particularly useful when delivering the standard treatment programme to service users, either on a one to one basis or in a group. Within the first session of the stop smoking programme, it is essential for me to provide the service user with the necessary information that they need in order for them to make an informed decision on whether they wish to continue the programme and also how they wish to tackle their quit attempt. This includes information about how the programme is structured, the options they have in terms of medication, explain the side effects they may experience and also most importantly what they expect to receive from the service as a whole. With each session, I need to be able to explain to the service users' potential ways of avoiding smoking and help to increase their motivation and also be able to boost their self-confidence throughout the entire programme. I found that the more I helped service users through their quit attempts, the more confident I became in my abilities to be able to communicate effectively (Kolb, 1984). I have also developed the skills to write on a range of levels, from detailed reports, to information leaflets, to delivering health messages to the general

public. One example of where I did this in my everyday practice is by helping to design the stop smoking service new shisha leaflets. My main role was to ensure that appropriate and factual health messages on smoking shisha would be implemented onto these leaflets with the aim to increase the general public's awareness on the health issues associated with smoking shisha.

Furthermore, over the two years, both my roles I have had, have contributed to me becoming confident in working across multiple departments and with a range of professionals, as well as encouraging the active participation of service users in the development of the behaviour change intervention that was part of this doctorate course. For example, organising and developing promotional events for the stop smoking services, required me to be able to communicate with a number of different professionals and also service users in order to ensure their needs are met appropriately. These promotional events also became an instrumental part of being able to deliver the behaviour change intervention.

1.2B PROVIDE APPROPRIATE ADVICE AND GUIDANCE ON CONCEPTS AND EVIDENCE DERIVED FROM HEALTH PSYCHOLOGY

As part of my development as a health psychologist, it has been essential for me to be able to recognise when and where to offer relevant and up to date advice on psychological issues that may impact the services I have the responsibilities for. An example of this was when I was asked to help out with the shisha leaflets as mentioned above; this required me to conduct several literature searches to ensure health information is evidence-based and updated for our service users. Another way I did this was through my regular stop smoking cessation; I would always summarise, tailor and present ideas in a way that was appropriate to the service user I saw at the time. For example, within the sessions I would explain the importance of the service users' readiness to quit, using the Stages of Change Model (Prochaska & DiClemente, 1984) in a way that was understandable. I can also confidently evaluate the impact of psychological advice, for example in smoking cessation each session was guided by the client's progression in their quitting process and their challenges, where advice may have been adjusted depending on the information brought to that session.

Furthermore, in stop smoking training prior knowledge was measured in addition to post knowledge using questionnaires to assess the increase in learning following the delivery of psychological advice. One of the biggest changes I have seen is the development of my skills and confidence to provide appropriate psychological

advice to aid service plan changes and any contractual changes that may have an impact on the service users. This was something I had not done before starting the Professional Doctorate, and so when I was first faced with the task of doing this, I ensured I actively sought and acted appropriately to advice I received from my line manager, which I found helped me to increase my ability and confidence. After preparing a couple of responses supervised, it increased my confidence to do it unsupervised.

Where necessary, I obtained the necessary permissions when using confidential and copyrighted information. For example, when I developed a behaviour change intervention to prepare for people who smoked in Brent, I gained approval to use their copyrighted logos by making sure the relevant people were consulted before the intervention took place.

1.2C BUILD ALLIANCES AND ENGAGE IN COLLABORATIVE WORKING EFFECTIVELY

Over the two years, I have built and sustained professional relationships by collaboratively working as a member of a team through the active engagement in team meetings, department meetings, staff away days, and supervision sessions. A more specific example of this, as I progressed over the last two years in both my roles I was given more responsibility. This involved working closely with a range of different providers, departments and organisations. Alongside this, I have worked with external partners to engage new audience and to assist in cascading health messages to the general public, such as the importance of knowing your cardiovascular and diabetes risk. I have further contributed effectively to work undertaken as part of a multi-disciplinary team by highlighting evidence and theory derived from health psychology, for example when delivering training to other health professionals, I shared my knowledge on how to incorporate theories into practice, i.e. through conducting motivational interviews to service users whilst delivering the smoking cessation programme or health checks.

1.2D LEAD GROUPS OR TEAMS EFFECTIVELY

I feel confident in being able to lead groups or teams effectively. Throughout my professional doctorate course I managed the GPs in relation to the NHS Health check service and the pharmacies in regards to the smoking cessation service. I ensured I conducted regular one to one meetings to review their progress and challenges that may have arisen, but also encouraged an open environment where they could speak

to me outside of these sessions, should they need to. For example one way I would ensure I manage the providers of both services effectively is by taking a leadership role, making sure the providers have all the necessary information to remain motivated and work effectively, clarifying any issues when needed and giving explicit instructions when new or different priorities emerge and ensuring provision of appropriate training and development happens to address any obstacles.

Some of the areas that I have developed well in having this management opportunity is through organising and planning. I was responsible for planning the aims, objectives and priorities of both services. Having to reflect on my daily activities through logs, I think I am now more open to receiving feedback on my leadership style. Feedback has taught me that I am engaging and supportive, whilst providing clear vision and direction, but I am also able to empower employees and other health care professionals to work with autonomy and encourage innovation. All these experiences increased my confidence and competence in not only having management skills and responsibilities but being able to lead different healthcare professionals with various experiences and skills. This means I have been able to learn how to identify and utilise leadership styles appropriate to a particular context or groups of people.

Additionally, over the period of the Professional Doctorate, I have strengthened my ability to negotiate and influence decisions, which was demonstrated when starting the professional doctorate course and completing the competencies. For example I negotiated for condensed hours with my employers, having negotiated this flexibility with my workplace was crucial in not only being able to complete the course but also in making sure I had the time and resources to take advantage of all the opportunities to further develop as a competent health psychologist.

FINAL REFLECTIONS

My experience of working directly with clients, having responsibility for sensitive, confidential information, implementing and evaluating a range of projects, supervising others as well as receiving supervision, has enabled me to acquire the competence and confidence in working as an autonomous and accountable health psychologist. Whilst the two roles I hold have been very different, and through other opportunities in learning and development, I have transferred my learning from one role to another and thus demonstrated the value of health psychology in a range of settings.

Although challenging at times, particularly when learning new skills like developing a behaviour change intervention for the first time and designing training programmes, I have enjoyed this period of growth and development.

Whilst coming to the end of this two year professional doctorate course and preparing my portfolio together, it has become apparent all the amount of work I have accomplished, the challenges and issues I had to deal with and overcome. I have not only developed my skills professionally but also in a personal sense, I have come to learn more about myself.

I have learnt that I am extremely determined, hardworking, I am able to do things efficiently and think creatively, but sometimes I do lack confidence in my abilities and doubt my own skills and capabilities. The professional doctorate course has also taught me the importance of having and maintaining a healthy balance between my personal and work commitments, as well as identifying my limits in terms of my skills, knowledge, abilities and when to seek support and help from others to ensure the best outcomes. My interests in many different areas of health psychology have led to a diverse portfolio and the opportunity to add breadth and depth to my skills and knowledge as a health psychologist. I am a lot more reflective in my practice, which enables me to adapt my work processes based on my learning (Kolb, 1984) and enables me to be a skilled and effective applied health psychologist.

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SECTION B2

BEHAVIOUR CHANGE INTERVENTION COMPETENCY

'My Smoke-free Journey' Booklet

CONTENTS

OVERVIEW

One of the service outcomes within my role as a health delivery specialist is to increase the number of people stopping smoking through redesigning the smoking cessation service and in turn improve the overall quality of the service offered by London Borough of Brent. This is in line with Brent's 2020 vision to improve health and wellbeing in the borough, with the priority being set in reducing the health inequalities and disparity within the outcomes of the top 3 killers: Cancer, heart disease and respiratory illnesses. Smoking tobacco is the greatest cause of preventable ill-health and premature deaths in Brent. Each year there is an estimated 241 deaths related to smoking. While the smoking rates in Brent is lower than the national and regional averages, there is a clear difference within the borough itself, with an average of just under 12% smoking rate in the least deprived areas to almost a 26% rate within the most deprived neighbourhoods. This signified to me an urgent need to redesign and improve the quality of the standard treatment programme offered by the Brent stop smoking service. The aim of the intervention was to provide an additional tool to encourage people who wish to stop smoking to be more engaged in the stop smoking programme and taking responsibility for their health. This case study will provide an in-depth explanation of the development of the intervention, including the theories around the inequalities in health. In addition to providing a reflective account of the process from conception to evaluation.

BASELINE ASSESSMENT OF THE INTERVENTION

Smoking tobacco remains the leading cause of preventable illness and premature deaths worldwide (World Health Organisation, 2011). Although it has been reported that over 5 million deaths are linked to the use of tobacco annually. It is also estimated that an additional 60,000 people will die from second-hand smoke (Öberg et al., 2011) and the annual death toll for tobacco use is also estimated to rise to over 8 million within the next two decades (Mathers & Loncar, 2006). Peto and Lopez (2004) suggested that by the 21st century if effective measures are not taken as a matter of urgency, tobacco could kill over 1 billion people. In terms of local data, the smoking prevalence amongst adult routine and manual workers in the London Borough of Brent was recorded to be 21.1% in 2014. Although this is better in comparison to the England average at 28% and the London average at 25.3%, there is an estimated 241 deaths in Brent that are related to tobacco use each year. Data published over the last three years has shown that there has been a significant reduction overall in the number of smokers accessing stop smoking services in the UK. In 2015, the data showed that there was a decline of around 15% in regards to people setting a quit date through stop smoking services across England compared to the year 2014, which itself suffered a drop of 19% compared to 2013 (Health and Social Care Information Centre, 2015). In comparison to trying to quit without support or medication, stop smoking services provide smokers a significantly higher chance of stopping smoking successfully (Hiscock & Bauld, 2013). Although the exact cause of the recent decline in smoking rates are unclear, there could be a potential number of factors that may have played a role in this, such as a change in how national mass media messages are formulated (from directly encouraging access to stop smoking services to promoting a population-level quit attempt, for example Stoptober and No smoking day); the impact from the public health transition to local authorities and also the changes in how stop smoking service are commissioned which included a reduction in budgets for both the services and any promotional activity. Furthermore, the increase use of nicotine vaporisers (e-cigarettes) by current smokers.

For the majority of smokers, smoking tobacco is a learned behaviour which results in a physical addiction to nicotine (Royal College of Physicians, 2000; Hunt & Hunt, 2007). As a result, for many individuals, stopping smoking can prove to be quite difficult and is therefore recommended that stop smoking interventions include both pharmacological and behavioural support (McRobbie et al., 2008; NICE, 2006;

Zwar, Richmond, & Borland, 2016). Stop smoking services are currently commissioned to deliver an abrupt cessation model, by supporting s smoker who is motivated to set their quit date, after which they pledge not to smoke one puff of a cigarette. The type of behaviour change strategies to help in smoking cessation vary from very brief interventions, which consists of advice from a health professional, to multi-component programmes. Good evidence exists for the effectiveness of face to face interventions (Stead, 2008a), group behavioural interventions, such as group therapy (Stead, 2005), individual counselling (Lancaster, 2005) and telephone counselling (Stead, 2006). West et al., (2015) found that self-help materials such as booklets and leaflets that are designed to provide advice, encouragement and support, maximises the motivation to stop smoking. Hartmann-Boyce, Lancaster, & Stead (2014), found that printed materials increases the quit rates by 2% compared to when no intervention was offered. These materials also help to develop and enhance skills that could be effective in a wide range of contexts and different populations (West et al., 2015).

With this in mind, I met with my colleagues and the manager of the Brent Stop smoking service to explain that the intervention would be developed as a tool to support the already existing smoking cessation support that the service offers. I also explained that the purpose of the intervention was to encourage people who wish to stop smoking to be more engaged in the stop smoking programme and take responsibility for their health. The Stop smoking service as a whole were happy to support the implementation of the intervention and provide feedback on the development of the intervention. I proposed the development of a booklet due to the assumption that printed materials are effective in a wide range of contexts and populations (West et al., 2015). The booklet included information on the weekly health benefits an individual could experience, the amount of money that the individual could save and the natural health consequences of stopping smoking. The booklet employed behaviour change techniques, addressing factors such as self-efficacy and motivation of the individuals wishing to stop smoking. The booklet also includes a section to record the client's weekly carbon monoxide levels and a section to set weekly goals that serve to aid their quit attempt as they go through the stop smoking programme. As a whole, it is intended to serve as a multipurpose tool and would be different from the resources already available for download or order on the Smoke-free website.

REFLECTION – BASELINE ASSESSMENT OF THE INTERVENTION

This was the first time I had been involved in developing an intervention supporting both a government-led campaign and a campaign at regional level. However, I felt my background in Health psychology and my experience in designing, implementing and evaluating other interventions on a local level provided me with the professional ability and skills to excel in this task. I feel I took appropriate steps to understanding the need for the intervention by scrutinising the relevant literature, reviewing the results of smaller local pilots and discussing with other relevant professionals involved in the development of the campaigns.

FORMULATION OF THE INTERVENTION

Theory helps to explain the dynamics of a particular health behaviour, including what processes can aid in changing those behaviours and the influences other factors that may affect a health behaviour to help inform the intervention. The Transtheoretical model (Prochaska & DiClemente, 1983) was utilised in a preliminary questionnaire (Appendix 1 p.208) to assess the smokers' readiness to quit smoking. The model has been described as a multi-stage model, as it describes the factors that might influence behaviour change in different stages. More specifically this model assumes that as an individual attempts to change a behaviour, they go through five stages; pre-contemplation, contemplation, preparation, action and maintenance stages. Individuals coming through the service may be at different stages, thus they will have different informational needs and may benefit greater from interventions that are designed for which stage they may be at. Contrastingly, another framework used in smoking cessation interventions is the Health Belief Model (Hochbaum, Rosenstock, & Kegels, 1952). This model is often described as a motivational model, as they are designed to predict behaviours at single points in time and focuses on the mental processes and changes of health behaviours amongst individuals. The Health Belief Model argues that behaviour is a direct turnout of the perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action and self-efficacy. Similarly both the Transtheoretical model and the Health Belief Model rely on the individual acknowledging that they are capable of change and require the individual to have a cue to action that causes a desire to change. However Usherwood (1999) noted that the value of the Transtheoretical model in comparison to the Health Belief Model, is that it aids in identifying the stages in the process of change and provides a guide for the intervention to be

tailored to the patient. The framework provides an insight to the activities or experiences that the patient may apply and engage with during their journey in attempting to change a particular behaviour (Prochaska et al., 1992; Velicer et al., 1998). To this end, the Transtheoretical model suggests that interventions should be designed to correlate with the stage an individual may be in, by targeting the processes that are assumed to influence the behaviour change. The integration of these two considerations where particular processes are emphasised according to the stage is shown in Table 1 (p.194). Whereas Table 2 (p.195) details the processes of change that are often depicted in the Transtheoretical model.

| | Stages of change | | | | |
	Precontemplation	Contemplation	Preparation	Action	Maintenance
Processes of change	Consciousness raising				
	Dramatic relief				
	Environmental reevaluation				
		Self-reevaluation			
			Self-liberation		
				Counter conditioning	
				Helping relationships	
				Reinforcement management	
					Stimulus control

TABLE 1: PROCESSES OF CHANGE THAT CAN INFLUENCE THE PROGRESSION BETWEEN THE STAGES OF CHANGE

Results from the preliminary questionnaire suggested that the majority of the smokers in Brent were either in the contemplation or preparation stages of change. Therefore, the main aim of the intervention was to provide an additional tool alongside the standard stop smoking treatment programme that would aid stop smoking advisors to encourage people who wish to stop smoking to be more engaged in the stop smoking programme and take responsibility for their own health and well-being. In other words, to help participants to transition from either the Pre-contemplation, the contemplation or the preparation stage to the Action stage. The booklet was therefore developed with the intention for participants to go through the experiential process (as detailed in Table 2, p.195). The final version of the booklet included information on the weekly health benefits the participants could experience after smoking (Consciousness raising), the natural consequences of stopping smoking (dramatic relief), motivational quotes to serve as a prompt to realising that behaviour change is important (self-evaluation), the amount of money the participants could save every week for not smoking (environmental revaluation) and

finally a section where the participants could set weekly goals in regards to their stop smoking attempt (Self-liberation).

	Processes	Description
Experiential processes	Consciousness raising	Finding and learning new facts, ideas, and tips that support the recommended behaviour change
	Dramatic relief	Experiencing the negative emotions (fear, anxiety, worry) that go along with particular behavioural risks
	Self-reevaluation	Realising that the behaviour change is an important part of one's identity as a person
	Environmental reevalaution	Realising the negative impact of the problem behaviour or the positive impact of the recommended behaviour on one's proximal social and/or physical environment
	Self-liberation	Making a firm commitment to change
Behavioural processes	Helping relationships	Seeking and using social support for the recommended behaviour change
	Counter conditioning	Substitution of recommended alternative behaviours and cognitions for the problem behaviour
	Reinforcement management	Increasing the rewards for the positive behaviour change and decreasing the rewards of the problem behaviour
	Stimulus control	Removing reminders or cues to engage in the problem behaviour and adding cues or reminders to engage in the recommended behaviour
	Social liberation	Realising that the social norms are changing in the direction of supporting the health behaviour change

TABLE 2: PROCESSES OF CHANGE IN THE TRANSTHEORETICAL MODEL

The booklet (Appendix 3 p.211) took approximately 4 weeks to design and produce. Firstly, the information on the amount of money saved, the health benefits and health consequences of stopping smoking were gathered from a number of sources. Information on the amount of money saved was calculated using the NHS Smoke-free quit cost calculator on a £10 a packet for someone who smokes 20 cigarettes a day. Information for the health benefits and health consequences of stopping smoking were collated from the NHS Smoke-free website, Cancer Research and the World Health Organisation. A draft of the booklet was circulated to the Brent stop smoking service advisors, the service manager and also to the Director of public health within Brent Council for review. Once the final version of the booklet was approved by all parties, the Brent Council logo and the Brent Stop Smoking service details were added to the booklet.

The booklet was designed to have a clear transparent front cover and a black backing to ensure the professional look. The title of the booklet was chosen as 'My Smoke-free Journey' designed to be catchy and focus on the smokers' quit attempt. In total 15 booklets were printed in order for the 3 Brent stop smoking advisors to distribute equally to their clients over a six weeks period between March 2017 to May 2017. In order to effectively evaluate the impact of the booklet, it was essential that there was a control group. Both the intervention group and the control group were given a questionnaire at the start and at the end of their treatment programme to assess whether there was a difference in stages (Appendix 1, p.208). A feedback form specifically designed for the booklet (Appendix 2, p.210 was also given to the participants who were within the intervention group at the end of their sessions.

REFLECTION – FORMULATION OF THE INTERVENTION

I found developing the intervention overall a smooth process, as I was provided with extensive support from all team members of the stop smoking service. I think I communicated effectively with the advisors and manager that were involved in the intervention. However, one aspect of the formulation process that I found quite difficult was developing and explaining which theories were most appropriate to underpin the development of this intervention. After extensive research and support from some of my colleagues on the doctorate course, it became clear to me, how to apply theory to practice. Having, for the first time developed my own behaviour change intervention, I do think my knowledge and experience have greatly improved. It was interesting to read through all the theories available and thinking of how they could practically apply to not only my intervention but how they could apply in everyday life.

<u>DELIVERY OF THE INTERVENTION</u>

As the booklet was designed to be used as an additional tool to the standard treatment programme for smoking cessation. I, therefore, created an outline for the Stop smoking advisors delivering the intervention, explaining how the booklet is intended to be used weekly:

Session 1: The advisors assesses the stage in which the client is in in relating to the stages of change model, their readiness and ability to quit smoking using the pre-questionnaire designed. The advisors will then go through the steps within the standard treatment programme, in order to assess the clients current smoking behaviour and their level of dependence to nicotine, assess any past quit attempts,

196

explain how the dependence on tobacco develops and the importance of an abrupt cessation "not a puff" rule and finally discuss stop smoking medications available. The clients were only then given the booklet, with the advisor explaining the information that is detailed on page 5 about the amount of money the clients could save and the health benefits and withdrawal symptoms the may experience within the first week of stopping smoking. The advisor will then explain how the carbon monoxide monitoring works, conduct the CO reading and have the client write down their CO levels on the CO chart found on page 3 of the booklet. The clients were then asked to set a quit date; the advisor will then prompt commitment from the clients by asking them to write down their goals for the week. Finally, the advisors will discuss preparations with the clients and provide a summary of the session.

Session 2: The advisor confirms that the client is still ready and able to quit, confirm that the client has enough supply of the medication and discuss whether the medication is working for them or potential issues. The advisor would then use the booklet to discuss the health benefits participants may have experienced within the second week of their quit attempt, any withdrawal symptoms and cravings/urges to smoke, which would in turn prompt the conversation on how to deal with those cravings. The advisor will also discuss how clients could get support during their quit attempt, address any potential high risk situations that may occur in the upcoming week. As in session one the advisor will conduct the CO reading and make sure that the client writes down their CO levels again on the chart provided on page 3 of the booklet. Finally the advisor will again confirm the importance of an abrupt cessation, prompt a commitment from the client by asking them to write down their goals for the coming week and provide a summary of the session.

Session 3, 4, 5 and 6: The stop smoking advisor will discuss with the clients about how they are progressing with their quit attempt, measure the CO level and again as with previous sessions ensure that the clients write down their CO levels on the CO chart provided in the booklet. The advisor will also ask about how clients are using their medication and ensure that they have enough supply. The booklet will be used to discuss any health benefits and any cravings/withdrawal symptoms that the client may have experienced or currently experiencing in order to find appropriate and effective ways on how to deal with them. Finally the advisors will confirm the importance of the 'not a puff' rule, prompt commitment from the client by asking them to write down their goals for each coming week and provide a summary at the end of each session.

The booklets were distributed to all three stop smoking advisors from the Brent stop smoking service on the 20th March 2017. The decision to involve the stop smoking advisors was based on their access to the smokers on a weekly basis.

REFLECTION – DELIVERY OF INTERVENTION

There were a few areas of concern with the delivery of the intervention. One area was the ambiguity of whether there would be enough participants coming through the service around the same time the intervention was running. One way I chose to overcome this was by organising a few events at Northwick Park hospital, Central Middlesex hospital and the Brent Civic Centre to promote the stop smoking service. In doing so, the service did receive a substantial amount of new referrals in March 2017, just before the expected start date of the intervention.

Another issue that was raised in the delivery stage of the intervention was that the participants were forgetting to bring in the booklets when they attended their sessions with the advisors. In this instance, I thought it would be best if I consulted the advisors on the different ways we could tackle this issue, as they know their clients better and have already established rapport with them. After discussing this issue, we came to a solution; when the advisors send the weekly reminder texts to the clients before each session they would include within the message 'Please don't forget to bring your booklet to the session'. This proved effective as all client's from then on did bring in their booklets.

I was pleased with my ability to reflect on challenges that may arise and develop strategies for potentially overcoming these, as it is essential with ensuring the intervention is delivered as effectively as possible.

EVALUATION OF THE INTERVENTION

The intervention for the booklet ran for six weeks, from the 20th March 2017 until the 1st of May 2017. In total 15 participants received the booklet alongside receiving the standard treatment programme. Out of the 15 participants, 9 were successful in giving up smoking. Within the stop smoking service, the current assessment to determine the success of a quit attempt is through verifying the clients CO levels at four weeks, with a concentration of less than 10ppm (parts per million) (Brose et al., 2011). Similarly, the Department of Health (2011), defines a four-week quitter as an individual who has reported abstinence to smoking between weeks two and four from the date they set as their quit date and verified by the Carbon monoxide test.

All participants had the CO verification done every week as part of their sessions. However, only participants with a reading of below 10ppm at four weeks were marked as a successful quitter for this intervention. The number of people successfully quitting at four weeks was compared between the control group and the intervention group (those who received the book and those who did not). As seen in table 3 (p.199) there was no difference in the number of successful quits between the two groups.

Advisor	No. of people in intervention group	No. successful quits at 4 weeks	No. of people in control group	No. successful quit at 4 weeks
1	7	6	6	4
2	5	3	5	4
3	3	1	4	2
TOTAL:	15	10	15	10

TABLE 3: NUMBER OF SUCCESFUL QUITS AT 4 WEEKS BETWEEN THE INTERVENTION GROUP AND THE CONTROL GROUP.

Participants in both groups were also given a questionnaire to assess which stage they were in before and after going through the stop smoking programme. Table 4 (p.199) shows the number of participants in each stage of change before starting the programme and also after completing the programme for both groups.

Stages of Change	Before starting the Programme		After completing the Programme	
	Intervention group	Control group	Intervention group	Control group
Pre-contemplation	4	5	0	0
Contemplation	8	6	4	5
Preparation	3	4	3	4
Action	0	0	3	1
TOTAL:	15	15	10	10

TABLE 4: NUMBER OF PARTICIPANTS IN EACH STAGES OF CHANGE BEFORE AND AFTER COMPLETING THE PROGRAMME BETWEEN THE INTERVENTION GROUP AND THE CONTROL GROUP.

Graph 1 (p.200) demonstrates the change in stages as reported by the participants within the intervention group; it is apparent that there was a shift in the stages of change in both the intervention group and the control group. However, it is unclear

whether the booklet solely had any impact on the shift in the stages of change within the intervention group as similar results were found within the control group.
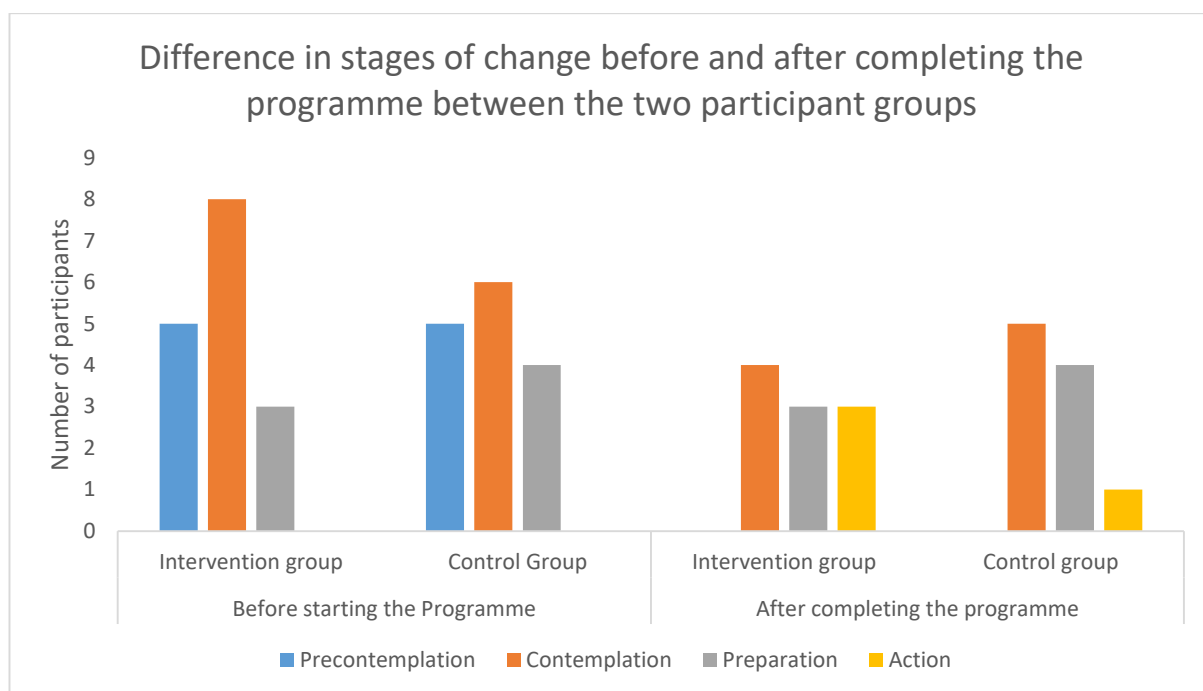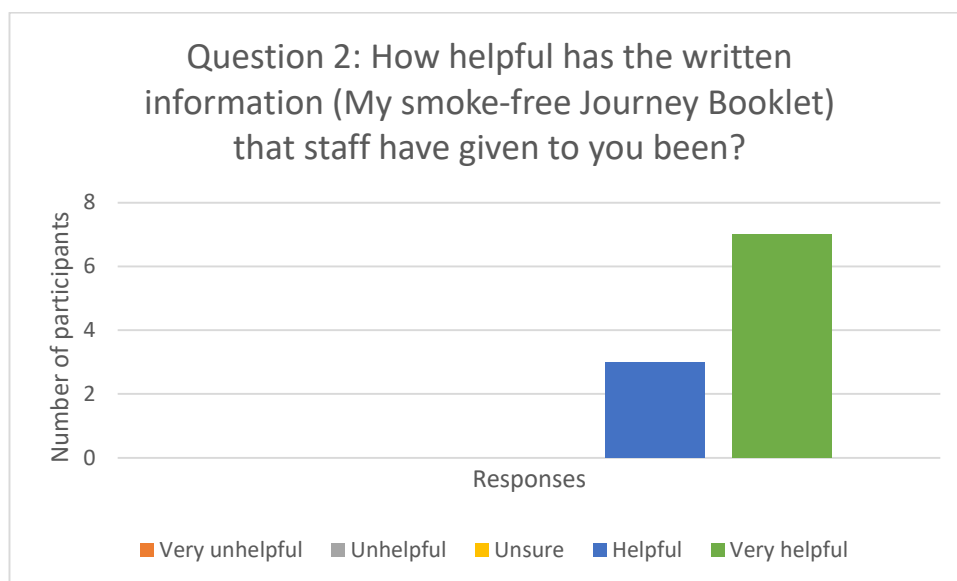

GRAPH 1: DIFFERENCE IN STAGES OF CHANGE BEFORE AND AFTER COMPLETING THE PROGRAMME BETWEEN THE TWO PARTICIPANT GROUPS.

Feedback on the booklet was also gained from the participants. Overall participants reported being satisfied with the booklet itself and found the information within helpful and relevant to their experience of their quit attempt. The graphs below represents the data collected from the client satisfaction survey, which were distributed to participants in the intervention group.
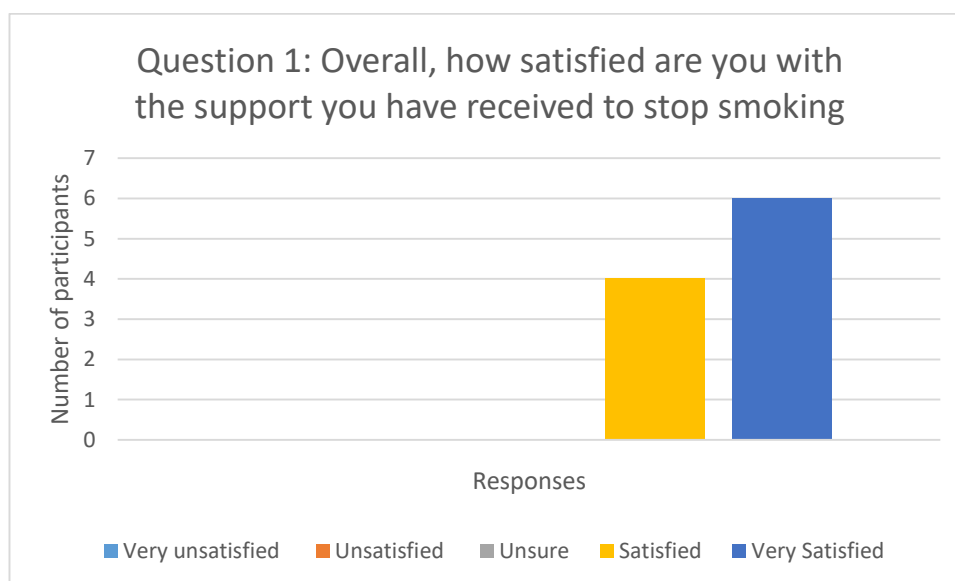
GRAPH 2: PARTICIPANTS RESPONSES TO QUESTION 1 ON THE CLIENT SATISFACTION SURVEY.

As represented in the graph above, 6 out of the 10 participants were very satisfied with the support they had received to stop smoking, while the rest of the participants were satisfied with what they had received.

Question 2: How helpful has the written information (My smoke-free Journey Booklet) that staff have given to you been?

GRAPH 3: PARTICIPANTS RESPONSES TO QUESTION 2 ON THE CLIENT SATISFACTION SURVEY.

Looking at the data on graph 3 (p. 201) in regards to question 2, 7 out of the 10 participants found the "My smoke-free Journey" booklet very helpful to their quit attempt. Whilst the other 3 participants found the booklet helpful.

Question 3: Did you think the content was relevant to you?
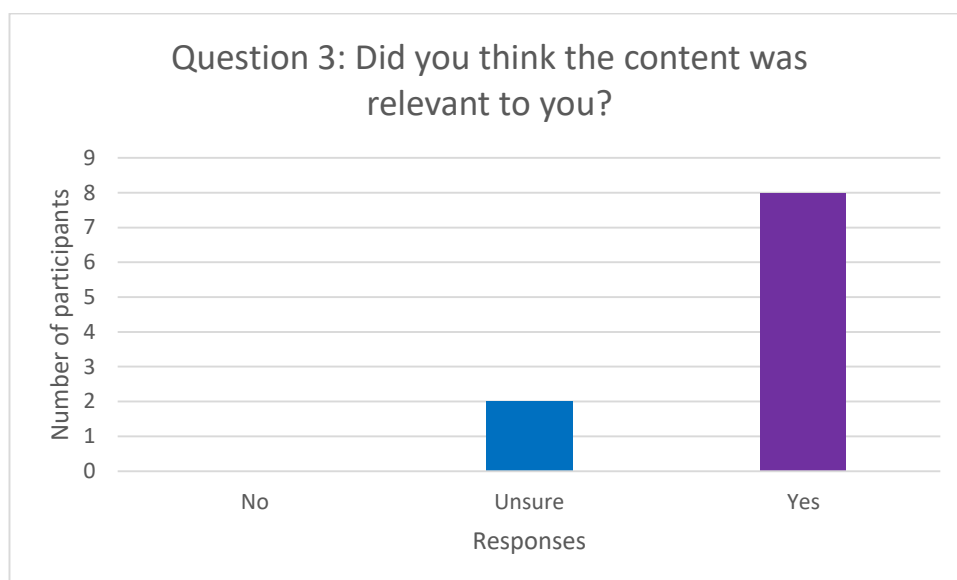
GRAPH 4: PARTICIPANTS RESPONSES TO QUESTION 3 ON THE CLIENT SATISFACTION SURVEY.

With regards to the third question on the survey, 8 participants felt that the content of the booklet was relevant to them, whilst 2 participants were unsure.

One of the parts of the booklet that majority of the participants found helpful was the information on the health benefits of stopping smoking they might experience every week. However, some of the participants reported that the information on the amount of money was not relevant to them as they wanted to quit for health reasons not financial reasons.

Feedback from the advisors was also gained on how they found using the booklet as an additional tool to the standard treatment programme. All three advisors reported that they found the booklet helpful in prompting participants in discussing any benefits or symptoms they may have noticed in between their sessions.

REFLECTION – EVALUATION OF INTERVENTION

Although the results showed that there was no difference found between the two groups of participants, I was pleased with the amount of positive feedback that was received by both the participants and also the advisors. On reflection one of the things I could have done differently to improve the evaluation of the intervention is by gaining feedback from the participants that dropped out of both groups. This is something that does need to be considered in future work as it would provide more information on not only how the intervention could be improved but also what worked well.

OUTCOME OF THE INTERVENTION

The results of the intervention showed that it was unclear whether the booklet solely had any impact on the participants shift from one stage to another, as there was a reported shift within both the intervention and the control group (see graph 1, p.200). However, the feedback gained from both the participants who received the booklet and the advisors were positive, as they thought that the booklet was useful and the information helpful to their participants quit attempts. This suggests that although the results do not indicate that the booklet on its own had an impact in shifting participant's from one stage to another, there is a gap for an additional informational tool.

Schumann (2008) noted that although materials that are based and tailored on the transtheoretical model are normally designed for smokers within the contemplation, preparation, action and maintenance stages, there isn't much designed for smokers who are currently within the pre-contemplation stage.

It is important to note that there are a number of ex-smokers that have reported that they have quit smoking without using a formal smoking cessation programme.

However, information is an important factor in increasing and maintaining engagement of service users in all forms of healthcare. The provision of written or other forms of information to smokers alongside brief advice or counselling from a health professional are beneficial to an individual's quit attempt.

The final results of this intervention were fed back to the Brent stop smoking advisors and the manager on the 8th May 2017. Although it is unclear that the booklet solely had any impact on the service quit rates, the service as a whole was pleased with the positive feedback that was received from the participants. From the results of the intervention alone, I would not recommend the booklet as a tool for the sole use of behaviour change. However, due to the feedback gained from the participants and the advisors I would recommend the booklet as an additional information tool. One of the limitations with the booklet is that access to the information provided was not available in various formats and languages for all individuals who smoke. This needs to be taken into considerations as London Borough of Brent is multicultural in ethnicity. On reflection, the booklet should have been provided in different languages in order to meet the cultural needs of the borough.

REFLECTION – OUTCOME OF THE INTERVENTION

This was a very interesting intervention and working with a range of stakeholders to develop this contributed to my professional growth as a Health Psychologist. On reflection, if time allowed and in an ideal situation, a small pilot on the effectiveness and usefulness of the booklet would have been useful before implementing an intervention. I do however feel that this intervention has identified that there is a gap for an additional information tool that could be used alongside the stop smoking services.

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APPENDIX

Appendix 1

Assessing Stage for Change questionnaire

Please circle what best applies to you. T= True   F= False

Section 1 (Pre-contemplation Stage)

1. Smoking is not harmful to my health	T	F
2. Smoking around unborn babies, children or others is harmful to them	T	F
3. I enjoy smoking more than anything else that I do	T	F
4. I have to smoke to have fun	T	F
5. When I am asked not to smoke by someone else I feel angry	T	F
6. I do not like when I am told where and when I can smoke	T	F
7. I have a hard time imagining my life without smoking	T	F
8. I avoid going to the doctor because I don't want to hear about how smoking is harmful	T	F

Section 2 (Contemplation Stage)

9. I want to quit smoking but I would miss it too much	T	F
10. Within the next six months, I want to quit smoking	T	F
11. My life is too stressful right now to quit smoking	T	F
12. I want to quit smoking but I am afraid of going through recovery.	T	F
13. I think about quitting smoking a lot.	T	F
14. I talk about quitting smoking with other people	T	F

Section 3 (Preparation Stage)

15. I think I would be healthier if I quit smoking	T	F
16. I believe the benefits of quitting smoking are more important than the benefits of continuing to smoke	T	F
17. I have got to do something about my smoking	T	F
18. I believe that I can cut down my smoking	T	F
19. I believe that I can quit smoking	T	F
20. I would like to quit smoking within the next month	T	F

Section 4 (Action Stage)

21. I smoke fewer cigarettes now than I did six months ago	T	F
22. I have quit smoking for at least one day in the past year	T	F
23. I'm looking for ways to quit smoking	T	F
24. I am ready to quit smoking	T	F
25. I am willing to attend all the sessions and complete a program to assist me to quit	T	F
26. I am willing to make changes in my life to quit smoking	T	F
27. I know the situations and behaviours I need to avoid while I quit smoking	T	F
28. I have started smoking again but I am ready to try to quit again	T	F
29. I am trying to quit smoking	T	F
30. I am using quit-aids, such as nicotine gum, a patch or a pill	T	F

Thank you.

Brent Stop Smoking Service Client Satisfaction Survey
(My Smoke-free Journey Booklet)

_____

It is important that Brent Stop Smoking Services know if there is anything that they could do to improve the support that they provide to smokers. Your views about this are very important to us and will be treated in the strictest confidence. The results of this survey will be used for research and service development purposes. **Please answer the following questions as honestly as you can, and return the questionnaire to your stop smoking advisor. Thank you.**

_____

Please circle the appropriate number for each question:

1. Overall, how satisfied are you with the support you have received to stop smoking?

Very Unsatisfied	Unsatisfied	Unsure	Satisfied	Very Satisfied
1	2	3	4	5

2. How helpful has the written information (My smoke-free Journey Booklet) that staff have given to you been?

Very Unhelpful	Unhelpful	Unsure	Helpful	Very Helpful
1	2	3	4	5

3. Did you think the content was relevant for you?

No	Unsure	Yes
0	1	2

4. What was the most helpful part of the booklet and why?

5. Were there any parts of the booklet that you found unhelpful?

6. Do you have any other comments or suggestions?

Please return the questionnaire to the advisor. Thank you

Appendix 3

My Smoke-free Journey

Email:

Telephone:

Tips and suggestions to help you quit

❖ **Make a fresh start:** Start by throwing away all your ashtrays, lighters and cigarettes. That way, you'll avoid temptation at home or work.

❖ **Avoiding temptation:** At the start, try avoiding the pub or other places where people might be smoking. It'll be easier to continue your stop smoking journey that way.

❖ **Share the good news:** Make a point of telling people around you that you're stopping smoking. You'll feel empowered as a result.

❖ **Support network:** Tell your partner and/or family that you're stopping smoking. Chances are they'll offer you support and understanding.

❖ **Keep in touch:** The Brent stop smoking service is here to help improve the chances of success, do not hesitate to contact us with any questions or if you need more support

Carbon Monoxide Chart

Track your weekly progress!

- ❖ Week 1 – CO Reading: _____
- ❖ Week 2 – CO Reading: _____
- ❖ Week 3 – CO Reading: _____
- ❖ Week 4 – CO Reading: _____
- ❖ Week 5 – CO Reading: _____
- ❖ Week 6 – CO Reading: _____

Adult COppm	%COHb		Adolescent/Maternity COppm	%COHb
30	5.43		20+	5.66
29	5.27		19	5.38
28	5.11		18	5.09
27	4.95		17	4.81
26	4.79		16	4.53
25	4.63		15	4.25
24	4.47		14	3.96
23	4.31		13	3.68
22	4.15		12	3.40
21	3.99		11	3.11
20	3.83		10	2.83
19	3.67		09	2.55
18	3.51		08	2.26
17	3.35		07	1.98
16	3.19		06	1.70
15	3.03		05	1.42
14	2.87		04	1.13
13	2.71		03	0.85
12	2.55		02	0.57
11	2.39		01	0.28
10	2.23			
09	2.07			
08	1.91			
07	1.75			
06	1.59			
05	1.43			
04	1.27			
03	1.11			
02	0.95			
01	0.79			

Having a reading in this zone indicates you may well be a regular smoker with higher levels of CO in your blood. Do not despair! Help is at hand and your stop smoking advisor can help you to give up smoking and reduce your reading down into the target "Green Zone"

Having a reading in this zone would indicate a light smoker or a non-smoker breathing in poor air quality or passive smoke inhalation. Your stop smoking advisor will be able to advise on the best course of action to reduce this reading down to the target "Green Zone"

This is where you really need to be!

It means you have less than 1% Carbon Monoxide (CO) in your blood. Most people have a small amount of CO in their breath, this is due to the air quality around you.

Things get better straight away when you quit smoking!

After 20 minutes
- Your blood pressure and pulse go back to normal.
- Circulation improves - especially in your hands and feet.

After 8 hours
- Nicotine and carbon monoxide levels in the blood are reduced by half.
- Oxygen levels return to normal.

After 24 hours
- Carbon monoxide will be eliminated from the body.
- Your lungs start to clear out mucus and debris.

Say yes to life, say no to tobacco!

Week 1

Positives

❖ Nicotine from last cigarette cleared from the body

❖ Respiratory system has begun to heal

❖ Body starts to naturally get rid of irritants

❖ Relief from tightness in chest

Possible Symptoms (temporary)

❖ Nicotine Withdrawals
❖ Cravings for cigarettes
❖ Irritability
❖ Restlessness

Possible Physical symptoms (temporary)

❖ Headache
❖ Fatigue
❖ Insomnia
❖ Coughing

Money Saved
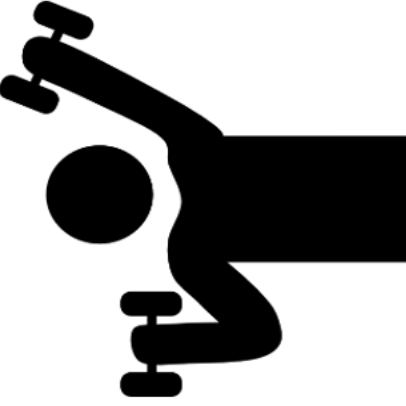
❖ 5 a day: £17.50

❖ 10 a day: £35.00

❖ 15 a day: £52.50

❖ 20 a day: £70.00

❖ 25 a day: £87.50

❖ 30 a day: £105.00

My goal for this coming week is to: _____

_____

*Money saved calculations based on £10 a packet for someone who smokes 20 cigarettes a day.

Be the change you wish to see in the world. By quitting you're setting a great example for friends and kids who look up to you!

Week 2
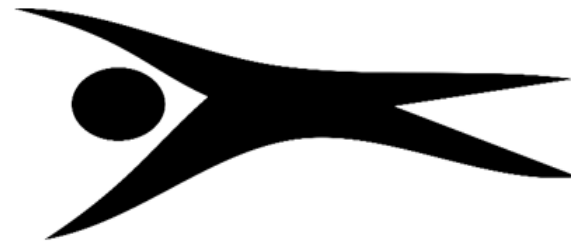
Positives

❖ Withdrawal symptoms begin to fade away

❖ Appetite begins to return to normal

❖ Blood circulation in your gums and teeth are now similar to that of a non-user.

Possible Symptoms (temporary)

❖ Nicotine Withdrawals
❖ Cravings for cigarettes
❖ Irritation
❖ Restlessness

Possible Physical symptoms (temporary)

❖ Headache
❖ Fatigue
❖ Insomnia
❖ Coughing

Money Saved

❖ 5 a day: £35.00
❖ 10 a day: £70.00
❖ 15 a day: £105.00
❖ 20 a day: £140.00
❖ 25 a day: £175.00
❖ 30 a day: £210.00

My goal for this coming week is to: _____

_____

*Money saved calculations based on £10 a packet for someone who smokes 20 cigarettes a day.

Every time you say no to a craving, you are re-affirming yourself as a non-smoker.

Keep it up!

Week 3

Positives

- ❖ Risk of heart attack has started to drop
- ❖ Lung function begins to improve
- ❖ Chronic cough (if any) begins to disappear

Possible Symptoms (temporary)

- ❖ Nicotine Withdrawals
- ❖ Cravings for cigarettes
- ❖ Irritation
- ❖ Restlessness

Possible Physical symptoms (temporary)

- ❖ Headache
- ❖ Fatigue
- ❖ Insomnia

Money Saved

- ❖ 5 a day: £52.50
- ❖ 10 a day: £105.00
- ❖ 15 a day: £157.50
- ❖ 20 a day: £210.00
- ❖ 25 a day: £262.50
- ❖ 30 a day: £315.00

My goal for this coming week is to: _____

_____

*Money saved calculations based on £10 a packet for someone who smokes 20 cigarettes a day.

217

Remember that with each puff you lose precious time of your life. You deserve better, you deserve to live smoke-free.

Week 4

Positives

❖ Blood circulation substantially improves

❖ Walking and exercising starts to become easier

❖ Ability to taste and smell have greatly improved

Possible Symptoms (temporary)

❖ Nicotine Withdrawals
❖ Cravings for cigarettes
❖ Restlessness

Money Saved

❖ 5 a day: £70.00
❖ 10 a day: £140.00
❖ 15 a day: £210.00
❖ 20 a day: £280.00
❖ 25 a day: £350.00
❖ 30 a day: £420.00

My goal for this coming week is to: _____

_____

*Money saved calculations based on £10 a packet for someone who smokes 20 cigarettes a day.

218

Always remember the reason you stopped smoking, keep it at the front of your mind. You can do this!

Week 5

Positives

* Lung Function improves by 5%
* Increase in energy levels – feelings of fatigue begin to fade away
* Coughing, blocked sinuses and breathing difficulties disappears
* Chances of having a heart attack starts to reduce

Possible Symptoms (temporary)

* Nicotine Withdrawals
* Cravings for cigarettes
* Restlessness

Possible symptoms can be counteracted by exercise and building in realistic lifestyle change

Money Saved

* 5 a day: £87.50
* 10 a day: £175.00
* 15 a day: £262.50
* 20 a day: £350.00
* 25 a day: £437.50
* 30 a day: £525.00

My goal for this coming week is to: _____

_____

*Money saved calculations based on £10 a packet for someone who smokes 20 cigarettes a day.

The day you quit, is the day you've changed your life for the better!

Week 6

Money Saved

❖ 5 a day: £105.00

❖ 10 a day: £210.00

❖ 15 a day: £315.50

❖ 20 a day: £420.00

❖ 25 a day: £525.50

❖ 30 a day: £630.00

Positives

❖ Lungs are better able to resist infections

❖ Any smoking-related bad breath have now gone

❖ The skin starts to revive its natural youthful glow

❖ Feelings of irritation, insomnia, anger & anxiety (if any) subsides

My goal for this coming week is to: _____

_____

*Money saved calculations based on £10 a packet for someone who smokes 20 cigarettes a day.

CONGRATULATIONS

YOU DID IT!
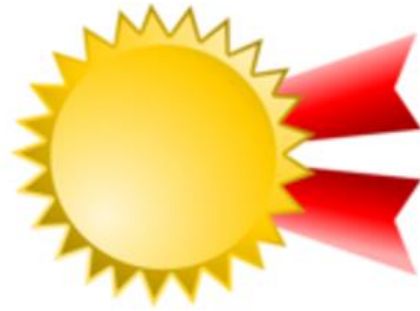
And the benefits keeps going!

In 3 - 9 Months after quitting
- Your lung capacity can improve by 5-10% and you can say goodbye to coughing, shortness of breath and wheezing.

After 5 years
- You now have half the chance of having a heart attack compared to a smoker.

After 10 years
- The chance of getting lung cancer is half of that of a smoker.
- Your chance of having a heart attack is the same as someone who has never smoked.

If there is anything you need please give us a call or send us an email!

Stop Smoking Service

Smoking Cessation Specialists!

Email:

Tel:

SECTION B3
CONSULTANCY COMPETENCY

An evaluation of Living Well's Life Coaching programme
The clients' perspective

CONTENTS

INTRODUCTION

This case study reports the findings of a piece of consultancy undertaken for Living Well from February 2016 to April 2016. It was an evaluation of the life coaching programme within an article format to be submitted to the HIV and Nursing Journal. The case study ends with a reflective analysis of my experience of conducting this work.

ASSESSMENT OF REQUESTS FOR CONSULTANCY

In February 2016, one of the university lecturers contacted all professional doctorate students about a consultancy opportunity with the Living Well organisation. I took the presented opportunity and initiated contact with the managing director of the Living Well organisation through email.

This consultation came about as a result of Living Well being asked to draft an article for the HIV Nursing Journal on one of their self-management services – their life coaching service. This piece of work required reviewing and analysing the pre and post evaluation tool, Living Well currently uses as part of their life coaching service (the Wellbeing stars tool) and also to carry out some qualitative analysis to see how Life Coaching has improved the quality of life and enabled clients to manage both their condition and their lives better. I thought this would be an interesting piece of work for me to undertake as my current job role is within the smoking cessation service, I was eager to broaden my horizons and get involved in a completely different area within health. It was clear that the management involved would be needed to develop this work. Therefore a meeting was arranged on the 11th February 2016, between myself and the managing director. This led to the involvement of some of the administrative staff and the Life coaches within Living Well.

The meeting also provided me with the opportunity to understand more about the role I would play, and what I would be able to offer Living Well in relation to what needs to be done. I decided to lead the meeting in an exploratory manner and find out more about the present situation by asking inquiry questions designed to sharpen and highlight aspects of the presented problem, test how open and frank the managing director was willing to be, and reveal as much as possible what my own style would be. This approach as described by Schein (1987) is one of the most useful techniques that could be used in order to get more information out in the initial meeting. After having read and researched more about the service, I found it

easier to draft a consultancy agreement for the piece of work they wanted me to carry out (Appendix 1, p.237). After preparing the draft agreement I arranged for another meeting between myself and Living Well, to ensure the agreement that I had drafted met all the client's expectations, my role and responsibilities in this piece of work.

I think that it was the right decision for me to arrange the initial meeting as exploratory in nature. I felt that it was important from the start to try and figure out as early in the relationship as possible, all the expectations that may be deliberately or unwittingly concealed by Living Well and which may involve actions on my part that I am not willing to take. For example, beyond wanting me to work on the presented problem. Although this did not present itself as an issue, it was still important for me to be able to assess the present situation for any possibilities. On my side, I realised that I have to be as clear as I can be about what I expected from Living Well and of myself in my role as a consultant (Schein, 1999). I feel that it is essential to question your abilities and skills before undertaking any piece of work, I have to be honest with myself and learn to identify what I know, and from what I assume I know. Being able to be truly honest with myself will help me to figure out which areas I truly need to work on to improve and further develop myself professionally. If I am not honest with myself how could I expect to see improvement? Though I do feel that if I did do that in the first place, I would not have gone ahead with the consultancy as I would most likely have underestimated my abilities, this is because I had never undertaken a piece of consultancy work before and had no idea what the work specifically entailed. Therefore in future consultancies, I will need to work on my confidence and also know the limits of my abilities and skills as this will help me to develop further. I could also request to have supervision with my supervisor or even my university colleagues and gain feedback and their experience of conducting similar work.

PLAN CONSULTANCY

On the 18th February, 2016 both myself and the director for Living Well accepted and signed the consultancy agreement (see Appendix 2, p.239). We both agreed on the aims, proposed deliverables and agreed timeline for this piece of work, which were:

Aim:

To evaluate the Life coaching programme for the Living well organisation and develop a draft article for the HIV Nursing Journal (approximately 1500 words), which will focus on the data collected using the Well-being star and patients perspectives of the life coaching programme.

Proposed Deliverables:

A. A presentable poster, which will include: Analysis and charts of the participants' demographics, and summary of participants' scores from the well-being star.

B. A draft article of publishable quality, which will entail the following: A qualitative analysis of patients experiences and perspectives of the life coaching programme, and a quantitative analysis of participants scores from the well-being star.

The time frame for deliverables:

	Deliverables	Duration (Estimated # of Days)	Deadline
1	Presentable Poster	29 days	11th March, 2016
2	Draft article of publishable quality	30 days	11th April, 2016
	Total	59 days	11th April, 2016

It was then I realised this piece of consultancy fitted perfectly within the expert model of consultation (Schein, 1978). The model assumes that information or a specialised service is purchased from the consultant by the client (Lee, 2002). In this case, for example, Living Well had been asked to draft an article for the HIV Nursing Journal, and they needed an unbiased person with strong research, conceptual and analytical skills, to review the Life Coaching service and produce the report. However, Schein (1999) argued that the process should always begin within a consultation mode, until we know whether it is safe or desirable for the consultant to shift into the expert mode. I demonstrated this within the initial assessment period with Living Well; which allowed me to ascertain the feasibility of the consultancy work, this reflected a "spirit of inquiry" (Schein, 1999, p.61). Once this inquiry

began, it is then that the decision to remain in the process consultation role or move into the expert role.

Work for this consultancy was expected to start straight away, as I had a strict deadline to complete this piece of work by the 11th of April, 2016. I was given the result of the Well-being stars tool to analyse and a list of patients to contact for face to face or telephone interviews. However, to ensure I adhered to the organisation's data protection and confidentiality protocol, I asked for all the personal data for the service users to be anonymised from the list I was given. Once I had a chance to look at the data I was dealing with, I made it a point to produce a work plan detailing the interview schedule and also the specific quantitative and qualitative methods I intended to use for the purpose of the analysis. I emailed a copy of this work plan to the managing director of Living Well, to make sure that this was acceptable.

Having gone through the process of planning out the specific methods required for this consultancy, I feel that I have utilised quite a few of my professional skills that I didn't realise would play such a massive role with this piece of work, for example I made sure I was aware of Living Well's data protection and confidentiality protocol before accepting to handle any of their patient data. I feel that throughout the planning stage I was able to practice within the ethical boundaries, one of the main competencies I am required to meet as part of the professional doctorate course. I had the misconception that these competencies had to be completely independent of each other, but now I realise in order to develop even further as a professional in the health psychology field, I need to be aware of the different skills I have and when they are appropriate to use.

ESTABLISH, DEVELOP AND MAINTAIN WORKING RELATIONSHIP WITH CLIENTS.

The timeline required by Living Well to complete this work was quite strict, with 59 days to interview the service users, transcribe all interviews, analyse all the data from the Wellbeing stars tool, as well as the interviews and produce a draft article. After a few discussions with the managing director, I managed to negotiate with him to agree for the two set objectives to have their own timeline as I felt this would make the workload manageable for me due to my chaotic schedule.

A two-staged schedule was constructed:

- Stage 1: Complete analysis of Wellbeing stars results, and present as a poster by the 11th March 2016.
- Stage 2: Complete interviews and analysis of results, and draft article of publishable quality by 11th April 2016.

Though the timetable was very strict, we both agreed that there would be a level of flexibility if it is required. Myself and the managing director also agreed for weekly updates on the progression of the work and to gain any necessary feedback from one and other, to ensure not only for a professional relationship to progress but also that their expectations are being met. As Markham (2004) suggested, keeping the client informed is not just about reporting the past but also managing their expectations for the future.

However, contact with the managing director became less frequent following the assessment meeting as he delegated the update meetings to the administration staff due to his hectic work schedule. In terms of the minimum contact the consultancy reflected more of an expert model position, as described by Schein, (1978, p.23) "the client expects expert help and expects to pay for it but not get involved in the process of consultation". However, I was not too concerned, as the weekly meetings were only for update purposes and did not have an impact on the analysis.

Upon reflection, I feel that the managing director and I initially established a good professional relationship. However, throughout the consultancy process, regular face to face evaluation and monitoring was not possible, as the managing director delegated the attendance of the meetings to one of the administration staff, who was not familiar with what the work involved and the contract set. Although I found this frustrating at times, I adapted to the working patterns of the organisation. In hindsight, I would have requested that the additional meetings were not required, now being aware of what the expert model entails.

CONDUCT CONSULTANCY

As agreed by the managing director, the administration staff provided me with the anonymised Wellbeing stars data of 37 service users, as well as an anonymised list of service users I would be able to contact for interviews.

For stage one the data gained from the Wellbeing stars tool were categorised within Excel and analysed using a paired sample t-test on the SPSS V.20 database. Once all

the data from the Well-being stars was analysed, I produced the poster of the results gathered (see Appendix 3, p.241). I set up another meeting with the director to update him formally on the progress, and also to present him the completed poster. I did this to ensure that it had met expectations and also to gain feedback whether there were any changes to be made. He was really pleased with the poster I produced and happy with how the work was progressing so far. Although he did request one small change to be made on the poster which I was quite happy to oblige. The poster was completed within the time scales assigned, and no further amendments were required to be made to the consultancy plan.

For stage two, I was given a room at Living Well centre for the day to conduct the interviews. Most of these interviews were conducted over the phone, and two were done face to face. All participants were either read out or given a consent form (Appendix 4, p.242) and also briefed before the start of the interview.

I did receive support from the administration staff who were on hand to help with any queries I may have had. The day itself went quite smoothly, it was my job next to transcribe and analyse the interview data which took me a few days to complete. On the 11th of April, 2016 the first draft of the article was ready. However I was unable to arrange a meeting as both myself, and the managing director had conflicting timetables. I, therefore, settled on emailing him a copy. He asked for a few spellings and graphs to be changed within the article but was otherwise happy with the overall outcome. Once I made the changes I submitted the article to Living Well who then submitted the article to the HIV Nursing Journal. After a few days I received feedback from one of the publishers from the HIV Nursing Journal, and they requested for a few changes to be made, in terms of the presentation of the article in order to make it more relatable to their readers. On the 21st of June, 2016 the article was accepted for publishing by the HIV Nursing Journal (See Appendix 5, p.243).

I arranged for a final meeting to be set up between myself, the managing director and the staff that were involved throughout this work. This meeting provided me with the opportunity to ensure that they were happy with the final outcome, the objectives and aims set at the start fully met their expectations. The managing director assured me that the work produced was beyond what they were expecting, and they were thrilled that the article was accepted for publication – the main objective of the whole process. It also provided me with the opportunity to ask for feedback on my

consulting skills, as not having done anything like this before I thought it essential to try and receive some constructive feedback.

Due to the nature of this consultancy being within the expert model, meant that the level of contact was expected to be minimal. Although I was comfortable with asserting myself with others to ensure a good delivery of the project I found this model of consultancy to be a bit isolating. I noticed that while working within this model it is important to have a good support network and communications skills to engage with other professionals.

MONITOR THE PROCESS OF CONSULTANCY

As part of the update meetings, I ensured that I took minutes in order to monitor the consultancy process (See Appendix 6, p.249), they were also used as an attendance monitoring for my own records. However, due to the lack of attendance on the managing director's part, it became clear that a few of the meetings had to be re-organised and providing updates via email was essential to gain appropriate feedback in order to keep the scheduled deadlines initially agreed upon. I found that the timetables that were set in the initial stage provided me with a helpful guide and framework to be able to monitor and assess my progress at each stage of this process but also motivated me to move towards achieving the objectives in a timely manner. Recording each step of the consultancy process within my daily and monthly logs, provided a valuable opportunity for me to air the issue of non-attendance. This also provided me with the opportunity to reflect on my actions and to think of different ways to adapt to present situation.

I have come to realise how central and crucial having good communication links with the client is. Initially it was quite difficult for me, as we had both agreed on regular update meetings. However, when this did not go as planned, I did feel quite frustrated as it became quite difficult to monitor the process appropriately. In order to progress forward and make this piece of work a success, finding other ways of communicating to keep the client updated was essential. Though I do feel I have good communication skills and I have come to realise that it is also an area that requires continuous development. I have to be able to adapt my communication skills to any situation and to any client I may face, as no two situations are the same. This opportunity has allowed me to reflect on my thoughts and actions throughout the consultancy process and I have found it to be a positive experience.

EVALUATE THE IMPACT OF THE CONSULTANCY

The evaluation for this consultancy has been primarily based on the verbal appraisals gained in regards to the quality of the project, the timing and having met the objectives that were set in the initial stages. No additional evaluation was undertaken in regards to this. Having a representative sample was not considered to be appropriate for the purpose of the evaluation as this consultancy was predominantly based on the expert model within a one to one relationship (Schein, 1999). In order to gain feedback on the effectiveness of the consultancy, I used my reflective listening skills in the final meeting between myself and the managing director. The managing director was happy with the quality of service provided and there were no amendments required.

As the consultancy was conducted in a professional and timely manner I felt that the process was quite successful, it was reassuring to have this also confirmed by the managing director. I was also pleased with the article being accepted for publication by the HIV Nursing Journal. Reflecting on this consultancy and reflecting on the whole process there were times where I didn't feel motivated to continue with the work agreed because I felt like I didn't know what to do next. However having the opportunity to reflect on situations like these, sharing my "problem" with whomever the client may be, I found was the most helpful thing I could do. I shouldn't assume that I always have to know what to do next. It was entirely appropriate for me to involve the client in this situation in order to gain feedback and work together on figuring out the next step. This consultancy process was a learning experience for me as I had little prior knowledge of the Living Well organisation and the services they offer. In addition my research experience has been within the academic setting; this was my first time that I have been involved in research undertaken on behalf of an organisation, outside of the academic setting. In future I will actively seek opportunities of consultancy, I believe it is a good and appropriate way for me to develop my skills as a Health psychologist but this experience also reflects my journey throughout this course. By looking inwards and reflecting, change is possible, even if it is a small change; and this is what I believe development is all about.

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APPENDIX

Overview

Title	Evaluation of the Life Coaching programme
Location of Assignment	Remote Based and Living Well CIC (St Charles Centre for Health and Wellbeing)
Language(s) Required	English
Travel	No
Duration of Contract	59 Days (12th February – 11th April 2016)

1. **Purpose**

The purpose of this consultancy was to evaluate the Life coaching programme for the Living well organisation and develop a draft article for the HIV Nursing Journal (approximately 1500 words), which will focus on the data collected using the well-being star and patients perspectives of the life coaching programme.

2. **Proposed Deliverables:**

The expected result of this consultancy is the development of a draft article for the HIV Nursing Journal – evaluating the effectiveness of the life coaching programme delivered by the Living Well organisation. Specific deliverables are:

A. **A presentable poster, which will include:** Analysis and charts of the participants' demographics, and summary of participants' scores from the well-being star.

B. **A draft article of publishable quality, which will entail the following:** A qualitative analysis of patients experiences and perspectives of the life

coaching programme, and a quantitative analysis of participants scores from

the well-being star.

C. **Timeframe:** 59 days

D. **Start date:** 12th February, 2016   **End date:** 11th April, 2016

E. **The timeframe for Deliverables:**

	Deliverables	Duration (Estimated # of Days)	Deadline
1	Presentable Poster	29 days	11th March, 2016
2	Draft article of publishable quality	30 days	11th April, 2016
	Total	59 days	11th April, 2016

Appendix 2: Signed Consultancy Agreement

<u>Overview</u>

Title	Evaluation of the Life Coaching programme
Location of Assignment	Remote Based and Living Well CIC (St Charles Centre for Health and Wellbeing)
Language(s) Required	English
Travel	No
Duration of Contract	59 Days (12th February – 11th April 2016)

Background & Purpose

Living Well is an independent, not-for-profit social enterprise that focuses on the development and delivery of innovative services, both generic and specialist, designed to reach and support people from a young age., with the aim to improve the quality of people's lives by helping them to help themselves.

Living Well provides a wide range of holistic services designed to enable people to better manage their health and wellbeing and work in partnership with local government, health trusts and other providers to deliver services that change people's lives for the better while helping to reduce health inequalities.

As a social enterprise, Living Well's objective is to invest in and create projects and activities that support the wider community and enable people to increase their knowledge, skill levels and confidence, thereby giving them greater focus and direction.

Currently the Living Well organisation focuses on three main areas of activity: HIV Services, Youth Services and Community Support. All the services are holistic, person-centred and grounded in the belief that appropriate peer-involvement in the delivery of those services strengthens client engagement and enhances social mobility. One-to-one sessions take place in a central London location and last for an hour each – twelve sessions are required to complete the course and get participants on the road to where they want to be. A dedicated and experienced life coach will help participants plot a course to achieve it and track their progress. Along the way, a life coach will support participants in building up the confidence they need to overcome obstacles – and keep them on track should they lose focus.

The purpose of this consultancy is to evaluate the Life coaching programme for the Living well organisation and develop a draft article for the HIV Nursing Journal (approximately

1500 words), which will focus on the data collected using the well-being star and patients perspectives of the life coaching programme.

1. Proposed Deliverables:

The expected result of this consultancy is the development of a draft article for the H V Nursing Journal – evaluating the effectiveness of the life coaching programme delivered by the Living Well organisation. Specific deliverables are:

A. **A presentable poster, which will include:** Analysis and charts of the participants' demographics, and summary of participants' scores from the well-being star.

B. **A draft article of publishable quality, which will entail the following:** A qualitative analysis of patients experiences and perspectives of the life coaching programme, and a quantitative analysis of participants scores from the well-being star.

2. **Time frame:** 59 days

3. **Start date:** 12th February, 2016   **End date:** 11th April, 2016

4. **Time frame for Deliverables:**

	Deliverables	Duration (Estimated # of Days)	Deadline
1	Presentable Poster	29 days	11th March, 2016
2	Draft article of publishable quality	30 days	11th April, 2016
	Total	59 days	11th April, 2016

Key competencies, technical background and experience required

- Advance university degree (Masters or higher) in the social sciences (i.e. sociology, psychology), medicine, public health, or in other relevant health science areas;

- Strong research, conceptual and analytical skills;

- Ability to express concepts clearly and concisely in written and oral form;

- Fluency in English.

Living Well (Signature) ....   J. MILLER

London met Student (Signature)..   J. Constance

240

Life Coaching – Living Well

The life coaching programme provides participants with one-to-one that will help you identify what they want, plot a course to achieve it and track their progress throughout. 37 participants took part in an evaluation process that incorporated the Well-being Star. Data was analysed using SPSS V.20 – paired sample t-test.

Patient Demographics

Life coaching impact

Participants reported increases in the following areas of the Well-being star:

29%* Feeling Positive
26%* Lifestyle
20%* Family and Friends
18%* Work, Volunteering and other activities
15%* Managing Symptoms
8% Looking after yourself
6% Where you live

*Increases were found to be statistically significant at a level of p<0.05, t-test, n=37.

Note: Participants did not report an increase in the area of money

Interview results

89% said that the programme has helped them increase their confidence and self-esteem.

78% said that they have made positive changes as a direct result of having taken part in the life coaching service

89% said they found the life coaching sessions useful and relevant to their needs

90% said that they now have the tools they need to change their lives for the better

100% said they would recommend the life coaching programme to others

Word Cloud   9 clients also took part in phone and face-to-face interview, to explore their experiences and opinions on the life coaching service. Their responses have generated the word cloud below.

Consent Form

University Name: London Metropolitan University

Participant Identification ☐☐☐☐☐ **Number:**

Title of Project: Evaluation of the Life Coaching Programme – Living well

Name of Researcher: Janice Constance

Please initial

all boxes

8. I have read and understood the information sheet provided dated
    ____/____/_____ for the above research. I have had the chance to consider
    the information and ask questions.

    ☐

9. I understand that participation in this research is voluntary and I am free to
    withdraw at any time without giving any reason.

    ☐

10. I understand that the data collected from my answers during the study, may be
    looked at by individuals from London Metropolitan University.

    ☐

11. I understand that my personal details will remain anonymous and not be used
    throughout the whole research.

    ☐

12. I understand that my responses during the research will be recorded using a
    voice recorder.

    ☐

13. I understand that all recordings will be destroyed after transcription.

    ☐

14. I agree to take part in this research.

    ☐

_____   _____   _____
Name of Participant   Date   Signature

_____   _____   _____
Name of Person   Date   Signature
taking consent.

Appendix 5: Living Well Article

An evaluation of Living Well's Life Coaching programme: the clients' perspective

Janice Constance

London Metropolitan University

Abstract

Background and purpose: Living Well is a community interest company that focuses on the development and delivery of innovative health services. One of the services they currently provide is Life Coaching for people living with HIV. The purpose of this article is to evaluate this service from the clients' perspective.

Methods: Quantitative data were collected from 37 clients and analysed using a paired t-test to compare pre- and post-intervention scores across a diverse range of areas. Qualitative data relating to clients' perspective and opinions of the Life Coaching service were collected from nine clients who self-selected to take part in phone and face-to-face interviews.

Results: Overall, there was an increase in clients' wellbeing scores across all of the areas measured, with significant differences found for managing symptoms, work, volunteering and other activities, family and friends, looking after yourself, lifestyle and feeling positive.

Discussions: Living Well's Life Coaching service is extremely well received by clients living with HIV, improving their lives, enhancing their wellbeing and empowering them with new skills that take them beyond coping and management.

Background and purpose

Living Well is a London-based community interest company that focuses on the development and delivery of innovative health services, designed to reach and support people from a young age, with the aim to improve the quality of their lives by helping them to help themselves. By working in partnership with local government, health trusts and other health providers, Living Well delivers services that support the wider community to address social inequalities and enable their clients to increase their knowledge, skills and confidence.

Currently, Living Well focuses on three main areas of activity: HIV services, youth services and support within the community. All the health services we provide are holistic, person-centred and grounded in the belief that appropriate peer involvement in the delivery of services strengthens client engagement and enhances social mobility.

One of Living Well's most popular services is its Life Coaching for people living with HIV, and it is the purpose of this article to evaluate that service from the clients' perspective.

Life Coaching

Living Well's Life Coaching service is about helping clients living with HIV to unlock their potential and ambitious yet realistic goals. Life Coaching provides the structure, tools and perspective to those who want to fulfil their aspirations.

The Life Coaching service consists of up to 12 one-to-one sessions that take place in community-based locations and last for an hour each. An experienced life coach works with the client to identify what they want and co-create a plan to achieve it. Over the 12 sessions, the coach will support their client in building up the confidence they need to overcome any obstacles that may have stopped them in the past – while helping to keep them on track should they lose focus. The overall aim is to support sustainable change to clients' behaviours or ways of thinking and focus on learning and development [1].

The philosophy expressed by Tim Gallwey [2] that individuals have the resources within themselves to make the changes they wish to make forms the foundation of Living Well's Life Coaching, with the overwhelming objective of empowering people by facilitating self-directed learning, personal growth and improved performance [3]. The coaching service is future focused and goal oriented, and based on Whitmore's [4] GROW model in that in each session goals are set (Goal), there is discussion about what is happening currently (Reality), options for change are explored (Options) and actions are planned (Will).

The Well-being Star

The Well-being Star is the version of the Outcomes Star™ that has been tailored to the needs of services working with people living with long-term health conditions [5]. The tool was developed by Triangle Consulting in collaboration with the Department of
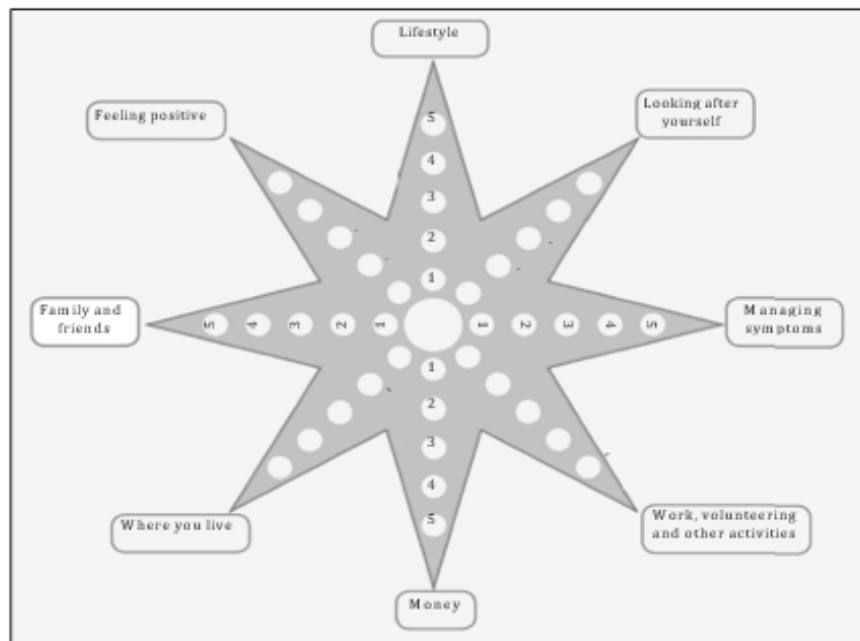
243

Figure 1: The Well-being Star: The Outcomes Star™ for self-help with long-term health conditions.
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Health. Living Well have introduced the use of the Well-being Star to help them to work more effectively, to help clients identify and agree goals, and to monitor progress. It is a client-centred tool that helps individuals look at how they are functioning in different aspects of their lives [6].

Through structured conversations, the coaches at Living Well enable the clients to decide how well they function in each of the eight areas and score themselves on a scale of 1 to 5. The eight areas are:

1. Lifestyle
2. Looking after yourself
3. Managing symptoms
4. Work, volunteering and other activities
5. Money
6. Where you live
7. Family and friends
8. Feeling positive

The Well-being Star scales are based on a five-point journey of change, an explicit model of the steps that people take towards their final goals [6].

1. Not thinking about it
2. Finding out
3. Making changes
4. Getting there
5. As good as it can be

This is plotted onto a star chart (Figure 1) that gives a visual picture of the person's performance. This helps the clients to decide which areas of their lives they want to work on and to set their own goals. After a period of intervention, the scoring process is repeated to monitor progress and adjust goals [6].

Methods

In order to evaluate the Life Coaching service, data gained from the Well-being Stars were analysed. Phone and face-to-face interviews were also conducted to gain clients' perspectives and opinions of the service.

Well-being Star analysis

Data were collected from 37 clients of the 166 who had accessed the service between the years 2012 and 2016 and who had completed a Well-being Star both pre- and post-intervention. All but one of the clients were HIV positive. A paired-samples t-test was conducted to compare the scores of each element of the Well-being Star prior to and after completing the Life Coaching service.

Interviews

In total, nine clients took part in interviews in March 2016. All of these clients were HIV positive and selected from those who had completed at least six sessions since 2012 (although in one case the client had only completed two sessions but was recommended for interview by a life coach on the basis of having utilised the sessions well). The age range for the participants was 38 to 54 years. A combination of emails and calls was used to contact clients and recruitment was via self-selection. Seven interviews were conducted over the phone and two were conducted face-to-face. All telephone participants gave verbal consent to
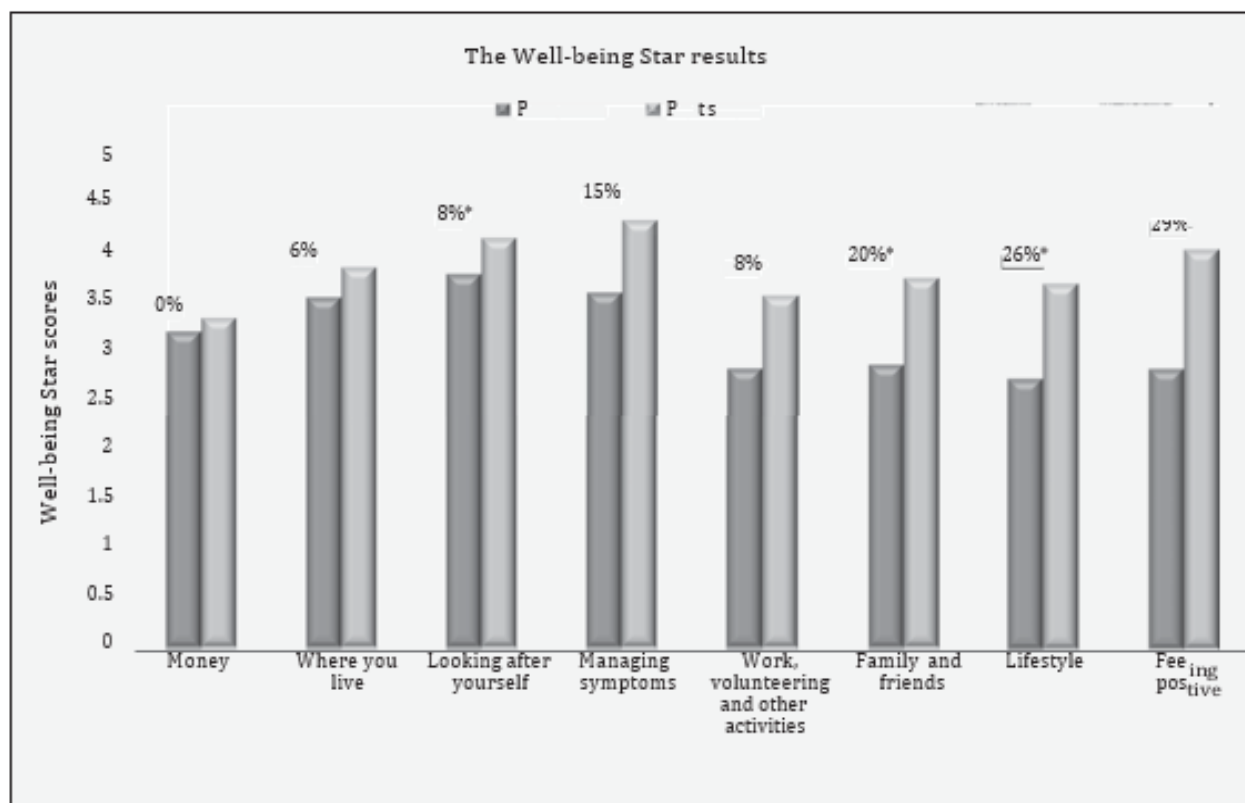
Figure 2: Well-being Star results.
Increases between the pre and post scores gained from the Well-being Stars were found to be statistically significant at p<0.05.

participate within the interview, and all face-to-face participants were asked to sign a consent form before the interview took place, with participants being told that they could withdraw from taking part at any point. (See Appendices A and B for the interview schedule and consent form.) The interviews (along with the data analysis) were conducted by a student health psychologist from London Metropolitan University. The questions asked are shown in Appendix A and responses to some of the open-ended questions asked were used to demonstrate various clients' experiences of the Life Coaching service.

Results

Well-being Star results

A paired-samples t-test was conducted to compare the scores of each element of the Well-being Star before and after taking part in the service. Figure 2 shows the comparative means between the scores and the p–values for each of the tests are shown in Appendix C.

As seen from Figure 2, analysis of clients' ratings showed a significant increase in the areas of Managing symptoms; Work, volunteering and other activities; Looking after yourself; Family and friends; Lifestyle; and Feeling positive. Although there was also an increase in all other areas measured, they were not found to be statistically significant. Out of all the areas

measured, Feeling positive had the highest increase at 29%, while the lowest was Money at 0.5%.

Interview results

The demographic information for the nine participants who took part in the interviews is presented in Table 1.

Responses to some of the open-ended questions asked within the interview about the Life Coaching programme include the following.

Table 1: Patient demographics for interviews

Variable	Participants (n=9)
Mean age in years	45.3
Ethnicity	
White or White British	56%
Black or Black British	22%
Mixed background	11%
Other background	11%
Gender	
Male	78%
Female	22%
Sexual orientation	
Heterosexual	33%
Gay man	67%

Table C1: Descriptive statistics

Well-being Star element	N	Mean	Standard deviation	Standard error mean
Lifestyle				
Pre Lifestyle	37	2.76	0.933	0.153
Post Lifestyle	37	3.73	0.596	0.098
Looking after yourself				
Pre Looking after yourself	37	3.81	1.076	0.177
Post looking after yourself	37	4.18	0.648	0.107
Managing symptoms				
Pre Managing symptoms	37	3.62	0.673	0.111
Post Managing symptoms	37	4.36	1.093	0.180
Work, volunteering and other activities				
Pre Work, volunteering and other activities	37	2.84	1.093	0.180
Post Work, volunteering and other activities	37	3.59	1.085	0.178
Money				
Pre Money	37	3.22	1.294	0.165
Post Money	37	3.36	1.004	0.188
Where you live				
Pre Where you live	37	3.57	1.144	0.188
Post Where you live	37	3.88	0.893	0.147
Family and friends				
Pre Family and friends	37	2.88	1.089	0.179
Post Family and friends	37	3.77	0.917	0.151
Feeling positive				
Pre Feeling positive	37	2.86	1.078	0.177
Post Feeling positive	37	4.08	0.759	0.125

Table C2: Paired samples test

Well-being Star element	Mean	Standard deviation	Standard error mean	95% Confidence interval of the difference		t	df	Significance (2-tailed)
				Lower	Upper			
Lifestyle								
Pre Lifestyle – Post Lifestyle	−0.973	0.858	0.141	−1.259	−0.687	−6.902	36	0.000
Looking after yourself								
Pre Looking after yourself – Post looking after yourself	−0.365	1.004	0.165	−0.700	−0.030	−2.209	36	0.034
Managing symptoms								
Pre Managing symptoms – Post Managing symptoms	−0.743	1.321	0.217	−1.184	−0.303	−3.423	36	0.002
Work, volunteering and other activities								
Pre Work, volunteering and other activities – Post Work, volunteering and other activities	−0.757	1.097	0.180	−1.122	−0.391	−4.197	36	0.000
Money								
Pre Money – Post Money	−0.149	1.207	0.198	−0.551	0.254	−0.749	36	0.459
Where you live								
Pre Where you live – Post Where you live	−0.311	1.089	0.179	−0.674	0.052	−1.736	36	0.091
Family and friends								
Pre Family and friends – Post Family and friends	−0.892	1.106	0.182	−1.261	−0.523	−4.903	36	0.000
Feeling positive								

When asked to describe their experience of going through the Life Coaching service participants said:

> *I found it very inspiring and talked about the situation you were in and the goals that you want. (Male, 38)*

> *I think really, really good… It's very much geared to the issues that were happening for me… (Male, 45)*

> *Well for me the experience was great actually, it was really good…. I had a really good coach… it came at the right time for me. (Male, 46)*

When asked during the interview if they thought they had made any significant changes as a direct result of taking part in the service, participants responded positively:

> *I think it helped a lot with confidence and self-esteem … (Male, 45)*

> *I got a new job! … coaching definitely gave me the focus and the confidence… (Male, 46)*

> *I'm much more comfortable in myself… my coach helped me to focus on that and to make a clear decision… It challenged me in some ways and pushed me but it [did] solidify my position in my head. (Second male, 46)*

When asked if there was anything the service could improve on, some participants expressed the view that the cost, time and distance was definitely an issue:

> *I would just like more… if I had the money, if I could afford to have coaching on a regular basis… (Second male, 46)*

> *Flexibility, I think if there was maybe weekends if you're working or if Sundays or Saturday mornings… would be available for people that work. (Third male, 46)*

> *No… just if they were a bit closer to me but that's a bit of a tall order. (Male, 38)*

Discussions

Overall, the researcher found that the Life Coaching service offered by Living Well has supported and benefited people living with HIV by helping them navigate and transcend the day-to-day demands of living and working with this condition. Results suggest that the clients who have gone through the Life Coaching service have experienced significant changes in different areas of their lives. Although there were some areas that did not yield significant results, it may be possible to infer that those areas are heavily influenced by external factors within an individual's life that the service is simply unable to control, such as Money. The service is extremely client-focused, its success depends very much on the individual's willingness, motivation and determination to make

the change. It has been well received by people with HIV as an intervention that teaches skills beyond coping and management. Coaching builds awareness and confidence and teaches people how to set achievable goals to help make important changes that impact their health. Life Coaching expands possibilities by helping people explore options, problem solve, prioritise, anticipate and manage stumbling blocks, and make appropriate decisions that fit within their lives.

It may be further inferred that the Life Coaching intervention may be accepted and appreciated by diverse groups, and could possibly be applied to other chronic illnesses such as obesity, cardiovascular disease, and other conditions that would benefit from positive lifestyle changes.

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Appendix A
Interview Schedule – Living Well

Opening:

Hello, my name is Janice Constance, I am a health psychologist in training conducting a research project for my university Doctorate course. As having taken part in the life coaching programme, Living Well thought it would be a great opportunity for me to talk to you.

To start with I would like to ask you some questions about your background and ask you a few questions about your experiences and opinions about the life coaching programme. Taking part in this interview is completely voluntary; you are not obliged to take part if you do not wish to.

If you do decide to take part you will be asked to sign a consent form, your details will be kept strictly confidential and the data gained from you will only be used for the purpose of the article. However at any point of the interview you are still free to withdraw from taking part, without having to give a reason and your data will not be used. If after taking part in you decide to retract your answers from the data set please do

not hesitate to contact me on JAC0722@my.londonmet. ac.uk no later than Tuesday the 29th March, 2016.

The interview should take about 15–20 minutes. Are available to respond to some questions in this time?

(**Transition:** Let me begin by asking you just a few questions about yourself. I appreciate that some of these questions are personal. This is just to help ensure the life coaching programme is delivered fairly.

If you do not wish to answer one of the questions, please just say 'prefer not to say'. The information will be treated confidentially in line with the Data Protection Act 1998.)

What is your age group?

0–15	16–24	25–34	35–44	45–54	55–64	65+	Prefer not to say

Do you consider yourself to be disabled?

Yes	No	Prefer not to say

What is your ethnicity?

Asian or Asian British	Black or Black British	Mixed background
White or White British	Other ethnic background	Prefer not to say
Please specify the detail of your ethnicity:		

What is your gender?

Female	Male	Prefer not to say

Is your gender identity different to the sex you were assumed to be at birth?

Yes, it's different	No, it's the same	Prefer not to say

What is your sexual orientation?

Bisexual	Gay man	Gay woman or lesbian
Heterosexual or straight	Other	Prefer not to say

(**Transition:** Ok now I'm going to ask you just a few questions about your experiences and opinions on the life coaching programme).

1) In your own words how would you describe your experience of the life coaching programme?
   Prompt: Did you enjoy the sessions?
2) Did you find the life coaching sessions useful?
3) Which parts of the programme did you like most?
4) Which parts of the programme did you like least?
5) Are there any significant changes you think you have made as a direct result of taking part in the life coaching programme?
   Prompt: if so, what are those changes?
   Prompt: if not, why do you think that is?
6) Would you recommend the programme to others?
   Prompt: if so, why?
   Prompt: if not, why not?
7) What was your overall impression of the life coaching programme?
8) Is there anything you think the programme could improve on?

Closing:

(**Transition:** That's the end of the interview, I should have all the information that I need. Thank you for you your participation and the time you took in order to help with this interview). Please remember if you like to withdraw your answers from the data set please do not hesitate to contact me on JAC0722@ my.londonmet.ac.uk no later than Tuesday the 29th March, 2016.

Appendix B
Consent Form

University Name: London Metropolitan University

Participant Identification Number:

0	0	0	0	1

Title of Project: Evaluation of the Life Coaching Programme – Living Well

Name of Researcher: Janice Constance

1. I confirm that I have read and understand the information sheet dated __ / __ / __ for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected.
3. I understand that any data collected from my answers during the study, may be looked at by individuals from London Metropolitan University.
4. I understand that my personal details will remain anonymous and not be used throughout the whole research.
5. I understand that my responses during the research will be recorded using a voice recorder.
6. I understand that all recordings will be destroyed after transcription.
7. I agree to take part in the above study.

_____	_____	_____
Name of Participant	Date	Signature

_____	_____	_____
Name of Person taking consent.	Date	Signature

Appendix C

Results

Well-being Star results

A paired-samples t-test was conducted to compare the scores of each element of the Well-being Star prior and after taking part in the service that Living Well offered.

APPENDIX 6: Living Well meeting minutes

Thursday 11th February, 2016 – From 1.30pm- to 2.30pm

Members Present

James Miller – Living Well

Janice Constance

Agenda:

- Initial introductions
- Discussion of potential work

Meeting notes:

- Initial introductions – All members formally introduce themselves. Janice – Health psychologist in training, London Metropolitan student. James – The managing director of Living Well organisation.

- Discussion of potential work - to evaluate the Life coaching programme for the Living well organisation and develop a draft article for the HIV Nursing Journal (approximately 1500 words), which will focus on the data collected using the well-being star and patients perspectives of the life coaching programme.
    - To produce a presentable poster, a summary of participants' scores from the well-being star.
    - A draft article of publishable quality, on patients' experiences and perspectives of the life coaching programme.

Action items:

Action item	Assigned to	Completed by
Draft Consultancy Agreement	James and Janice	12th February
Anonymised Wellbeing Stars results and send to Janice	James	18th February

<u>**Living Well meeting minutes**</u>

Thursday 18th February, 2016 – From 1pm- to 2pm

Members Present

James Miller – Living Well

Living Well admin staff

Janice Constance

Agenda:

- Consultancy agreement feedback and discussions
- Anonymised Wellbeing stars tool data
- Discussion of Wellbeing star poster

Meeting notes:

- Consultancy agreement feedback and discussions – Good so far, more details to be added such as the background of the organisation, key skills required and line for signatures.

- Anonymised Wellbeing stars tool data – The data does not contain any participants' personal information or identifiable data. Data of 37 clients given to Janice for analysis.

- Discussion of Wellbeing star poster; to produce a presentable poster, a summary of participants' scores from the well-being star and participants' demographics.

Action items:

Action item	Assigned to	Completed by
Make suggested changes to consultancy agreement	James and Janice	19th February, 2016
Analyses Wellbeing stars data	Janice	26th February, 2016
Wellbeing stars Poster of results	Janice	11th March, 2016

Living Well meeting minutes

Monday 7th March, 2016 – From 1pm- to 2pm

Members Present

Living Well admin staff
Janice Constance
Agenda

- Discussion and feedback of Wellbeing star poster
- Start of article

Meeting notes

- Discussion and feedback on Wellbeing star poster – The poster looks really good so far, exclude summary of clients' locality (which borough they live) from the poster.

- Start of article – draft interview schedule for the interviews and work on the process of recruiting participants.

Action items:

Action item	Assigned to	Completed by
Make suggested changes to Wellbeing star poster	Janice	11th March, 2016
Draft interview schedule	Janice	17th March, 2016
Recruit participants for the interviews	Living Well administration staff	23rd March, 2016

Living Well meeting minutes

Tuesday, 21st June, 2016 – From 1pm- to 2pm

Members Present

James Miller

Living Well admin staff

Janice Constance

Agenda

- Feedback on final version of article
- Feedback on entire consultancy process

Meeting notes

- Feedback on final version of article – Living well happy with the article and article has been accepted for publication with the HIV Nursing Journal

- Feedback on entire consultancy process – the whole process was quite enjoyable for both Janice and Living Well. Everything submitted on time and of good quality.

Action items:

No further action.

SECTION B4
TEACHING AND TRAINING COMPETENCY

NHS Health Checks Training
Brent General Practice Staff

CONTENTS

CASE STUDY AND TEACHING PLAN

This case study describes how I planned, designed and delivered the NHS Health Checks training as part of my job role as a Health Delivery Specialist at Brent Council.

5.1a ASSESS TRAINING NEEDS

One way I assessed the training and learning needs is by sending all general practices that deliver the NHS Health checks programme within the borough; a needs assessment form (see Appendix 1, p.274). The needs assessment form consisted of 10 questions asking about the trainee's level of experience and which areas of the programme they think would be helpful for me to focus on. This enabled me to understand what aspects of the NHS Health checks programme would be most appropriate for me to deliver during the training session. I also reviewed the NHS Health checks best practice guidelines developed by the Department of Health (2016), this helped me to understand legal requirements underpinning the programme's delivery which is an important aspect that I needed to include throughout the training session. It also signposts to a wide range of tools and resources that will support the delivery of a high quality local NHS Health Check programme. Once I had identified the training needs, I was then able to determine and develop the objectives and learning outcomes that needed to be accomplished during the training. These objectives will form the criteria in regards to the measures of success and utility. Biggs and Tang, (2011) suggested that in order for the trainees to take a deep approach to their learning, first the trainer or facilitator needs to fully develop the learning outcomes based on the trainees learning needs. By doing so, it is more likely that the students will be engaged in the session.

5.1b DEVELOP THE STRUCTURE AND CONTENT

In order to deliver a successful training or teaching session, one of the key and fundamental element lies within the preparation of these sessions (Darling-Hammond & Bransford, 2007). From receiving all the needs assessment forms back from the General practices, I had just over two months to develop the structure and content of the training session. I had plenty of time to ensure that the training session was fully developed to meet the learning needs of the training group. This not only provided me with a preliminary structure of my training session but it also gave me an idea on the level of knowledge and experience the trainees have.

As the NHS health check programme is a mandatory service, I had to ensure that the contents included in my slides were up to date and followed the relevant guidance and regulations. Once I had completed my first draft of the training presentation, I asked if I could look at a previous presentation on of my colleagues had used before. This allowed me to compare the content with the structure that I had developed and gave me the opportunity to make amendments to the content or include anything that I had missed. Going through the previous presentations, I noticed that there were a few crucial slides that I should include within my own presentation, i.e. how to communicate the results of an NHS Health Checks to a patient. Not only did those slides comply with current guidance it also perfectly addressed one of the major learning needs that were identified by the trainees. Comparing and contrasting my slides with previous training sessions was particularly useful, as this was my first time fully organising a training session by myself. Once I completed the PowerPoint presentation (see Appendix 2, p.275), I thought it would be useful for me to practice delivering the session by reading the presentation out loud as this would provide me with the opportunity to identify certain areas I felt would be great for discussion and questions throughout the session, but it also enabled me to check the content was clear and fitted in the time available (Domizio, 2008).

5.1c SELECT APPROPRIATE TRAINING METHODS, APPROACHES AND MATERIALS

An important skill in teaching and training is the ability to ensure that the learners are focused and engaged with the material being taught. According to Dornyei (2001), in order to do this the learner's needs and goals needs to be understood, and the trainer has to acknowledge the diversity of learning styles, provide feedback on their learning but in ways that would help in developing their confidence and self-esteem. Using strategies that help in developing a positive atmosphere of collaboration and mutual support (Dornyei, 2001; Lamb, 2003).

The training session was designed to use experiential learning underpinned by Kolb's Learning Theory (Kolb, 1984). The theory works on two levels; on a four-stage cycle of learning (concrete experience, reflective observation, abstract conceptualization and active experimentation) and also on four separate learning styles (accommodating, diverging, assimilating and converging) (Kolb, 1975). Students with an assimilator learning style prefer theoretical and logical soundness, converging learning styles prefer practical points of learning, those with an

accommodating learning style prefer collaborative learning and diverging learning styles like group work and direct feedback (Ocepek, Bosnic, Serbec & Rujeli, 2013; Shartanova, 2004). In addition to considering the different learning styles theories, such as reflectors, activists and pragmatists (Honey & Mumford, 1982), I designed the training session to incorporate a range of activities and learning techniques, such as group exercises, video clips, PowerPoint presentation (Appendix 2, p.275) and group discussion. Due to PowerPoint being a preference in the lecture setting (Savoy, Proctor, & Salvendy, 2009) PowerPoint was the main method of delivery used to guide the session (see PowerPoint presentation, Appendix 2, p.275) and provided an organised structure to the lecture, which would positively impact on student's attitude and self-efficacy (Susskind, 2005). I had also designed a training pack with additional materials. Jonassen (1999) suggested that learning resources can support and promote learning as it keeps students in the mood for learning. After the initial session, materials and resources can be helpful in learning to continue, as trainees can revise these in their own time or use in future learning sessions. As Thorndike (1912) noted that learning resources, works best when they complement or extend the work of a trainer rather than supplant it. I also included time for silent reflection and thought processing, proceeding or following a discussion, video and group exercises. At various points throughout the lecture, I included examples drawing on from my own experience. I encouraged the learners to share existing case studies they had, to improve understanding (Hake & Halpern, 2005).

5.2a FACILITATE LEARNING IN HEALTH PSYCHOLOGY

I made sure to arrive early on the day I was due to deliver the training session. In doing so, it gave me the chance to check that the projector and audio-visual equipment was working properly, make sure that the layout of the room was appropriate for the training session, but it also gave me the last opportunity to review my presentation slides. Training was delivered in accordance with the training plan (Appendix 1, p.266), at the beginning of the session; I explained the learning outcomes and the agenda for the day. Students were encouraged to ask questions at any point throughout the lecture.

Before diving completely into the training programme, I thought it would be useful to include an icebreaker exercise. Johnson (2012) suggested that the use of ice-breakers can establish a positive teacher-student rapport, generate enthusiasm, create positive emotions and engage the brain. For the ice-breaker exercise, I asked the

trainees three questions, firstly to introduce themselves, i.e. their name, which general practice they currently work for and their role in the practice. Secondly, if they had any experience carrying out NHS Health checks and finally what they would like to get out of the session (see Appendix 2, p. 275 – PowerPoint presentation slide 2).

As the facilitator, I took the lead and answered those three questions myself. After the first student spoke, it became quite clear that the trainees were mixed in regards to the amount of experience they had delivering the NHS Health checks programme. However, I was surprised to find that what they expected out of the sessions did not differ greatly from one another. The ice-breaker exercise, I felt got everyone talking and created an informal, friendly atmosphere.

Following the introduction, the training was delivered in two parts, whereby how to conduct an NHS health checks was the initial focus and communicating the results to patients was the focus in the second half, although the two topics were integrated throughout. A 15 minutes' break was used to separate the two parts, but this also provided the trainees time for reflection and also to keep the trainee's attention for the rest of the training session (Sraddeley, 1999). Throughout the session, I reviewed the trainees understanding on the given topic by asking them questions, before expanding on the area. This allowed me to check in with the trainees to briefly recap on what was learnt so far and provided with an opportunity for questions and discussions. I felt that my ability to respond to questions throughout the session was good, as, I spoke clearly so the whole audience could understand, I thanked the person for sharing the question with the group. As suggested by Armitage (2007) the learner should be rewarded when they ask or question or provide a correct response. This feedback stimulates a sense of motivation for the learner to continue as the learning is reinforced.

I also incorporated some role-play exercises throughout the training session. Role play is a useful learning method as it provides a first-person experience to the situation in a safe and supportive environment (Lateef, 2010). The emphasis is generally towards the understanding and development of communication and interpersonal skills (Billings, 2012), such as those associated with interactions with patients and other colleagues (Shaw, Corsini, Blake, Mouton, 1980; Van Ments, 1989). The role-play activities were an important element to the training session as one of the competencies required to deliver the NHS Health checks is interpreting

results and communicating risk to patients (Department of Health, 2015). After the role play activities, I used short videos to give the trainees real-life examples. The two videos consisted of a health professional communicating risk to the patient, one using a patient centred approach and the other telling the patient what to do.

5.3a SELECT AND IMPLEMENT APPROPRIATE ASSESSMENT METHODS

All trainees at the beginning of the training session were given a pre-assessment quiz (Appendix 3, p.288) to complete and they were also given a post assessment quiz at the end (Appendix 3, p.288). The pre and post assessment quiz allowed me to quantify the knowledge attained in the training session and whether the session effectively addressed the diverse learning styles and experiences amongst the trainees. More specifically, the tests indicated how the trainees are learning on the course. The data gained from the pre and post assessment quiz will target trainees requiring extra help and will identify teaching and learning methods that need to be changed or developed in the future. One of the limitations of using the pre and post assessment quiz is that it only measures the trainees' ability to retain and remember facts but does not necessarily show an improvement in their performance. However I thought using a pre and post assessment was appropriate because, from this information, I had the option to change the course content in order to build on weaknesses and use motivation as a tool to encourage further learning. Any trainee doing poorly would be identified and provided with extra help.

5.3b PRODUCE RECORDS OF PROGRESS AND OUTCOMES

I created an evaluation form (Appendix 4, p. 290) to gather information on the training session overall, but more specifically to gain feedback on my ability to provide a clear understanding of the learning objectives, the PowerPoint presentation and my personal presenting style, as these are key components which can impact on the successful delivery of a training programme (Domizio, 2008; Goodwin, 2003). I asked all the trainees to complete the evaluation form, which asked them to rate ten questions on a five-point Likert scale from strongly agree to strongly disagree. There was also space for the trainees to give additional comments at the end of the evaluation form. The results of the feedback forms were positive.

5.4a EVALUATE THE OUTCOMES OF THE TRAINING PROGRAMME

I evaluated the training using Felder and Brent (2004), method of triangulation, i.e. feedback from the trainees, feedback gained from an observer and also self-evaluation. Feedback from the trainees were collected via an evaluation form as mentioned (Appendix 4 p. 290). In total there were 13 people who attended the training day. Out of this sample, 9 people completed and returned the evaluation form. The graph below presents the collated data, which indicates that all participants either strongly agreed or agreed to all the items listed.
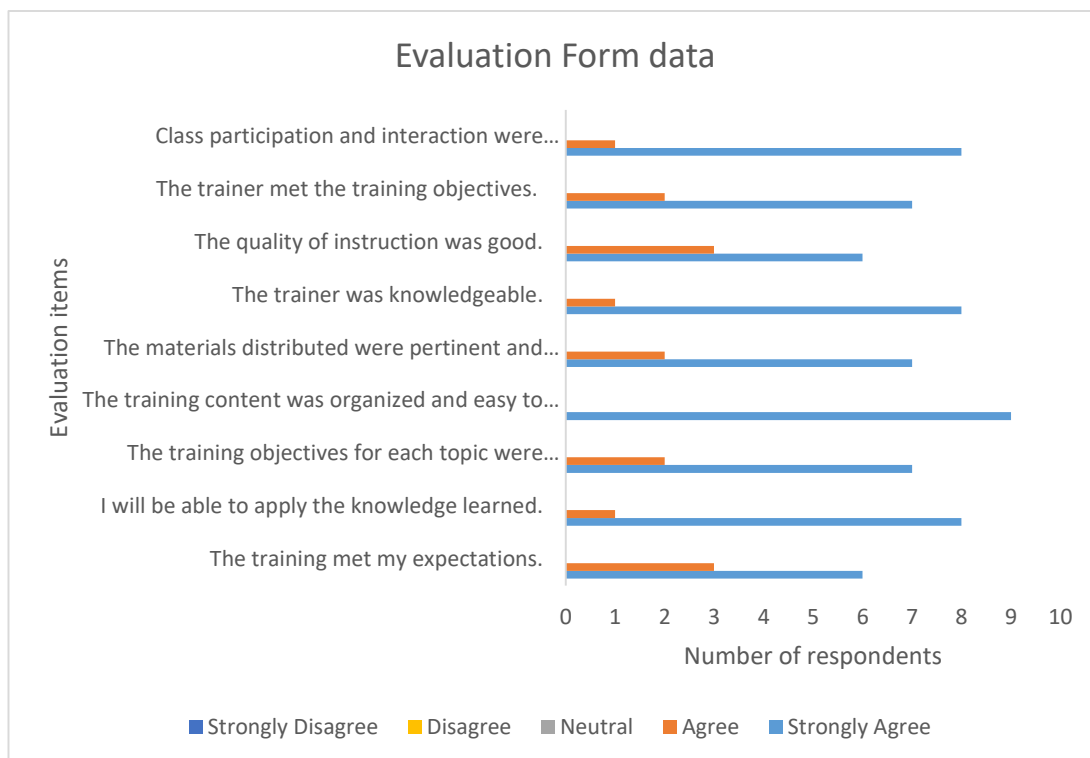
Graph 1: Trainee feedback on the training programme.

At the end of the evaluation form two open questions were asked in order to collate qualitative responses. The first was 'What aspects of the training do you think could be improved?' to which participants also responded with positive comments such as "None, the training was very informative and enjoyable".

The observer also verbally gave me a brief feedback summary, during the break, of enjoying the session and my delivery style, but she also made me aware of a few areas that I could consider improving, for example, on the pace of speech when delivering the lecture slides. I also received detailed written feedback from the observer (appendix 5 p 291). Although stating these as minor points, it was useful to have some suggestions for improvements. I found these solution-focused comments useful in helping me reflect on my delivery of training and understand practical ways

261

I could improve. The self-evaluation of the training, was done by reviewing a video recording of the session, which served as a valuable experience for identifying my own strengths, weaknesses and it also gave me the opportunity to reflect on my ability to deliver a training session.

5.4b IDENTIFY FACTORS CONTRIBUTING TO THE OUTCOMES

By appropriately planning the training session to make the session interactive and engaging for the trainees ensured that the training session was a success (Domizio, 2008; Goodwin, 2003). The training session also met the needs of the various learning styles (Honey & Mumford, 1982; Kolb, 1975) using a mix of learning approaches and techniques. This is reflected from the positive feedback gained from both the trainees and the observer.

5.4c IDENTIFY IMPROVEMENTS FOR THE FUTURE

There are definitely a few areas that need improving as highlighted from the feedback I received, such as the pace of delivering the presentation needs to be slower to ensure the delivery is clear and understandable for all trainees (Domizio, 2008). As a next step taking into account actively working on all the areas that need improvement will be beneficial in developing my ability and skills in training. Overall I was pleased with not only my planning and preparation of the training session but also in the delivery of the session, both the style and content. The feedback I received from the learners and observer, showed that I do have the ability to develop and deliver a successful training session. I found it an enjoyable but quite challenging experience.

TRAINING EVALUATION

I have chosen to base my training evaluation on the training session I planned and delivered to General Practice staff on the NHS Health checks programme, supporting the case study. I felt I was ideally placed to deliver this session due to my knowledge and expertise in the topic area. More so, I was excited by this opportunity to organise and deliver a training session by myself for the first time.

It, therefore, seemed appropriate to evaluate the training overall, highlighting areas of strength and improvement from planning to delivering the training session and evaluating the learning outcomes and delivery style.

5.1a ASSESS TRAINING NEEDS

I assessed the learning needs by sending all general practices that deliver NHS health checks a needs assessment form (see Appendix 1, p.266) this enabled me to understand what aspects of the NHS health checks would be most appropriate for me to focus on. However, according to Brown (2002), there are a few disadvantages to using a questionnaire to assess the training needs. Firstly, they do not provide much room for the trainees to give a free response and secondly, they also require a substantial amount of time to develop and gather sufficient amount of responses. Although upon reflection I felt that doing a needs assessment form worked well, in this instant as it enabled to assess the learning needs of the group that were required to address. I also had plenty of time to plan and develop the training session as I agreed to deliver the session in September.

5.1b DEVELOP THE STRUCTURE AND CONTENT

I had delivered a few trainings before within my professional role, however, I have never organised and delivered a training session by myself for this length of time. I found that the needs assessment provided me focus on whilst delivering the training session. I initially reviewed the NHS health checks best practice guidance (Department of Health, 2016), which provided me with a better understanding of any legal requirements underpinning the programme's delivery and also helped to identify if there is any aspect of the NHS health checks programme that I need to focus on throughout the training session. This alongside the responses gained from the needs assessments left me feeling more confident that I could develop the structure, the content but most importantly the learning objectives of the training session. I came up with six learning objectives that the trainees would need to gain and achieve by the end of the training session. These served as the structure for the overall session, and it made it easier to develop the content for the PowerPoint slides (Appendix 2, p. 275). I found it an enjoyable experience developing the structure and content of the lecture; I made sure to include group interaction, using questions and discussions, video clips, an interactive exercise and some role-play activities. This was done in mind to the different learning styles the trainees will have as suggested by Honey and Mumford (1982). I was mindful of the amount of energy needed to execute these efficiently in addition to being clear and concise in my instructions to ensure the aims and objectives were met.

5.1c SELECT APPROPRIATE TRAINING METHODS, APPROACHES AND MATERIALS

I was initially quite nervous to deliver this training session as this was the first I had organised and developed all by myself. I was therefore not only anxious about the structure and content of the session but also with making sure the training session met the various learning styles (Honey & Mumford, 1982; Kolb, 1975), I, therefore, wanted to make sure I selected appropriate training methods, approaches and materials. One way that overcomes this is by ensuring that I was well prepared for the training sessions itself but also by reflecting on my past experiences of attending a training session and also reflecting on my own learning style. Whilst delivering the training session it quickly became apparent that some trainees enjoyed the practical activities such as the role plays and others enjoyed and contributed more to the group discussions in comparison. I made sure to incorporate a variety of different learning techniques throughout the entire session such as using video clips and also the online Qrisk2 score tool to provide real-life examples of communicating risk to patients, PowerPoint presentations and role-play exercises. I was pleased with the variety of teaching methods I had chosen, from my own observation, but also from trainees and the observer feedback, the trainees enjoyed the lecture overall, particularly the interactive parts of the session, such as the role play activities and the discussions of the different aspects of the NHS health checks programme.

5.2a FACILITATE LEARNING IN HEALTH PSYCHOLOGY

The experience I had from teaching and training groups from my professional work enabled me to remain confident and calm when delivering the session. However, through self-observation and the feedback form, the speed of delivery could have been slower specifically when presenting the information on the presentation slides, although this did not have a major negative impact on the delivery of the training session as the overall feedback from both the trainees and observer were positive. I found once the training got underway and the trainees were enjoying the different activities my initial nerves did subside, and it became an enjoyable experience, which was reflected in the feedback I received from the students and the observers. There were a few external factors such as the temperature of the room that had a small negative effect, a point raised by the trainees, however it did not impact their experience or learning. However, in future I need to be more observant of external

and environmental factors that could negatively impact on student learning (Struyven, Dochy, Janssens, & Gielen, 2006).

5.3a SELECT AND IMPLEMENT APPROPRIATE ASSESSMENT METHODS

The pre and post assessment quiz allowed me to quantify the knowledge attained in the training session and whether the session effectively addressed the diverse learning styles and experiences amongst the trainees. From analysing the data gained from the quiz I could see that there was an improvement between the scores as presented in graph 2 below:
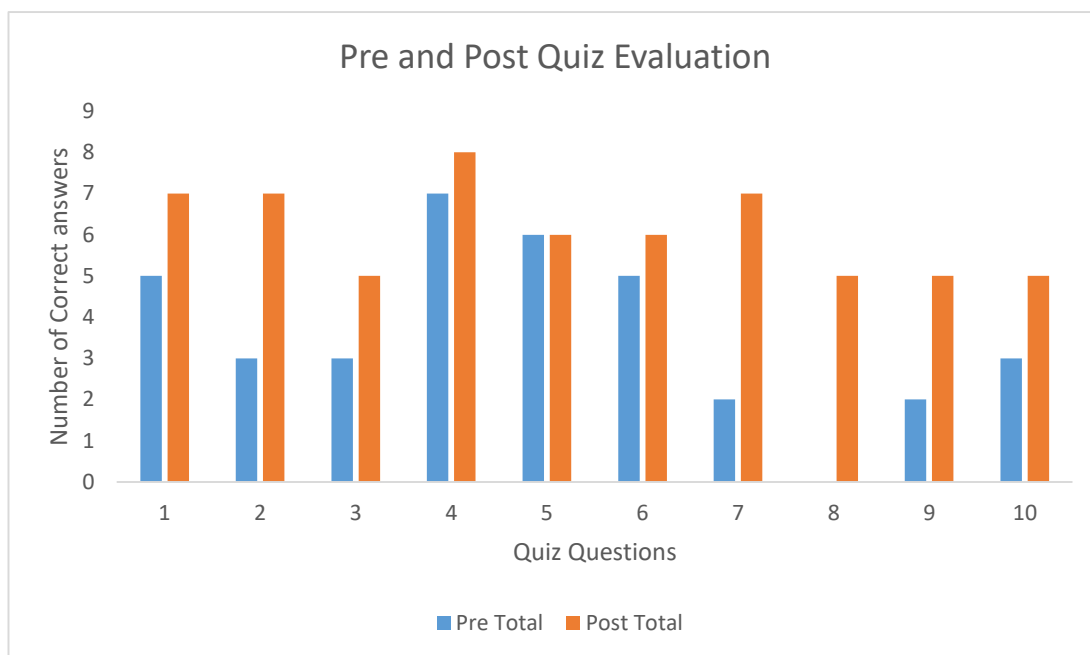
Graph 2: Pre and Post quiz evaluation

However, a limitation of using the pre and post assessment quiz is that it only measures the trainees' ability to remember and recall the information and does not necessarily show an improvement in performance. On reflection, it may have been useful to have done the post-quiz after a certain amount of time of the training session to ascertain whether any learning had taken place. Though this would have proven to be difficult to collect the response and ensure that they are all reliable.

5.3b PRODUCE RECORDS OF PROGRESS AND OUTCOMES

The feedback forms I designed helped me gain an understanding of how my presentation and the overall session was perceived. However, for future sessions, the feedback form could also be used as a way of assessing trainees understanding of the learning objectives and could have given them more open-ended questions within the

evaluation form, as this could have provided me with more qualitative feedback on what was done well and what could be improved. It also may have been useful to liaise with colleagues who have done similar training sessions to see if they used a particular evaluation and I could have incorporated some of their ideas to help improve the session overall (Felder & Brent, 2004).

5.4a EVALUATE THE OUTCOMES OF THE TRAINING PROGRAMME

Using the Kirkpatrick's (1979) four levels of evaluation is one way to measure how successful a training was. The four levels are reaction, learning, behaviour and results. I, therefore, evaluated my training session using multiple sources; I gained feedback from the trainees themselves, the observer and also I self-evaluated my training session by reviewing a video recording of the session. Feedback forms were a quick and simple way to gather information on the trainees' experience of the session, and I was delighted with the unanimous positive feedback I received. The form enabled trainees to report using both qualitative and quantitative methods which permits for more in-depth understanding. On reflection, both trainees and observer feedback forms should have used the same constructs, so direct comparisons could have been made across the two groups (Felder & Brent, 2004). Self-observation using the video was also a valuable method to evaluate my teaching style. Despite not doing this before and it feeling uncomfortable at first, I found it useful as a technique to identify strengths including how confidently and passionately I presented on the topic, in addition to identifying areas of improvement such as being aware of my speed of speech when presenting information on the slides and also external factors that could impact the trainees experience. Reviewing the video also provided me with a chance to reflect on how I presented in relation to how I remember feeling at the time since at times I felt overly nervous and I showed it by clutching to the chair that was in front of me.

5.4b IDENTIFY FACTORS CONTRIBUTING TO THE OUTCOMES

There were a number of factors contributing to the outcome of the lecture, the icebreaker also allowed trainees to become comfortable with the group, and the exercise felt appropriate due to the small nature of the group, as there were ten trainees present. The exercise also helped the trainees feel comfortable to share opinions and views throughout the session (Rubin & Fernandes, 2013). I also encouraged the active participation throughout the session using a variety of interactive formats to ensure the trainees were not only co-creators of their learning

rather than passive learners but also remain engaged throughout the session (Brady, 2013). I used video clips and role-playing exercises to explain learning points which improved the ability for learning and developed critical thinking skills (Iahad et al., 2013; Popil, 2011). Using personal experiences helped me put the contents of the learning point into context and enabled me to deliver the session with passion and enthusiasm, engaging with the trainees throughout the duration of the training session (Domizio, 2008; Goodwin, 2003). I also allowed time for discussion, enabling both myself as a teacher and the trainees to take on a multiplicity of roles in the training and learning process, enabling students to become owners of their learning (Brady, 2013). As the facilitator I found myself considering and evaluating certain points raised by trainees through discussion, contributing to my own learning, as well as presenting and explaining material to contribute to their learning.

5.4c IDENTIFY IMPROVEMENTS FOR THE FUTURE

Overall, I felt the training sessions went very well, and I have identified areas of improvement that I will use when delivering future training. These areas were identified through the use of triangulation (Felder & Brent, 2004) to evaluate the session and will contribute to my development as a Health Psychologist. The areas of improvement are:

- Slowing down the speed of speech when going through the presentation slides
- Allow more time for activities
- Allow more time for feedback after activities
- Use a more detailed and comprehensive feedback form to capture trainees' knowledge in relation to the learning objectives as well as space for qualitative comments
- Be aware of and acknowledge external/environmental factors that could impact on learning

I plan to take into account and actively work on these areas of improvement. As part of my professional work is to deliver different types of training constantly, it would be extremely beneficial for me to improve my skills in delivering training.

REFLECTIVE COMMENTARY

This reflective commentary is based on 10 minutes of the NHS Health checks training I delivered to health care professionals that work within General Practices. This supports the case study and teaching evaluation also submitted. The commentary is based on video material of the attached DVD (see appendix 6, p. 292) from 38:58 minutes to 49:02 minutes. This ten-minute section of the video covers the initial part of the training session which aims to show the trainees how to complete the NHS Health checks template which is embedded within the clinical system. I chose this particular section because I felt it not only portrayed most of my skills in delivering training but also my knowledge on the subject matter.

The video was a perfect opportunity to observe myself delivering a training workshop, particularly as it was the first time I had organised and delivered this type of training by myself. Although overall I felt the session went well, which was reflected in the written feedback I received from the trainees and the observer. However whilst I was observing myself on the video I recognised there was some room for improvement, which had not been noted in the feedback. One thing I found was that the video captured myself and the PowerPoint slides but unfortunately does not capture the audience, something which I would change when filming a teaching or training session in the future. There were also moments in the video where I would position myself in front of the slides potentially blocking some of the trainee's views. I realised the reason why I did this was to point out specific fields that were showing on the slides and also due to nervousness, however upon observing the video and having time to reflect I realised that there was no need for me to do this, I could have mentioned which specific area I wanted them to look at instead of physically pointing this out. In future, I think it would useful to ensure everything is explained clearly and if it is a must to point things out, make use of the other tools that were available to me such as a laser pointer.

Overall, however, I think I presented very well in regards to delivering the presentation, my tone and pitch was clear and engaging with the students, I made eye contact and was confident and enthusiastic in what I was talking about, however at the beginning of the 10 minute clip, I noticed signs of nervousness, such as mispronouncing a few words, using more hand movements than I normally would, and also at times playing with my bracelet. This was interesting to me to observe as it is not something I have picked up on before. To improve my performance when

teaching and training I will ensure not wearing a bracelet to avoid the possibility of distraction and I will be more aware of my hand gestures. I will also ensure to practice delivering the training a few times before to get a handle on all the words ensuring that I can pronounce them correctly before delivering the training. In doing these things, I think it will make me feel more confident in myself as I would have practised the materials a few times.

Unfortunately, the video material did not include the audience, and so I was unable to see if this impacted on the trainees, future plans to video record a session for observation should include the audience in the filming. The nervousness highlights that it took approximately 5 minutes into the recording before feeling comfortable with the audience. Reflecting on the video now I do think that the nervousness did not impact on my voice, and I projected my voice very well, using a clear, steady pitch throughout the duration of the lecture, it did however impact on my explanations on certain aspects and I found myself repeating things a few times, also not explaining things as in depth as I could have done which was more down to nerves than not projecting them clearly.

The person that observed the lecture had noted that my pace of delivering the content was too fast and I explained things very quickly. When reviewing the video content, I did notice that I did rush through a few aspects of the presentation, which could have had a negative impact on my delivery to the trainee's point of view. However, I still maintain that I spoke clearly and loud enough for the trainees to hear and understand me. This was evident to me as they remained fully engaged for the duration of the lecture, participating in group discussions and smaller group tasks, which can be heard on the video recording. Learning from this, I must be more aware of the pace of my delivery in case this is making an impact on the learners engaging. In future, if I would have the same issue with the pace of delivery and ensure that the trainees remain engage is by incorporating quiet time for the trainees to focus and reflect what they learned to share with their organisation.

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APPENDIX

Appendix 1

NHS HEALTH NEEDS ASSESSMENT
Practice Name:

To be completed by Health Check Staff

1. **Please, can you confirm your job role in the practice?**
   ☐GP   ☐Nurse   ☐ HCA

2. **How confident are you in performing a Health Check**
   ☐ Very Confident   ☐ Fairly Confident   ☐ Not at All

3. **What training have you undertaken on NHS Health Checks**
   ☐ Group Training   ☐ On the Job Training   ☐ None   Other (please specify…………………)

4. **What areas of training do you feel would be helpful?**
   - Identifying patient eligible for Health Checks   ☐
   - Inviting Patients   ☐
   - Completing the template   ☐
   - Communicating results   ☐
   - Discussing life style intervention and behaviour change   ☐
   - Motivational interviewing for referral to Lifestyle programme   ☐
   - Referral to local Services (Fit4Life, Smoking Cessation, Alcohol) ☐

5. **How confident are you in referring to the Fit4Life programme**
   ☐ Very Confident   ☐ Fairly Confident   ☐ Not at All

6. **What type of learning do you find most beneficial?**
   ☐ Working alongside experienced colleagues   ☐ Self-analysis or reflection
   ☐ Training programme   ☐ E-Learning

   GENERAL QUESTIONS

7. **Do you feel the NHS Health Checks template is user-friendly?**
   Yes ☐   No ☐
   If No what changes would you recommend: …………………………………………………….

8. **How long is the appointment for Health Checks?**
   ☐ 15mins   ☐ 20 mins   ☐ 25 mins

To be completed by Practice Manager

9. **Brent Council provide Health Checks training, how many staff from your practice will attend?**
   Numbers …………

10. **How long would you prefer to release staff for Health Check training**
    ☐ Half Day   ☐ Full Day

NHS Health Check Training

Janice Constance
Health Delivery Specialist

Brent

By the end of the session you should be able to …..

- Explain the purpose of a health check
- Complete the Heath Check template fully
- Clearly communicate patient results
- Feel confident in giving brief lifestyle advice and encourage behaviour change
- Understand the referral criteria for Fit4Life
- Be familiar with how to refer a patient

Brent

Introductions and expectations

- Name, practice, role
- Any experience carrying out NHS Health Checks
- What would you like to get out of today's session?

Brent

The 3 key components of an NHS Health Check

1. Risk assessment	• Standardised tests used to measure risk
2. Risk awareness	• Communicate CVD risk as well as inform a discussion on
3. Risk management	• Lifestyle and medical approach to reduce/manage risk

Brent

Outline

| 9.30 | Welcome, Introductions, pre programme quiz |
9.40	Learning objectives, expectations
9.45	Background
10.00	Carrying out the health check – template, competencies
10.30	Communicating results and giving lifestyle advice
11.15	Break
11.30	Communicating Risk
11.50	Encouraging behaviour change using motivational interviewing
12: 20	Referring to interventions – Fit4Life
12.40	Q&A / Trouble Shooting - Disputed Health Checks
12.50	Evaluation (post programme quiz)
18.00	Finish

Brent

CVD Risk factors

Unmodifiable	Modifiable
Age	Smoking
Gender	Alcohol
Ethnicity	Physical inactivity
Family History	Overweight and obesity(BMI)
	High Cholesterol
	High Blood Pressure
	Poor Diet

Brent

275

Heart Disease and Stroke (CVD)

- **60,000** premature deaths each year in UK
- **521** premature deaths in Brent 2011 – 2013 (174 women, 347 men)
- 2/3 of premature deaths are avoidable
- **Risk factors:**
  - Smoking
  - poor diet
  - high blood pressure

Brent   NHS HEALTH CHECK

Brent   NHS HEALTH CHECK
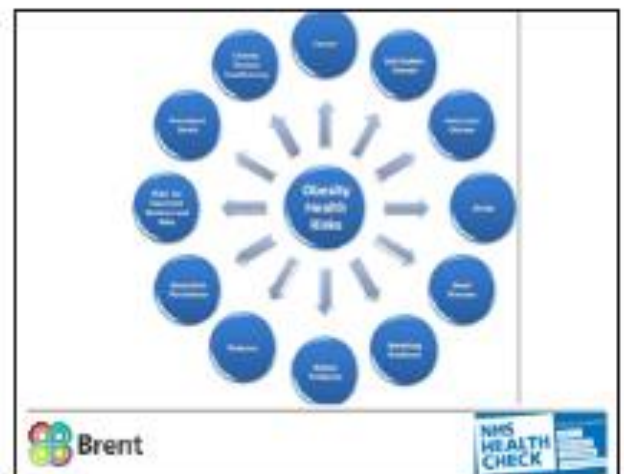
Diabetes

- **24,095** Diabetics in Brent (2nd highest in London, after Harrow)
- **32,951** pre-diabetics (6th highest in England)

- **Diabetes risk factors:**
- Modifiable (lifestyle): obesity, poor diet, lack of exercise
- Unmodifiable: Ethnicity (BME, Asian), age, family history

Brent   NHS HEALTH CHECK

NHS Health Check

- Early identification = PREVENTION

Brent   NHS HEALTH CHECK

Obesity

- **66%** of the UK population are above a healthy weight
- 1 in 2 adults (54%) are overweight (including obese) in Brent
- 1 in 5 adults (20%) are obese

Brent   NHS HEALTH CHECK

Who is eligible

- Patients aged 40-74 with **NO** diagnosis of:
  - Coronary heart disease
  - Chronic kidney disease (CKD stages 3-5)
  - Diabetes
  - Previous stroke
  - Hypertension
  - Atrial Fibrillation
  - Transient Ischaemic Attack (TIA)
  - Heart Failure
  - Peripheral Arterial Disease
  - Familial Hypercholesterolaemia

Brent   NHS HEALTH CHECK

Who is eligible

- All eligible patients should receive a health check invitation once every 5 years
- Practices should invite 20% of their eligible population each year
- Brent council provides each practice with an annual invitation target and a completed health check target
- Target uptake from invitations is 60%

Brent

Skills and competencies

- Code of Conduct:
  - http://www.skillsforhealth.org.uk/code-of-conduct
- Care Certificate:
  - http://www.skillsforhealth.org.uk/care-certificate
- Competencies:
  - Core healthcare support worker competencies
    - http://www.skillsforhealth.org.uk/core-competences
  - NHS Health Check Competency Framework
    - www.healthcheck.nhs.uk/document.php?o=664

Brent

Carrying out a NHS Health Check

- Time: 20 minutes ideally
- Get patient to do bloods BEFORE attending the appointment (or during) – not After!
- Competencies
- Explain the purpose of the health check (why, what, how long)

Brent

NHS HC Technical Competencies

Brent

Activity

- In pairs:
  - 1 person be the patient
  - The other be the health professional
  - Health professional explain to the patient the purpose of a NHS Health Check and what it will include – 2 minutes
  - Swap roles
- Feedback

Brent

NMS HEALTH CHECKS

Brent

Alcohol screening

- Audit C and FAST: See hand outs
- Scoring:
  - 0 – 7 Lower risk
  - 8 – 15 Increasing risk
  - 6 – 19 Higher risk
  - 20+ Possible dependence
- Units vs audit scores?

Brent

GPPAQ

Inactive	All patients score less than active should be offered a Brief Intervention in Physical Activity in line with NICE Guidance
Moderately inactive	
Moderately active	
Active	Reinforce positive behaviour – encourage to make small increase or continue current level

What are the Physical Activity recommendations for adults?

Brent

Communicating results

- Alcohol – FAST; Audit C
- GPPAQ
- BMI height, weight
- Waist circumference
- Blood Pressure
- Cholesterol
- Blood sugar (HBA1C, OGTT)
- Serum creatinine
- QRISK
- Dementia

Your results

Brent

BMI

- How do you explain BMI?
- Risks associated with obesity
- What can be done to reduce obesity?
- Referral to Fit4Life if BMI>30 (27.5 if Asian)

BMI Category	European or white background	Asian, black or other minority ethnic group
Underweight	Less than 18.5 kg/m²	Less than 18.5 kg/m²
Healthy weight	18.5 – 24.9 kg/m²	18.5 – 22.9 kg/m²
Overweight	25 – 29.9 kg/m²	23 – 27.4 kg/m²
Obese	30 kg/m² or more	27.5 kg/m² or more

Brent

Waist circumference

- Increased waist size can increase risk of diabetes, heart disease and some cancers

Risk	Men	Women
Increased risk	more than 94cm (37 inches)	more than 80cm (31.5 inches)
High risk	more than 102cm (40 inches)	more than 88cm (34.5 inches)

Brent

Blood sugar (diabetes)

- Patients with BMI 30 or more or BP 140/90 or more require a blood sugar test
- Most practices do HbA1c as routine
- Tests and what the numbers mean
- Risks associated with raised blood sugar
- What can be done to reduce blood sugar
- Referral to Fit4Life

Brent

Blood pressure

- What the numbers mean: 120/80
- What is high BP?
- Risk associated with high BP
- How to reduce BP
- Referral

Brent

Serum Creatinine

- What the test is for – renal assessment
- What the numbers mean
- How to reduce risk

Brent

Cholesterol

- All NHS Health Checks require a cholesterol test
- What the numbers mean – types of cholesterol
- Risks associated with high cholesterol
- How to reduce cholesterol
- Referral

Brent

Dementia

- Risk factors:
  - Smoking
  - Physical Inactivity
  - Poor Diet
  - Too much alcohol
  - Obesity

Brent

Dementia key messages

- Why people aged 65-74 are being given dementia information
- Key signs and symptoms
- Reinforcement of risk factor management
- How to access further information

www.healthcheck.nhs.uk/increasing-dementia-awareness-training-resource/

Brent

What to do if:

- BP >140/90
- BMI >30 (or 27.5 if Asian)
- Total Cholesterol >7.5mmol/l
- Audit C >5
- GPPAQ Inactive
- Irregular Pulse

Brent

CVD RISK

- What is QRISK? http://www.qrisk.org/
- What influences QRISK?
- What the numbers mean?
- How to reduce risk?
- Practice using the QRISK tool
- Heart Age Tool
  https://www.nhs.uk/tools/pages/heartage.aspx

Brent

Communicating risk

- Sharing information about risk won't necessarily motivate them to change
- Need to use behaviour change methods such as motivational interviewing to encourage change
- Advice should be tailored to the individual

Brent

Break for 10 minutes

Brent

Sharing the risk message

- Prescriptive approach – health professional has the answer (poor delivery)
- Motivational interviewing approach – patient has the answer (good delivery)

Brent

Brief Intervention

- Prevention approach used to initiate change for an unhealthy behaviour such as smoking, alcohol use or physical inactivity
- Based on motivational interviewing
- Acknowledges different stages of readiness to change
- Attempts to make individual think differently about their behaviour and encourage them to make realistic changes

Brent

Brief Intervention

- Assess (e.g. GPPAQ; Alcohol Screening, BMI, BP etc)
- Give feedback on behaviour and associated risk
- Skills for changing behaviour

Brent

Stages of Change

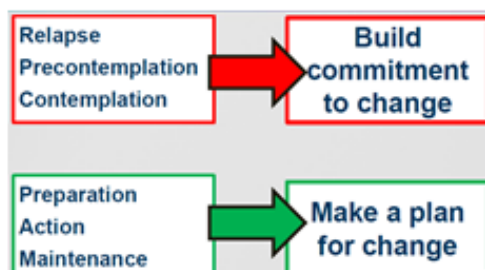| Stage	Patient Action	Your Goal
Pre-contemplation	No intention to change behaviour Unaware or under-aware of problems	To get patient to consider they have a problem
Contemplation	Aware of the problem & seriously considering a change, but no commitment to take action	To raise awareness of problem by observation of behaviour
Preparation	Patient intends to change and makes small behavioural changes	To encourage these steps and support change process; Commit to make change a top priority
Action	Patient decides to take decisive action to change	To make action plan suggestions, reinforce changes, provide support and guidance
Maintenance	Work to prevent relapse and consolidate gains	To support continued change and help with relapse prevention

Brent

Motivational Interviewing

An introduction to the styles, techniques and skills

Brent

Goals by stage

Relapse
Precontemplation
Contemplation → **Build commitment to change**

Preparation
Action
Maintenance → **Make a plan for change**

Brent

Motivational Interviewing

- Behaviour change technique
- Allows patient to talk and identify for themselves how they can reduce behaviours that increase CVD risk
- You are the helper
- Strengthens a person's own motivation and commitment to change
- Person centred, goal orientated

Brent

Why bother?

- Because behaviour change is hard!!

Brent — NHS HEALTH CHECK

Readiness to change ruler

- https://www.rcn.org.uk/development/practice/cpd_online_learning/support_behaviour_change/readiness_to_change

On a scale of 1-10 to determine a your motivation for change.

(0) (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

On a scale of 1-10 with 10 being 100% you are confident : How confident are you that you can make changes in your lifestyle to help you change?

Brent — NHS HEALTH CHECK

Your Role

- You don't have to make change happen
  YOU CAN'T

- You don't have to come up with the answers
  YOU PROBABLY DON'T HAVE THE BEST ONES

- You're not wrestling with people/ clients
  YOU ARE DANCING

Brent — NHS HEALTH CHECK

MI skills: ASK PERMISSION

- **Why:**
- Communicates respect for clients.
- Client more likely to discuss changing when asked, than when being lectured or being told

- **Examples:**
- *"Do you mind if we talk about* [insert behaviour]*?"*
- *"Can we talk a bit about your* [insert behaviour]*?"*
- *I noticed on your medical history that you have hypertension, do mind if we talk about how different lifestyles affect hypertension?"*

(Specific lifestyle concerns such as diet, exercise, and alcohol use can be substituted for the word "lifestyles" in this sentence.)

Brent — NHS HEALTH CHECK

How do people change?

- We have inside us our own good reasons for change, and much of the strength to make it happen
- It is how you draw out this motivation and strength that could improve outcomes

Brent — NHS HEALTH CHECK

Motivational Interviewing – core skills

- **OARS:**

- **O**pen questions
- **A**ffirmation and supporting
- **R**eflective listening
- **S**ummary

Brent — NHS HEALTH CHECK

OARS: Open ended questions

- Allow patient to express own views while you follow patient's perspective
- Avoids yes/no answers

- Example: Open Question
- "What negative consequences have you experienced as a result of your drinking?"

- As opposed to: Closed question
- "Have you experienced negative consequences from drinking?"

Brent

OARS: Summarise

Summarising helps to ensure that:
- You have understood the patient
- Always get the patient to repeat back to you to ensure they have understood you!

Brent

OARS: Affirming and Supporting

- Actively listen for patient strengths, values, aspirations, positive qualities
- Reflect those to client in affirming manner

Example: Supporting
"You were able to lose weight before because of your perseverance and determination. Those strengths can help you quit smoking."

As opposed to:
"Realistically, its going to be hard for you to quit smoking"

Brent

Motivational Interviewing: E-E-E-P

- **Engage** – listen and understand, create a rapport, acceptance and permission
- **Explore** – open up the conversation, why they want to change, how might they do it and be successful
- **Evoke** – draw out their own good reasons for change
- **Plan** – support them to set goals and plan to make the change

Brent

OARS: Reflective Listening

- Mirrors what patient says
- Collaborative and non-judgmental
- Helps patients understand themselves
- Want to avoid overstating or understating
- Use language of patient or similar language
- Don't add your own opinions!

Brent

Look out for 'Change Talk'

- Statements like:

- "I'm worried about my smoking"

- "I sometimes think that I'm eating too much sugar"

Brent

Beware the sustain talk...

Things we say to convince ourselves its all ok...

- "Well, everyone I know smokes, so I'm no different"

- "I don't have sugar in my tea and I only eat cake every so often..."

Brent

More useful phrases

- "What would change look like for you?"
- "Let's identify the steps necessary to help you stop smoking. What would be your first step?"
- "Who's been supportive of you before? How can he or she help you stop drinking?"
- "You've been successful in stopping smoking, so you have the ability to lose weight"

Brent

Responding to sustain talk...

- "...and I don't know why I'm like this, but its his fault too because he also smokes, and now I'm back to it again. I want to quit but how can I when he behaves like that..."
- If you respond with:
  - Open Q: Why do you want to quit?
  - Reflection: Yet, you want to quit....

- More change talk must follow....
  - "...yes I must try because..."

Brent

MI: Time for you to practice...

In pairs:1 person be the client one the HC Worker
- **Client** to speak for 5 mins about a change they are thinking of...?
- **Worker:** Engage by listening carefully
  - Goal is to understand, but not to give advice
- **Worker:** Explore by finding out why the person wants to make a change how they might do it?
- **Worker:** finish up by summarising the client's motivation for change (*pick out the change talk*)

Brent

Useful Phrases

- "What kinds of things have happened while drinking that you later regretted?"
- "I am concerned about how smoking is contributing to your asthma."
- "Would you like more information about the effects of (behaviour) on your health?"
- "What are some steps you think you could take to start cutting back?"

Brent

How was it?

Feedback
- Did you notice any sustain talk?
- What did you want to say that you couldn't?
- How are you feeling?

Brent

Activity continued

- Now swap roles...

Brent

Fit4Life Nutrition & Exercise Lifestyle Programme

Referring to local programmes

- What programmes are you aware of that you can refer patients to following a NHS Health Check for:
  - Smoking cessation
  - Blood Pressure Control
  - Lipid management
  - Weight management
  - Increase physical activity
  - Healthier diet
  - Psychosocial support

Brent

Fit4Life referral form and Criteria

Fit4Life – referral criteria

1. BMI 30 or more ; 27.5 or more if Asian
2. Pre-diabetes HbA1c =42<48; OGTT
3. Blood pressure: systolic 140 or more; diastolic 90 or more
4. Cholesterol (total cholesterol 5.5 or more)

Brent

GP referral trends - Fit4Life

Fit4Life reasons for inappropriate referrals

Legend:
- No criteria met
- BMI outside criteria
- HbA1c/ OGTT outside of criteria
- Data too old

Top 5 Inappropriate referrers
Gladstone Medical Centre
Alperton Medical Centre
Wembley Park Drive Medical Centre
Forty Willows Surgery
Willow Tree Family Doctors
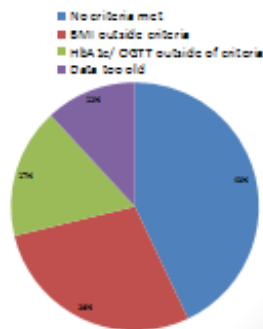
Fit4Life Patient quotes

- "I am enjoying – I feel fitter, healthier and I have more energy"

- "Very informative programme which makes you recognize your behaviour. I have changed my bad eating habits and started being more mindful"

- "The staff are very encouraging which helps us feel comfortable and motivated"

- "I feel really relaxed, it is a nice informal atmosphere and everyone is very supportive"

- "The programme has been useful in raising my awareness and providing useful advice to deal with pre-diabetes"

Suggestions to reduce inappropriate referrals...

- TALK to patient and inform them they are being referred
- Check when sending a referral you haven't sent it before (we have had a lot of double up referrals)
- DOUBLE check the patient meets the REFERRAL CRITERIA!
- A lot of blank referrals are sent through e.g. referrals are eligible but referral form not completed therefore can't accept
- Age and NHS number missing
- Please try to send clear scanned referrals

Appendix 3: Pre and Post assessment quiz

NHS HEALTH CHECKS TRAINING – QUIZ (PRE-TRAINING)

1. What is the purpose of an NHS Health Check (tick all that apply)?

a. Supporting the patient to manage and reduce their CVD risk

b. Having a friendly chat with the patient

c. Assess a patient's risk of developing cardiovascular disease

d. Telling the patient off for poor lifestyle habits

e. Raising awareness of and discussing CVD risk with the patient

2. Who is eligible for an NHS Health Check? (Select one answer)

a. Anyone aged 40 – 74

b. Anyone aged 40-74 with a previous diagnosis of CVD

c. Anyone aged 40 – 74 without previously diagnosed CVD

3. Which factors influence a patient's QRISK score? (tick all that apply)

a. Post Code

b. Hair colour

c. Ethnicity

d. Age

e. Smoking status

f. Weight

4. Your data return shows that a patient's NHS Health Check completed this month indicates that their smoking status and cholesterol results are dated 9 months ago, and their QRISK has not been calculated. Will your practice be paid for the Health Check?

a. No, because smoking status should be recorded within 6 months of HC completed

b. No, because blood test results should be within 6m of completing the health check

c. Yes because the NHS Health Check completed box has been ticked

5. Patient scores are moderately active in the GPPAQ. What should you do?

a. Nothing – the patient is active enough

b. Nothing – you don't have time to give them advice

c. Tell them off for not doing enough exercise

d. Discuss with the patient ways in which they may increase their physical activity levels

6. Which statement is false about motivational interviewing?

a. The patient identifies for themselves how they can reduce unhealthy behaviours

b. The health professional has the answer to getting the patient to change their behaviour

c. The technique is person-centred and goal orientated

d. Health professional asks permission to discuss unhealthy behaviours and the associated risks

7. Which of the following is an example of an 'open question.'

a. Do you think you could improve your diet?

b. Can you tell me about how you may go about improving your diet?

8. Which two of the following are appropriate referral criteria for Fit4Life? (select 2 answers)

a. BMI 29 kg/m^2 (ethnicity: Asian)

b. Blood Pressure 138/89 mmHg

c. Cholesterol 5.2 mmol/l

d. HbA1c 47mmol/

9. Who can refer a patient to Fit4Life (select one answer)

a. GP only

b. GP and Nurse

c. GP, Nurse and HCA

d. Patient can self-refer

NHS HEALTH CHECKS TRAINING – QUIZ (POST-TRAINING)

1. What is the purpose of an NHS Health Check (tick all that apply)?
f. Supporting the patient to manage and reduce their CVD risk
g. Having a friendly chat with the patient
h. Assess a patient's risk of developing cardiovascular disease
i. Telling the patient off for poor lifestyle habits
j. Raising awareness of and discussing CVD risk with the patient

2. Who is eligible for an NHS Health Check? (Select one answer)
d. Anyone aged 40 – 74
e. Anyone aged 40-74 with previous diagnosis of CVD
f. Anyone aged 40 – 74 without previously diagnosed CVD

3. Which factors influence a patient's QRISK score? (tick all that apply)
g. Post Code
h. Hair colour
i. Ethnicity
j. Age
k. Smoking status
l. Weight

4. Your data return shows that a patient's NHS Health Check completed this month indicates that their smoking status and cholesterol results are dated 9 months ago, and their QRISK has not been calculated. Will your practice be paid for the Health Check?
d. No, because smoking status should be recorded within 6 months of HC completed
e. No, because blood test results should be within 6m of completing the health check
f. Yes because the NHS Health Check completed box has been ticked

5. Patient scores are moderately active in the GPPAQ. What should you do?
e. Nothing – the patient is active enough
f. Nothing – you don't have time to give them advice
g. Tell them off for not doing enough exercise
h. Discuss with the patient ways in which they may increase their physical activity levels

6. Which statement is false about motivational interviewing?
e. The patient identifies for themselves how they can reduce unhealthy behaviours
f. The health professional has the answer to getting the patient to change their behaviour
g. The technique is person-centred and goal orientated
h. Health professional asks permission to discuss unhealthy behaviours and the associated risks

7. Which of the following is an example of an 'open question.'
c. Do you think you could improve your diet?
d. Can you tell me about how you may go about improving your diet?

8. Which <u>two</u> of the following are appropriate referral criteria for Fit4Life? (select 2 answers)
c. BMI 29 kg/m² (ethnicity: Asian)
d. Blood Pressure 138/89 mmHg
c. Cholesterol 5.2 mmol/l
d. HbA1c 47mmol/l

9. Who can refer a patient to Fit4Life (select one answer)
e. GP only
f. GP and Nurse
g. GP, Nurse and HCA
h. Patient can self-refer

Appendix 4: Training Evaluation Form

Training Evaluation Form

Please indicate your impressions of the items listed below.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The training met my expectations.	O	O	O	O	O
2. I will be able to apply the knowledge learned.	O	O	O	O	O
3. The training objectives for each topic were identified and followed.	O	O	O	O	O
4. The training content was organized and easy to follow.	O	O	O	O	O
5. The materials distributed were pertinent and useful.	O	O	O	O	O
6. The trainer was knowledgeable.	O	O	O	O	O
7. The quality of instruction was good.	O	O	O	O	O
8. The trainer met the training objectives.	O	O	O	O	O
9. Class participation and interaction were encouraged.	O	O	O	O	O
10. Enough time was provided for questions and discussion.	O	O	O	O	O

11. How do you rate the training overall?

Excellent	Good	Average	Poor
Very poor			
O	O	O	O

12. What aspects of the training do you think could be improved?

13. Do you have any other comments?

THANK YOU FOR YOUR PARTICIPATION!

Appendix 5: Observer written feedback

Janice Constance Training Observation

Date: Monday 21ˢᵗ November 2016

Time: 1-430 pm (Part 1 - 1-230 pm observed)

Venue: Brent Civic centre

Course: NHS Health Checks training

Janice, thank you for inviting me to observe your training session, you prepared and delivered a series of good quality slides. I commend you for your excellent level of organisation, preparation and consideration of the trainee experience.

I observed an appropriate level of eye contact, you came across friendly, polite and professional. Appropriate pitch, volume and tone were evident and the training room felt engaged, enthused and respectful.

In terms of improvement for next time, I would recommend that you concentrate on slowing your presentation down and reflect on your 'presenter' role. You came across as confident and knowledgeable in your job role and I would like to see this confidence spill out in to your role as 'presenter'.

Please find below a summary of my thoughts as I observed the session:

1.10 - Relaxed atmosphere, didn't start on time – how is this managed? Well introduced, could sit down with audience during informal intros
1.15 – relaxed, audience feels comfortable contributing.
1.20 – to improve presentation style could look at slides on laptop on desk to avoid looking away from audience – would improve audience engagement and help with observed confidence
Quite brisk presentation – could elaborate, show you as a health psychologist – say more about reasons behind Brent's obesity issues.
Be aware of entire audience – standing in way of screen for those to your left
Slower and more engaging when 'off the cuff' do this more – again a confidence thing
1.30 – someone arrived, get them on the pre-task, settle them in, welcome late comer and make sure you get accurate evaluation data.
1.36 – task – are they doing it or chatting?
1.38 – only 2 mins to do task – put less in? slow it all down?
The things you said you would send through – could they not be prepared in advance if they need them?
1.55 – pace explaining things fine.
2.00 – did settle down a lot from the beginning but felt that was when you moved away from the bullets on the slides
2.20 – look around room and share the eye contact more
2.27 – postcode issue – again, share your health psychology knowledge, could have elaborated and explained more here
2.30 - break

Appendix 6: DVD OF LECTURE

SECTION C

PUBLICATIONS RELATING TO THIS THESIS PORTFOLIO

PUBLICATIONS

Constance, J. (2016). An evaluation of Living Well's Life Coaching programme: The Client's perspective. *HIV Nursing Journal:* 16 (2), 41-46.

CURRENTLY PREPARING FOR PUBLICATIONS

Lusher, J., Murray, E., & Constance, J. (2018). Diabetes management interventions for homeless adults with Type 2 diabetes mellitus. A Systematic Review.

Lusher, J., Murray, E., & Constance, J. (2018). The use of smokeless tobacco among UK South Asian communities.