Black men’s views on prostate cancer screening and information

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Abstract

Introduction: Black men have a higher risk of getting prostate cancer compared to men of other races. However, research shows that they are less likely to obtain prostate cancer screening.

Aim: This study was aimed at establishing Black men's views on prostate cancer screening and information, and how those views might influence their screening intentions.

Method and analysis: A sample of 210 Black men participated in this explorative sequential mixed methods study, involving a qualitative study of 13 semi-structured interviews and a survey developed from data of the qualitative study, using a sample of 197 Black men. Snowball sampling was employed, that recruited from Afro-Caribbean churches, libraries and social media (Facebook). The qualitative data, which was guided by the protection motivation theory, was analysed using both inductive and deductive thematic analyses while the quantitative data was analysed using descriptive statistics.

***Findings*:** Major themes from the interviews included awareness of PC, perception of PC, predictors of screening, publicity, and Black men's PC information needs. Participants appeared to lack the level of knowledge which could guide them in informed decision-making. Although PC information shows the frightening nature of the disease, it did not appear to deter participants' from being screened. These findings were mostly consistent with findings from the survey, except for one statement on awareness (whether they will pay attention to PC information handed to them on the streets), two statements on predictors of screening (the fear of a possible diagnosis could prevent them from obtaining screening; and their readiness to screen for PC depends on their healthcare professional), and one statement on PC information needs (whether they wanted PC information from Black professionals). Themes from this study (including novel themes such as PC information needs and publicity of PC information) can be used to suggest effective ways of creating and publicising PCS information suitable for Black men and can guide in health promotion interventions.

Conclusion: The provision of simplified PC information and engaging Black men in PC discussions can increase their awareness of the disease.

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Declaration

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Chapter One: Introduction to the study

Chapter introduction

This chapter provides an introduction to the studies, outlining their aims and discussing the available literature on prostate cancer screening among Black men. It also presents current guidelines on prostate cancer screening and summarises theories applied to studies on behaviour change, discussing protection motivation theory (the theoretical background of the study) in detail.

A. Background of the study

Prostate cancer (PC) is the third most common cause of cancer deaths in the UK behind lung and bowel cancer, and the most common cancer in males in the UK (Prostate Cancer UK, 2018). There were around 47,200 new cases in 2015, about 130 cases every day, accounting for 26% of all new cancer cases in males in the UK (Cancer Research UK (CRUK), 2015). More men are dying from PC than women from breast cancer (Prostate Cancer UK (PCUK), 2018). Figures show that 11,819 men died of the disease in 2015, the equivalent of one every 45 minutes, compared with 11,442 women who died of breast cancer (PCUK, 2015). According to PCUK, while 146,000 pieces of research have been published on breast cancer since 1999, only half of this number (about 72,513) has been published on PC. This indicates the need for more investment in research and campaigning about the disease. It has been estimated that about £120m is needed for research over the next eight years to halve the number of PC deaths expected by 2026 (PCUK, 2018).

Over 81.4% of those diagnosed with the disease survived for five years or more between 2005 and 2009 (CRUK, 2014). Men diagnosed today are two-and-a-half times more likely to live for ten years or more than if they were diagnosed in 1990. However, due mainly to an increasing and ageing population, the number of men dying from the disease is growing (PCUK, 2018). PC cases are diagnosed predominantly among older men between 65 and 79 years of age. Whilst six in ten cases are diagnosed in men aged 65 years and above, with 66 years being the average age at the time of diagnosis (American Cancer Society (ACS), 2014; National Institute for Health and Care Excellence (NICE), 2014), about 25% of PC diagnoses are made in men below the age of 65 (NICE, 2014).

It has been estimated that one in every eight men in the UK will get PC at some point in their lives and that men with a family history of PC and Black men are at higher risk (PCUK, 2015). The incidence and mortality rates of PC in Black men are so high that about one in four Black men will be diagnosed with the disease at some point in their lives (PCUK, 2014). Lloyd et al (2015) also report that Black men have a greater likelihood of being diagnosed with PC at an advanced stage and a greater likelihood of dying from the disease compared to men of other races. They also anticipate that, considering the high risk of this population group at getting PC, delay or non-participation in routine prostate cancer screening (PCS) will further compound their risk and increase situations where they present with diagnosis of PC at advanced stages. Early detection, which can be achieved through the prostate-specific antigen (PSA) test and digital rectal examination (DRE), is therefore imperative, as cancer detected at an earlier stage is more likely to be curable (National Health Service (NHS), 2015).

B. Definition of terms

For the purpose of this study, PC information is used to refer to information describing the disease, its symptoms, screening methods, treatments and support information. This information can be on paper or accessed online. Black men refer to men of African descent. PCS is used to refer to PSA and/ or DRE.

C. Current UK recommendations for prostate cancer screening

There is no PCS programme in the UK which offers routine screening for men. However, screening is available for men at high risk of the disease (Public Health England, 2017). The term PCS is used in this study to refer to prostate specific antigen (PSA) testing, digital rectal examination (DRE) or both. The most common forms of PCS are the blood test to measure the amount of PSA in the blood, physical examination of the prostate (DRE) and biopsy (NHS, 2015). In some cases, a person may be referred for a magnetic resonance imaging (MRI) scan first, and then, if that indicates they may have PC, a biopsy may be carried out. If a biopsy indicates that a man has PC, further scans are likely to be carried out to establish whether the disease has spread (BUPA UK, 2018).

Routine PCS is a highly controversial issue, due to the lack of sufficient evidence suggesting that it leads to better health outcomes and the uncertainty with regard to the best treatment of the disease (NHS, 2018). Various health associations and medical review groups have maintained that there is insufficient evidence for or against routine PCS (NHS, 2018). Although the USA Preventive Services Task Force (USPSTF) agrees that screening can lead to early detection of PC, they do not endorse routine population screening, citing that it is not very clear how early detection improves health outcomes (USPSTF, 2012).

A review of evidence on PCS found that screening is beneficial at reducing PC deaths by 21% (UK National Screening Committee (UK NSC), 2016). Notwithstanding this significance of PCS, the UK NSC also recognises the harm of treating men who incorrectly test positive, as their reviews found that increased PSA levels (which are normally associated with the presence of PC) might be an indication of the presence of other conditions and not necessarily of the presence of PC. It is therefore the lack of specificity of a PSA test that leads to over diagnosis or overtreatment (UK NSC, 2016). Evaluation is currently being conducted which could have the potential to improve the accuracy of PSA testing to identify men at greater risk for fast-growing prostate cancers (NHS England, 2019). Consequently, the UK NSC does not currently recommend a universal routine population screening for PC. In the absence of a PCS programme in the UK, information about the risks and benefits of screening is being offered by the NHS Prostate Cancer Risk Management Programme (PCRMP) (Public Health England, 2016), which provides GPs and primary care professionals with guidelines to advise men aged 50 years and over seeking information on PCS in order to help them in informed decision-making.

Though there is no routine PCS programme in the UK, apart from giving advice to their patients on PC, GPs can also refer men with higher risks for opportunistic screening. Also, men may request screening from their GPs. As there is the availability of opportunistic PCS, the term prostate cancer screening is used in this study instead of prostate cancer risk management since men can opt for screening after obtaining advice from their GPs on the risks and benefits of screening.

The UK currently has three national screening programmes: for bowel, breast and cervical cancer. Like PC, other types of cancers do not yet have national screening programmes, as research cannot yet establish a number of key issues: the reliability of such tests in detecting cancers or abnormal changes that could lead to cancer; the ability of such tests to cause minimal false alarms; the acceptability of the test to be used by the general population; the cost-effectiveness of the test; and that the test is not dangerous to health (CRUK, 2018). Though there is no organised PCS programme in the UK, health organisations such as CRUK, the NHS, PCUK, and BUPA UK provide information which describes the prostate, PC testing, and the types of tests available; this information also covers treatments, risk factors, symptoms, the benefits and risks of screening, where to obtain advice and support, and the importance of early detection.

Guidance on cancer screening, produced by the NHS cancer screening programme and the Department of Health offers advice on participation in cancer screening and on informed consent, as well as cancer information materials (NHS, 2009). In this guidance, the instructions for people considering cancer screening states that they do so with the knowledge of the inherent benefits and disadvantages of the screening process, as this knowledge will help them to make informed choices about whether or not to go ahead to be screened (Department of Health,2016). It instructs both the public and healthcare professionals to understand that screening programmes incur both false positive and false negative results. It emphasises that, notwithstanding the false results, cancers may be found through screening and could be treated at an early stage. It further advises that screening should ensure that any risks are minimised, and the benefits are maximised. Though the guidance indicates that written consent is not necessary for an individual to be screened, it emphasises the importance of a screening participant's valid consent in the provision of a successful screening service. For screening participants to make an informed decision and to give valid consent to be screened, the guidance states that they should be provided with sufficient information and support about the screening process (including the purpose of the screening, its potential risks and benefits, those who will be involved in the participant’s care, the diagnosis and prognosis, uncertainties and options for further investigations, treating and managing the condition or the option not to treat). Furthermore, the guidance also gives directions on cancer screening information materials and instructs healthcare professionals on the content and format of written information (such as letters and leaflets) sent to screening participants for breast, bowel, and cervical cancer. It further elaborates on the necessity of screening programmes having good-quality educational and advisory materials to ensure that all parties, including screening participants, general practitioners, service providers and service commissioners, and the general population have a clear understanding of the screening programme (Public Health England, 2016).

The Prostate Advisory Committee (PAC) of the American Cancer Society (ACS) recommended that men should be given information about the uncertainties, risks, and potential benefits of PCS and, thereafter, be given the chance to make an informed decision regarding whether or not to be screened. It also recommended that healthcare providers start discussing PCS with: their male patients with average risk and with at least a ten-year life expectancy, from 50 years; men with high risk (African-American men and those whose father, son, or brother has been diagnosed with PC), from 45 years; and men with even higher risk (those with more than one first-degree relative who had PC at an early age), from 40 years. They recommend the use of the PSA blood test and DRE screening procedures to detect PC (American Cancer Society, 2010).

Central to the recommendations of major medical organizations is that healthcare/medical practitioners discuss PCS with their patients to enable them to make informed decisions regarding screening (NHS, 2009, Department of Health, 2016). The European Association of Urology (EAU) also recognizes PC as a major health problem and one of the main causes of male cancer deaths. They, however, elucidate that, due to the large overtreatment effect, existing published information is inadequate to endorse the implementation of routine population screening for PC. They further explain that before population screening is considered by national health authorities, the level of opportunistic screening, over-diagnosis, overtreatment, quality of life, costs, and cost-effectiveness should be considered (EAU, 2009). The EAU then advises that, in the absence of a routine population screening programme, men considering screening for PC should obtain information on the risks and benefits of screening and be given an individual risk assessment to help them make informed decisions as to whether or not they want to be screened for PC.

People's behavioural intentions can depend on the information they obtain regarding a health issue and how they view that information (Ajzen, 2011; Austvoll-Dahlgren, Falk, and Helseth, 2012). PC information can, therefore, greatly affect an individual's decisions and behavioural intentions about screening (Carter, Tippett, Anderson, and Tameru, 2010). Ross et al (2007) also suggest that African-American men's understanding of PC control information could be improved by changes to their PC information-seeking patterns

D. Background Literature

Most studies on PC and Black men have focused on their knowledge or awareness of the disease (Penderson, Armes, and Ream, 2012; Blocker et al, 2006), their perception of the disease (Nakandi et al, 2013; Ocho And Green, 2013) and predictors of PCS among this population group (Ng et al, 2013; Penderson et al, 2012). Although most of these studies identified PC information as either a barrier to, or a facilitator of, PCS among Black men, none has revealed more in-depth information on this subject area. The study by Blocker et al (2006) used focus groups of twenty-nine African-American men and women. Considering that PCS is a sensitive topic, participants might have been reserved in discussing personal information in groups. This might, therefore, have resulted in men not giving their true perspectives during discussions. Other methods, such as semi-structured individual interviews could have been employed to offer more in-depth discussion of PCS. Moreover, most of these studies included participants as young as those in their teenage years. For example, the study of Nakandi et al (2013), which assessed 545 Ugandan men's knowledge, attitudes, and practices regarding PC, used a mixed method design of structured questionnaires and focus group discussions. The majority of their participants were between the ages of 18 and 28 years. Since the recommended age at which healthcare professionals should start discussing PCS with men is 40 years old, teenagers are less likely to have had PCS discussions with their healthcare professionals and, therefore, might show less interest in participating in PC research. In addition, most of those diagnosed with the disease are around 60 years old and over. As a result, including participants between 18 and 28 years old in this kind of study meant that the views of those who are most affected by the disease are not adequately captured.

A focus group study of 71 Hispanic and African-American men by Meade et al (2003) sought to understand men's preferred choices of PCS education. It found that the participants' preferred learning methods were the use of cancer survivors as spokespeople to promote PCS information, the use of interactive group education, and the provision of easy-to-understand PCS information. The sample used was men aged 18 years and older. This meant that most of them were not eligible for the age-appropriate cancer screening, as one of the USA recommendations for discussing PCS is for healthcare professionals to start doing so with (Black) men from 40 years of age and over. Furthermore, the sample was not representative of the target population, as the Hispanic men were all farm workers, meaning that the data were limited to the perspectives of people in this socio-demographic group.

In a qualitative study to identify individual socio-economic and system-level variables that promote or impede PCS and care among thirty residents of Barbados, Ng et al (2012) found gender-related perceptions, where men considered visiting their doctor to be a sign of weakness and a threat to their machismo, and PCS as a threat to their sexuality. They also found that fear of cancer, PC awareness, knowledge of PCS tests, mistrust of the medical community, and information dissemination (the health information provider, limited effects of health fairs, limited resources, and limited access to care) affected PCS in Barbadian men. The sample of this study included Black men who had already participated in a similar earlier study. This might have influenced those participants' knowledge or perceptions of PC. This study's sample also included participants as young as eighteen years of age, which is a long way below the recommended age at which healthcare professionals can start discussing PCS with their patients. Participants of this age group may, therefore, not have any concerns about PC, as it does not normally affect men of their age.

Ford et al (2006) also reported lack of knowledge of cancer, fear of the disease, lack of insurance, encouragement by others, intergenerational transfer of health information (where health information is transferred from older to younger people as well as from younger to older people), and limited availability of screening clinics as factors associated with the perception of PCS among Black men. This qualitative study of twenty-one African-American men employed the Preventive Health Model in developing focus-group questions and recruited men within the recommended age for PCS.

The study's results were analysed using content analysis, which has been argued to be insufficiently qualitative in nature (Morgan, 1993). The sample also included participants with a history of PC. This meant that men who had been diagnosed with the disease and might have had a better knowledge of PC were included. The researchers, however, did not discuss or compare the responses between those who had the disease and those who did not to justify including these participants.

Similarly, the cross-sectional quantitative study of Woods et al (2006), which used a sample of 276 African-American men, found that predictors of PCS among Black men included physicians' PC communication method (which included physicians' communication style, encouragement to screen, and sharing of PC information), men's understanding of the risks of PC, culture, positive interaction with healthcare staff, education of spouse/ significant others of participants, and fear of getting a positive diagnosis. This study used convenience purposive sampling, which meant that data might have been easier or quicker to gather. However, this sample might not have been representative of the whole population group. The study's sample was recruited from one health facility. The implication of this is that men who did not visit this facility were less likely to have been recruited. This meant that the sample was not representative of the target population.

To predict PC information-seeking behaviours by African-American men, the focus group study of Ross et al (2007), with a sample of 52 African-American men, identified that facilitators of PC information seeking among these men included the increasing awareness of the disease, their desire to obtain accurate information about the disease, early detection and screening, and treatment, while barriers to PC information seeking included fear, distrust, and inconvenience. They further established that significant others, peers, siblings, and religious leaders were individuals who could influence Black men’s behaviour and concluded that these findings provide additional insight into ways to reach and intervene with African-American men to influence their screening intentions. Although this study sought to explain and predict prostate cancer information-seeking behaviours of African-American men, it did not give much detail on what type of information Black men seek. As PC is a sensitive topic, the use of focus groups only meant that participants may have been reserved in their discussions and may not have given their true perspectives in the presence of other participants.

A systematic review to establish Black African and Black Caribbean men’s perceptions of PC reported that knowledge of the prostate and PC, individual factors (such as patient-provider communication), family history, and socio-cultural factors (such as fear of cancer, mistrust of the healthcare system, culturally specific health information, lack of preventive care among Black communities, and limited access to care) influenced Black men’s willingness to be tested for PC (Penderson et al, 2012; Allen et al, 2007). This comprehensive review included qualitative, quantitative, and mixed-methods studies to illustrate Black men’s knowledge and perceptions of PC. However, almost all the studies included in this review were conducted in the USA, which then suggests the need for similar studies to be conducted in other countries/settings, as healthcare systems differ in different countries, to determine the generalisability of the findings of such studies and to be able to tailor information and interventions that meet the particular circumstances of each country.

All these studies contribute to the current body of research in the area of PC and Black men and illustrate the knowledge and perceptions of PC among Black men and the determinants of their screening intentions. PC information is one of these key determinants, but none of these studies has given a detailed consideration of how PC information affects PCS in Black men. There is also the need for the limitations identified in these studies to be addressed in future studies. Some of the studies discussed above did not apply a theoretical framework to explain PCS views and behaviour in Black men. A theoretical framework could have been applied which could have been used as a structure guiding the research and could also have helped to minimise the bias of the researchers, as the interpretation of data is guided by the theory. Since most of these studies are small scale qualitative studies, adding a survey to the study could have helped to establish the generalisability of the findings. A mixed-method study could have been considered in some of these studies, as this method could offer a better understanding of the research problems by drawing from the knowledge of both methods in one study, to offer more in-depth and wider views on the research problems. Data could have been analysed using more flexible approaches such as thematic analysis, as thematic analysis can be used in analysing data with any epistemological approach (Braun and Clarke, 2006). As a result, this study sought to address the limitations that have been identified in some of these studies (that have already been discussed above) and to contribute towards filling the gaps in this area of research in the following ways: by using a mixed-methods approach, by employing a health behaviour model, by using semi-structured interviews, and by recruiting participants from a diverse population of Black men of 40 years and above (the recommended age range for PCS and information) to explore their views on PCS and related information.

Various models have been used to help in explaining health behaviours such as PCS. It was, therefore, deemed appropriate to discuss some of these models in order to help place this study in the context of health psychology and also to provide a rationale for the application of the protection motivation theory (the theoretical framework for this study).

E. Health behaviour theories in understanding behaviour change

Behaviour change theories are employed to explain health behaviours, using factors that are believed to be predictive, such as social and emotional factors, genetics, perceived symptoms, and the individual’s and healthcare professional’s beliefs (Leventhal et al, 1985). Health behaviour theories may assist in the design of behaviour change interventions by promoting an understanding of health behaviour, directing research, and enabling an intervention to be transferred from one health issue, geographical setting, or healthcare setting to another (Munro et al, 2007). Some of the theories that help in understanding behaviour change and that can, therefore, help in explaining PCS and PC information among Black men are the Health Belief Model (Rosenstock, 1966; Becker, 1974), the Protection Motivation Theory (Ripptoe and Rogers, 1987), the Theories of Reasoned Action (Fishbein, 1967; Ajzen and Fishbein, 1970) and Planned Behaviour (Ajzen, 1985; Ajzen and Madden, 1986), Social Cognitive Theory (Bandura and Adams, 1977), and the Stages of Change Theory/Trans Theoretical Model (Prochaska and DiClemente, 1982).

The Health Belief Model (HBM) was developed by Rosenstock (1966) and Becker (1974) to predict and explain health behaviours that were preventable and patients’ reaction to treatment in acute and chronic illness. The model was explained using the constructs of perceived susceptibility (an individual’s perception of the likelihood or risk of getting a condition or illness), perceived severity (an individual’s perception of the seriousness or severity of a condition and its likely consequences), and perceived barriers/ costs (the individual’s assessment of the negative outcomes in the implementation of a health behaviour). Other constructs of the health belief model include perceived benefits (the individual’s assessment of the positive outcomes in the implementation of health behaviour) and cues to action (factors that serve as cues to executing specific health behaviours, such as the symptoms of an illness or health information).

Over the years, the HBM has been adapted to predict a wide variety of health-related behaviours (Ogden, 2011). The theory has been applied to studies on breast cancer screening (Rutter et al, 2006; Ahmadian et al., 2010b) and has been found to predict PCS (Ghodsbin et al, 2014; Zare et al, 2006; Plowden, 1999). The HBM has been criticised on the basis that important determinants of health behaviour, such as the positive effects of negative behaviours and social influence, are not included (Stroebe, 2000; Stroebe and de Wit, 1996). Blackwell (1992) also criticised the theory, arguing that, though it may predict adherence in some situations, it has not been found to do so in risk-reduction behaviours, which are more linked to socially determined factors.

The Theory of Reasoned Action (Fishbein, 1967; Ajzen and Fishbein, 1970) examines the relationship between attitudes and volitional behaviour and subjective norms (the individual's belief about their social world) and beliefs as predictors of behaviour. The TRA was criticised for disregarding the fact that behaviour may not always be under volitional control and the impacts of past behaviour on current behaviours (Stroebe, 2000). The authors extended the theory, which included perceived behavioural control, and termed this the Theory of Planned Behaviour (TPB). Behavioural control represents the perceived ease or difficulty of performing a behaviour and is a function of control beliefs (similar to Bandura's concept of self-efficacy); it includes knowledge of relevant skills, experience, emotions, past track record and external circumstances (Ajzen, 1985; Ajzen and Madden, 1986). Behavioural control is assumed to have a direct influence on intention (Sutton, 1997). The theories also suggest that an individual's behaviour is determined by their intentions (the consequence of a mixture of numerous beliefs or ''plans of action in pursuit of behavioural goals'' (Ajzen and Madden, 1986)) and by subjective norms (the perception of social norms and pressures to carry out a behaviour and an appraisal of the person's motivation to conform to these pressures). The TRA and TPB have been applied to research to understand cervical cancer screening among Latinas (Roncancio et al, 2015; Roncancio, Ward and Fernandez, 2013), to explain women's role in PCS (Di Sarra et al, 2015), and to explore the role of social norms in men's cancer-screening intentions and behaviour (Sieverding, Matterne and Ciccarello, 2010). The TPB has also been applied to studies on the determinants of repeat attendance in breast cancer screening (Drossaert, Boer and Seydel, 2010; Rutter, 2000) and breast cancer screening programmes among rural women in Iran (Peyman, Amani and Esmaily, 2015). The theories have been criticised for their exclusive emphasis on rational reasoning processes, thereby excluding unconscious influences on behaviour (Sheeran, Gollwitzer et al, 2013) or the impact of emotions and beliefs on behaviour (Mullen, 1987). It has also been suggested that the TRA and TPB require greater conceptualisation, clearer definition, and additional explanatory factors, as behaviour cannot be sufficiently explained using only the theories' existing concepts (Sniehotta, 2014; Sutton, 1997).

The Social Cognitive Theory (Bandura, 1986) proposes that an individual's behaviour is determined by the interaction of personal, behavioural, and environmental factors and that most behaviour is learned through observing the actions of others. This theory explains behaviour using the constructs of self-efficacy (an individual's belief in the ability to achieve a goal), behavioural capability (the individual's actual ability to perform a behaviour through essential knowledge and skills), reciprocal determinism (reciprocal interaction of the individual, their environment, and behaviour), observational learning (the individual's ability to replicate the behaviour of others through observation), reinforcements (the internal or external responses to an individual's behaviour that affect the likelihood of that individual continuing or discontinuing that behaviour), and expectations. The theory has been applied in research into sociodemographic differences in colorectal cancer screening uptake (Lo et al, 2015) and studies in PC to develop training programmes for decision-making in PCS (Vines et al, 2017).

The SCT has been criticised for failing to indicate that interventions that employ the SCT theory can be affected by diversity and culture. Considering that it was developed when societies were less diverse than they are today, Schunk and DiBenedetto (2019) argue that it is unjustifiable to present the SCT as though it can be applied across different populations without considering how the theory may be affected by cultural and diversity variables. It therefore implies that, based on the SCT, this study may not be applicable to people from different cultures as human experiences and behaviour are shaped by their culture.

The Stages of Change Model, also known as the Trans Theoretical Model (TTM (Prochaska and DiClemente, 1982) conceptualises behavioural change as a recurring process that passes through different stages and posits that the individual goes through these stages in their journey towards change. These stages of change have been termed pre-contemplation (when the individual does not intend to make changes to their behaviour), contemplation (when the individual considers making a change to their behaviour), preparation (when the individual makes small changes), action (when the individual actively engages in a new behaviour), and maintenance (when the individual sustains that new behaviour for a period of time). The theory describes the process of change as dynamic and posits that the individual may move from, and revert to, prior stages several times before moving to the next stage and may even slip back after reaching the maintenance stage. The TTM has been applied to research in cervical cancer screening among Iranian women (Miri et al, 2018), mammography screening among Chinese-American immigrant women (Lee-Lin et al, 2015), colonoscopy among urban primary care physicians (Honda and Gorin, 2006), and patient nutritional and physical activity preferences after breast cancer or PC diagnosis (Green et al, 2014). Applying the theory to behaviour change intervention means that interventions can be tailored to the stage which the individual has reached, which has been widely recognised (Adams et al, 2005). However, critiques of the TTM emphasise that the relevance and structure of the model itself is questionable, on the basis that stages of change may not be mutually exclusive and that stage assessments are arbitrary and lack validity (West, 2005; Littell and Girvin, 2002). Larry et al (2010) suggest that the model fails to deal with the "non-linear" nature of recovery, as it views change (in the case of their study, recovery in people with experience of mental and emotional distress) in a linear or sequential fashion, therefore suggesting that the various stages build upon each other. As a result, they called for the model to acknowledge the non-linear nature of the process, as they argued that many people can make significant progress in recovery without ever having accepted having a mental health problem.

F. Theoretical framework used in the current study: Protection Motivation Theory

The Protection Motivation Theory (PMT; Rogers 1975, 1983, 1985) provided a theoretical framework for the current study. It is a health behaviour theory which describes how individuals are motivated to react in a self-protective way towards a perceived health threat. The theory postulates that behaviour change is best achieved by appealing to an individual’s fears and proposes that the intention to protect oneself from a health threat is influenced by the concepts of perceived severity, perceived susceptibility, response effectiveness, and self-efficacy. Perceived susceptibility has been explained as an individual’s perception or assessment of the likelihood or risk of getting a condition or illness. Perceived severity describes an individual’s perception of the seriousness or severity of a condition and its likely consequences. Response effectiveness is an individual’s perception of how a particular behaviour might affect a condition. Self-efficacy indicates the individual’s perception of their own ability to implement behaviour successfully or the ability to achieve a goal (Bandura, 1977).

The theory describes coping with a health threat in light of two appraisal processes (coping appraisal and threat appraisal) and takes into account the costs and benefits of behaviour in predicting the likelihood of change. The concepts of response effectiveness and self-efficacy have been suggested to relate to coping appraisal – appraising the individual themselves – while the concepts of perceived susceptibility, perceived severity, and fear relate to threat appraisal – appraising the external threat. It also proposes that there are two types of sources of information (environmental and intrapersonal) which influence the theory’s concepts, which then elicit either a behavioural intention or avoidance/ denial. An illustration of the PMT model has been provided in diagram 1.

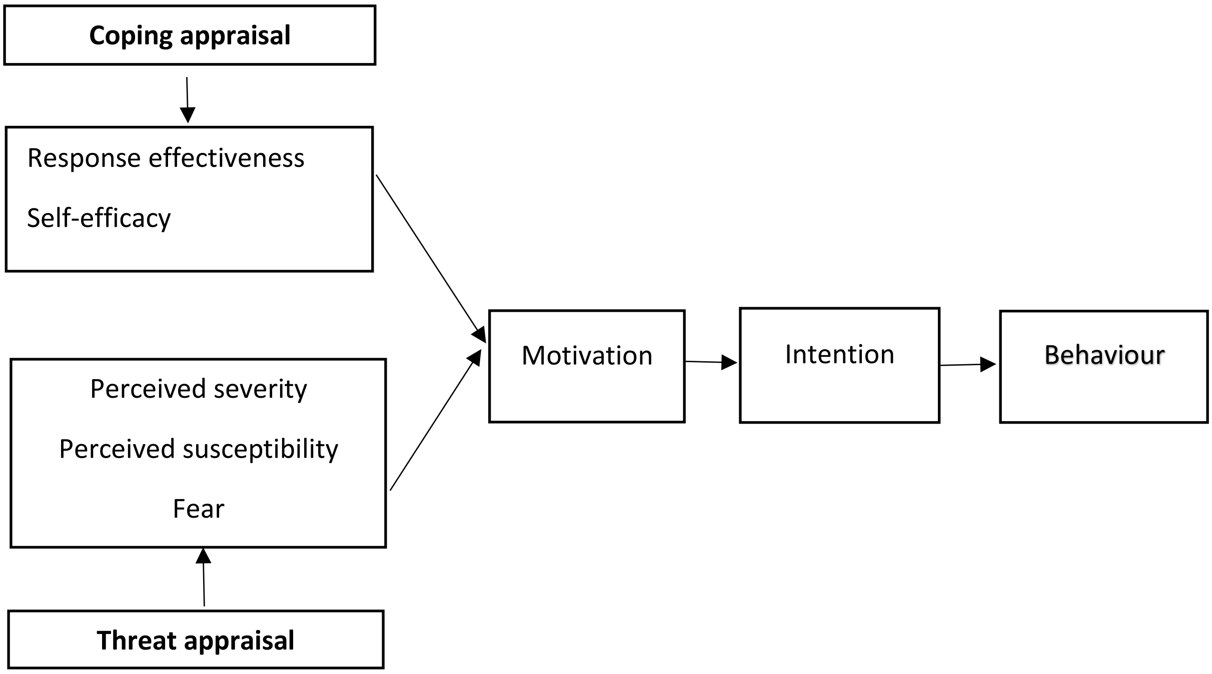

Diagram 1: Protection Motivation Theory (Rogers 1983)

The PMT is a cognition model of behaviour change. Cognition models examine the predictors and precursors to behaviours and suggest that behaviours are the consequences of the individual's rational evaluation of the prospective costs and benefits of that behaviour (Ogden, 2007). The PMT was first developed by Rogers (1975) to expand the health belief model, an earlier cognition model (Rosenstock, 1966; Becker, 1974). As we have noted, the HBM's original concepts were perceived susceptibility, perceived severity, costs, benefits, and cues to action. The HBM is useful in that it has been the foundation from which other cognition and social cognitive models were developed and has been applied to mammography and cervical screening, adherence to medication, exercise behaviour, safe-sex behaviours, attendance at health checks, and many other health behaviours (Rutter and Quine, 2002). However, it failed to include self-efficacy, a significant determinant of behaviour which is thought to develop from an individual's own experiences, modelling, verbal and social persuasion, and perceptions of physiological arousal (Bandura, 1977). Although the PMT has limitations, such as the absence of the role of social and environmental factors on the individual's behaviour, it has attracted less criticism compared to the HBM, as it includes self-efficacy, response effectiveness, and fear. These three constructs (including the other two) have been proven to predict health behaviour, hence the application of the PMT as the theoretical framework for this study. Self-efficacy enables learners to view challenging problems as tasks to be mastered, generating a deep interest in, and commitment to, the activity and an ability to recover quickly from setbacks (Hoffman, 2010). Self-efficacy has been successfully applied in the prediction of a range of health behaviours. It was found to play a role, for example, in older adults participating in an exercise programme after hip fracture (Chang et al, 2015). In a meta-analysis on the impact of changing attitudes, norms, and self-efficacy on health-related intentions and behaviour, self-efficacy was found to have influenced intentions and behaviour (Sheeran et al, 2016). The construct of fear has also been proven to influence health-related intentions/behaviours among sun protection users (Cooper et al, 2014). Response effectiveness has also been associated in a significant way with the avoidance of health label warnings in smoking cessation behaviour (Thrasher et al, 2016).

If applied to Black men's views on PCS information, the PMT will predict that PCS information may increase or lessen Black men's fear of the disease, increase or lessen their perception of the severity of the disease (perceived severity), and increase or lessen their perception of their vulnerability/ susceptibility to the disease (perceived susceptibility). PC information can also increase Black men's intentions to obtain screening, if they feel confident that they have the knowledge of PCS that can help them make informed decisions regarding screening (self-efficacy) and if they feel that screening will lead to early detection and effective treatment (response effectiveness), and vice versa.

The PMT has been applied in several studies, including cancer research. It has been applied to a study on skin cancer prevention behaviour among 360 female high-school students (Baghianimoghadam et al, 2011), which supports the effectiveness of a PMT-based intervention to change the attitudes and behaviour associated with skin cancer risk. The theory has also been applied to investigate predictors of women's motivation to obtain genetic testing for breast cancer risk (Helmes, 2002); this study reported that women with increased breast cancer worries (influenced by perceived risk/susceptibility) and those who perceived more disadvantages of not being tested were more motivated to obtain testing, while those who perceived more advantages of not being tested were less motivated to do so. Ripptoe and Rogers (1987) examined the relevance of PMT in determining the effects of information about breast cancer on women's intentions to practice breast self-examination (BSE). The results showed that perceived susceptibility and self-efficacy increased the women's intentions to regularly practice BSE and to engage in more rational problem-solving efforts to cope with the threat of breast cancer. Also, a review of studies that employed the PMT has found some support for the theory's threat appraisal and a strong support for the coping appraisal in predicting behaviour (Plotnikoff and Trinh, 2010).

With regard to PC, Vadaparampil et al (2004) aimed to identify predictors of PSA testing in an at-risk population (first degree relatives of PC patients): this study found that the PMT predicted screening amongst this population group. Out of the 107 men who completed the initial survey, 82 men completed the follow-up interviews, of whom 96% were Caucasians. As predicted, men who had a PSA test during the follow-up interval had higher levels of both self-efficacy and response effectiveness for undergoing PCS. There are no studies that have applied the PMT to specifically PCS and Black men. Since the model has been effective in understanding behaviours in cancer prevention and screening, it could be useful in understanding Black men's behaviours in relation to PCS.

Considering the research topic and its relation to the PMT constructs, the coping appraisals (response effectiveness and self-efficacy) are suitable in determining Black men's views on PCS and PC information and how these views can influence their screening intentions. A high self-efficacy can imply that men will be confident in their ability to perform a positive behaviour in relation to PCS and PC information, by actively seeking PC information and consequently obtaining screening if necessary. Response effectiveness would mean that Black men may perceive that their behaviour (actively seeking PC information and getting an earlier diagnosis) can lead to better treatment outcomes. The coping appraisal components (an appraisal of the individuals themselves in relation to the health behaviour) made the PMT more suitable for this study.

G. Aims of Study

Although previous studies have identified PC information as one of the key factors affecting PCS among Black men, none of them assessed the impact of information on PCS and its influence on screening amongst Black men. A study of this nature would help to understand how Black men's views of PC information influence their intentions to obtain screening. Research has shown that health information can influence decision-making amongst patients (Fu et al, 2015; Jorgensen, Young and Solomon, 2013). Although there is no routine PCS programme in the UK, the UKNSC recommends that doctors discuss PC with men at risk, in order to help them to make informed decisions with regard to screening. It is therefore important to know Black men's views on PCS and information, since this could help them in that informed decision-making.

This study has been built on the researcher's earlier systematic review, which aimed to determine the facilitators and barriers of PCS in Black men. This found communication (which includes information on PCS), among other factors, as a barrier towards screening among Black men. Though the review identified that Black men's lack of knowledge or information on PCS was a barrier towards screening, it did not explore how they view information on PCS or how this information acts as a barrier towards screening. Similarly, whilst there has been research on PCS and Black men, little is known about how they view PC information. This study will therefore add to the literature in this research area.

It can also contribute to helping healthcare professionals in developing PCS information materials which are suitable for Black men and can help them use the available information on PCS. The findings of this study are expected to be beneficial to health psychologists, health promoters, and other healthcare professionals, as they can be used to inform PC health promotion strategies and have implications for designing PC-awareness campaigns and educational interventions.

Chapter Two: Methodology

Introduction

This chapter provides an account of the design of the study, specifically the mixed-methods design. It also describes participant recruitment strategies, inclusion and exclusion criteria, and research ethics.

A. Design

This study employed a mixed-methods design: an approach for conducting research that encompasses collecting, analysing, and integrating quantitative and qualitative data in a single study or a series of related studies, on the premise that a combination of qualitative and quantitative methods offers a complete analysis (Green et al, 1989; Tashakkori & Teddlie, 1998; Creswell, 2002) and a better understanding of a research problem than either approach alone (Creswell and Clark, 2011).

Qualitative studies provide a more detailed narrative of the data; however, their results are mostly not generalisable. While there is more objectivity in quantitative studies, the use of structured questions and pre-set answers may not completely reflect participants' perceptions of a given subject. One of the strengths of using the mixed-method design is that it offers the researcher opportunities to explore the research question in more detail and provides a fuller picture of the phenomenon under investigation (Ivankova, Creswell, and Stick, 2006). Also, using mixed methods in research encourages the use of multiple worldviews or models, rather than the typical models for quantitative researchers and those for qualitative researchers, and it encourages researchers to consider other models that might incorporate both quantitative and qualitative research, such as pragmatism (Creswell and Plano Clark, 2011). Considering the limitations of using either the qualitative method or the quantitative method alone, it was deemed suitable to employ a mixed-methods design, in order that the qualitative study would enable Black men to give an in-depth discussion of their views on PCS and PC information, while the quantitative study would help ascertain if those views in the qualitative study could be applied to a larger population.

This study used the sequential type of mixed-method design, described by Creswell et al (2003) as a design in which one set of data provides a supportive, secondary role in a study based primarily on the other data type. Specifically, the exploratory sequential mixed-method design was used. In this type of sequential mixed-method design, qualitative data is first collected and analysed, and themes are used to develop a quantitative instrument to further explore the research problem (Creswell and Plano Clark, 2011; Teddlie and Tashakkori, 2008; Onwuegbuzie et al, 2010). This implies that the qualitative study took priority and informed the quantitative study. The quantitative data built on the qualitative data by using themes from the qualitative data to develop a survey, which in turn expanded the initial qualitative results, using a larger population of Black men. The decision to prioritise the qualitative method over the quantitative method depended on the main aim of the study and the scope of research questions asked (Morgan, 2014). It sought to explore Black men's views on PC information, and these views could be explored in more depth using a qualitative method (Rossman and Wilson, 1985; Tashakkori and Teddlie, 1998; Creswell, 2003) of semi-structured interviews as they facilitate a detailed discussion of the participants' experiences and perspectives. As the qualitative study informed the quantitative study, data from the qualitative study were used to develop a survey for the quantitative study, which sought to explore and expand the study to ascertain the extent to which the latter agreed with the former.

One of the problems of using the mixed-methods design is that the epistemological differences of both methods might impede the researcher's understanding of when and how to use which method; leaving the researcher with difficult decisions regarding which method should come first or at which stage of the study the two methods should be integrated. This can result in researchers who are inadequately trained on research processes using the methods incorrectly (Yardley and Bishop, 2015). In this study, the quantitative method built on the qualitative method by using themes from the qualitative data to develop a survey that was administered to a larger population of Black men. The exploratory sequential mixed method was used in order to gain an in-depth understanding of the research question and to explore the data to achieve objective and generalised results. Another problem of mixing qualitative and quantitative methods, as further explained by Yardley and Bishop (2015), is that training and published studies on mixed methods are relatively uncommon, making it difficult for researchers to know how and when to mix the qualitative and quantitative parts of the research.

Yardley and Bishop (2015) explain that the choice of method or design for a study depends on what epistemology the study is based on. The epistemological point of view of quantitative research emanates from a realist, positivist, or post positivist perspective, which sees research as a means of using objective data collection to produce knowledge that is devoid of the influence of the researcher's own perceptions and socio-cultural context; by contrast, the epistemological point of view of qualitative research emerges from an interpretative or constructionist perspective, which views research as a method of producing knowledge that is inevitably the product of the researcher's beliefs and socio-cultural context (Braun and Clark, 2013; Creswell, 2003). This study was based on the epistemology of pragmatism, a convergence of both the qualitative and quantitative epistemological points of view (Cornish & Gillespie, 2009; Yardley & Bishop, 2007). The pragmatist's approach has been chosen because it can help address the challenges of using mixed methods (Cornish and Gillespie, 2009; Greene and Caracelli, 2003; Morgan, 2014): this approach provides the opportunity for the integration of qualitative and quantitative approaches in a study without preferring one over the other. Though the pragmatist's approach to mixed-methods research acknowledges the epistemological differences between qualitative and quantitative methods. It does not place importance on one over the other, but rather emphasises the production of knowledge through both methods (Bishop, 2015). The pragmatist's approach rejects the objective-subjective views of the quantitative and qualitative methods and aims to achieve knowledge from diverse sources (Johnson and Onwuegbuzie, 2004).

A mixed methodology has been used in various studies on PC and Black men. An example is the study of Nakandi et al (2013) which assessed Ugandan men's knowledge, attitudes, and practices regarding PC, using structured questionnaires and focus group discussions. This study revealed poor knowledge of PCS, misconceptions about PC, and low uptake of PCS among Ugandan men. They then recommended the provision of sufficient information about PC to the general public. Another study of PC using the mixed method is the longitudinal cohort study of Woods et al (2004) which explored PCS behaviours among African-American men. This study employed semi-structured interviews and a questionnaire to ascertain the factors determining PCS among Black men. Data were analysed using grounded theory and descriptive statistics. This study identified five themes as elements affecting Black men's screening for PC, which included lack of knowledge of PC, communication, social support, quality of care, and sexuality. These studies consequently contributed to PC research with Black men using mixed methods, as they were able to explore both the general views and in-depth views of participants with regard to PC. This emphasises the relevance of mixed methods in this present study.

B. Participants

The studies used a purposive sample of 210 Black men. Out of these, thirteen men participated in the interviews while the remaining 197 participated in the survey. Creswell (1998) recommends a sample size of five to twenty-five participants for a qualitative study, while Morse (1994) recommends at least six participants. Morse (2000) suggests factors to consider in determining sample size in qualitative research, such as the scope of the study, the nature of the topic, the quality of data and the study design. The sample size of the qualitative study was chosen in line with these recommendations. It has been suggested by Malterud, Siersma and Guassora (2015) that a narrow study scope requires a smaller sample if the information the sample holds is relevant to the study. The scope of the study was narrowed down to Black men's views on PCS and PC information, which meant that data could be obtained using this number of participants.

Also, the nature of the research question has been suggested to determine the sample size if the question is framed in such a way that makes it easier for information to be collected from interviews and for participants to feel comfortable discussing the topic (Morse, 2000). Though the topic seemed sensitive, the researcher’s effective interviewing skills and rapport with the participants facilitated an open discussion of the subject matter. These skills have been suggested to help in obtaining useful information from participants (Green et al, 2007). Also, employing semi-structured interviews in the qualitative study meant that the researcher was able to obtain information on participants’ views, as this method of interviewing provides an opportunity for the researcher to hear the participant’s discussion of their views or life experience (Willig, 2008).

Moreover, the study is deemed to be of good quality as it employed open-ended interview questions, which have been suggested to produce rich data (Ogden and Cornwell, 2010) and “encourage participants to provide in-depth and detailed responses and to discuss what is important to them” (Braun and Clarke, 2013; pp79). Strauss and Corbin (1990) also posit that a study using ten interviews can produce rich data if interviews are focused and detailed.

Furthermore, the sample size is deemed to be in line with the research design requirements (Vasileiou et al, 2018; Morse, 2000; Robinson, 2014). Morse (2000) suggests that study designs which produce more data require less participants than those that produce less data. The design of the qualitative study used semi-structured interviews, which were able to produce in-depth data, which were later explored in a survey (using the sequential exploratory mixed-method). Also, Robinson (2014) advises that to prevent analytical overload in qualitative studies, smaller sample sizes can be used in separate studies, which can be later combined. Due to the design of the two studies, data obtained in the qualitative study, using this sample size, was further explored in the survey; which was also reported separately and later combined with the qualitative study.

Niles (2006) posits that large numbers of participants can produce results with a confidence level of 95%, meaning that there is only a 5% chance that the sample results will differ from the true population average. A survey sample of between 200 and 500 has a confidence level between 92.9% and 95.5% (Creative Research Systems, 2003). This sample size is believed to be representative of the population size of Black men from 40 years of age and above, using statistical information from the England and Wales' 2011 census (Office for National Statistics, 2011).

C. Inclusion and exclusion criteria

Black men of 40 years and above were eligible to participate in this study. The age of participants started from 40, as this is the recommended age to start screening for PC for Black men who have higher risks of getting PC (American Cancer Society, 2010). There was no upper age limit of participants. Participants also included those who had received/ obtained PCS information and those that had never received/ obtained PCS information, as well as those that had obtained PCS and those that had not. Participants did not include women, men of other races, men below 40 years of age, men who had been diagnosed with the disease, or men who could not communicate in the English language. The decision to interview only participants who could communicate in the English language was to enable the researcher to get an accurate interpretation of the interviews. Using interviews conducted in other languages would require translation, an interpretive act, which may result in the loss of meaning in the translation process (van Nes et al, 2010). Participants who had obtained PCS were also included, as the study did not seek to explore participants' experience of the disease but their general views of PC information. Those who had been diagnosed with the disease were excluded, as they would have accessed further information about the disease, therefore gaining an increased knowledge of the disease, which the other participants might have lacked.

D. Methods of participant recruitment

The recruitment approach employed in this study was the snowballing approach, where the sample was built up through the network of the researcher and other participants. This included recruiting from African and Caribbean churches in London, social media (Facebook), and libraries. Churches were deemed one of the suitable venues to recruit hard-to-reach participants such as Black men (Patel et al, 2003). Also, a report on churchgoing in the UK found that almost half of the adult population of the Black community attend church regularly (Tearfund, 2007). The church can, therefore, be a source from which a researcher can recruit participants from this population group. Some of the studies that have employed participants from churches include the randomized controlled trial focused on increasing daily physical activity in African-American women (Whitt-Glover et al, 2015) and a study on the socio-economic determinants of physical activity (Anderson et al, 2006). Black men are considered to be one of the hard-to-reach groups for research (Patel et al, 2003; Spence and Oltmanns, 2011), which may affect their compliance with research. The extent of a hard-to-reach population group's compliance with research may depend on factors such as the characteristics of the group, the recruitment techniques used, and whether the subject is of interest to them (Bhopal et al, 2011). As already mentioned, various recruitment techniques were employed to ensure that recruitment was as diverse as possible. Also, it was anticipated that since there is a high incidence of PC in Black men, they would be interested in participating in research on this subject.

A member from two churches in London (one mostly African and the other mostly Afro-Caribbean) who was known to the researcher recruited participants on the researcher's behalf. They were given the research information sheets (see appendix 1) and were also informed that only Black men from 40 years and over could participate in the study. They then distributed these information sheets among Black men in their churches. This information included the scope of the study and contact details with which participants could obtain further information. Some of the men who were interested in participating later contacted the researcher's representative in their churches and gave them their contact details, which were in turn given to the researcher. The researcher then called potential interview participants to arrange suitable dates for their interviews and later sent them emails confirming their appointments. A total of 29 potential participants were recruited through this strategy, of which 6 participated.

Braun and Clarke (2013) suggest recruitment strategies such as creating a page on social media sites or posting notices on a variety of websites. The study's page was created on Facebook (with information about the nature of the research), where potential participants were added. Studies that have employed Facebook in recruiting men for research include an online mental health study (Choi et al, 2017), a mental health survey (Batterham, 2014), and a study on variation in HPV vaccine uptake among young men and women (Nelson et al, 2014). All the men who liked the research Facebook page were invited to the page. Those who accepted being added to the page were contacted by the researcher and asked if they were interested in participating. Sixty-nine potential participants were recruited from this channel, of which 2 participated.

Libraries were also seen as a suitable strategy because they serve as a point of contact for residents requiring information on their council and local services (Department for Digital, Culture, Media and Sport, 2017). The researcher went to three libraries in south London where she spoke individually to Black men about the study and gave them the research information sheets. The researcher then took the contact details of men who, after reading the research information, had expressed interest in participating in the study and later contacted them to arrange an interview appointment. Through this strategy, 5 men expressed interest in the study, out of which 2 participated. The number of those who were recruited through the researcher's and other participants' networks was 45, out of which 4 participated. Participants recruited through the churches, Facebook and the researcher's and other participants' networks who opted to participate in the survey were told they would be contacted later after the survey had been developed. Recruitment of participants, which initially took place in London, was later extended to the rest of the UK, in places such as Birmingham and Huddersfield. London was deemed the most suitable place to recruit Black men, since it has the highest Black population (7.0% African and 4.2% Caribbean) in England and Wales (Office for National Statistics, 2011).

E. Ethical Considerations

This research was conducted according to the ethical guidelines of the British Psychological Society (BPS). Ethical approval was obtained from the Faculty of Health and Applied Science Research Ethics Committee at the University of the West of England (UWE), Bristol (appendix 2). Participants were given full information about the study, and the interviews and surveys did not take place until they had given their consent by signing a consent form for the interviews (for the qualitative study) and paper surveys (for the quantitative study) or by ticking a box on the online survey to agree to proceed with the survey. They were also protected from harm in the course of the interview and could opt out of the interviews or surveys at any point, if they were no longer interested in taking part. There can be ethical issues surrounding the collection, storage, and use of data. Considering that some participants might not feel comfortable discussing sensitive and intimate matters, they were reassured that transcripts would be anonymised to remove any personally identifying information and assured of the confidentiality of everything discussed during the interview. Participant distress is another ethical issue that can arise from discussing sensitive issues such as PCS. Participants were told that, if they found the interview distressful, they could stop, have a break to help calm themselves down, and continue if they wanted to. They were also reminded that they could opt out of the study at any time. They were given the contact details of Prostate Cancer UK after the interview and survey, in order for them to access support if taking part in the research raised their concerns about PC. They were also advised to speak to their doctors if they had any worries. Recorded interviews were saved on a personal computer only accessible to the researcher. The survey participants were reassured that secure online survey software was used to ensure that their data was secure, while those who participated in the hardcopy survey were reassured that the completed surveys would be locked away safely and only be made accessible to the researcher. They were also provided with information on how to access PC support at the end of the surveys. Participants were reassured that transcripts and surveys would be destroyed after the researcher passes the viva and submits the final copy of the research.

Chapter Three: Qualitative study

Introduction

This chapter provides an account of the qualitative study which was conducted to explore, in-depth, Black men's views on PC information. It also presents the development of the semi-structured interview, the procedure, results, analysis, and discussion of the qualitative study.

A. Interviews

Individual semi-structured interviews, lasting approximately 30 minutes, were employed in the qualitative method of data collection. This type of data collection enables the researcher to take the respondent through pre-determined issues and topics, but not necessarily in a rigid manner (Crowther and Lancaster, 2009). It also gives the researcher the opportunity of getting the participant to talk about a particular aspect of their life, experience, and perspectives (Willig, 2008; Rubin and Rubin, 1995). Semi-structured interviews were deemed the appropriate form of data collection for the qualitative study, as they facilitated participants' discussion of their views and perspectives of PCS and PC information – the aim of the study. Interviews can be time-consuming to organise, conduct and transcribe. However, the advantage of collecting data using this method is that they yield rich and detailed data about individual experiences and perspectives (Braun and Clarke, 2013). This can be achieved through the interviewer's effective listening and interviewing skills, and the ability to establish rapport with participants (Green et al, 2007), which can encourage the participants to be comfortable in discussing their personal issues. In addition, individual interviews were deemed an ideal method of data collection involving sensitive issues, such as PC, taking into account that some participants may feel uncomfortable discussing such issues in focus groups (Ritchie and Lewis, 2003). Discussing sensitive topics, therefore, raises the issue of participant distress. Braun and Clark (2013) recommend that this can be managed by acknowledging it and giving the participant a moment to calm down before continuing with the interview.

B. Interview schedule

Interview questions included participants' demographic data (age and profession), whether they had received or accessed PC information before (which included newspaper, television, online, and radio PC adverts, PC information heard by word of mouth from family and friends, and PC information given to them by their doctor or healthcare professional), whether they had obtained PCS before, and whether they had been diagnosed with PC before. Others included their general knowledge of PC and the sources from which they would like to access PC information. Questions were also developed based on the five constructs of the PMT model (fear, perceived severity, perceived susceptibility, response effectiveness, and self-efficacy (Rogers, 1975). These questions included participants' perceived susceptibility or assessment of their likelihood or risk of getting PC, their perception of the seriousness or severity of PC and its likely consequences, their perception of how their attitudes/ behaviour might affect PCS, and their perception of what would make them feel confident to be screened for PC (see interview schedule in appendix 3). The initial interview questions were sent to potential participants to get feedback on whether they were deemed appropriate and comprehensive, before the interviews were conducted.

PC information (containing information about what the disease is, its signs and symptoms, the types of screening available, and the support available (see appendix 4) was also obtained and printed from PCUK, CRUK and the NHS websites, and used in the interviews. Those who did not participate in the face-to-face interviews were sent this information via email, which also included links and videos. PCUK is the first national organisation for PC in the UK and continuously invests in research and campaigns to raise public and political awareness of PC (PCUK, 2016). CRUK is the largest cancer research and awareness charity in the UK and aims to reduce the mortality rates of cancer through research on the prevention, diagnosis, and treatment of the disease (CRUK, 2016). The NHS is the largest national healthcare provider in the UK and lists PC among the four most common types of cancer in the UK (NHS, 2016). Since all these are national organisations from which PCS information can be obtained, it was deemed appropriate to use the information they provide. The questions were adapted from research questions used in previous studies involving PC and Black men to suit the main research question and the PMT. They were also reviewed by some of the interview participants and then revised by the researcher and discussed with the research supervisor.

C. Data collection

Participants were given recruitment letters with the research information sheet, alongside PC information from the following websites: NHS, PCUK, CRUK (see appendix 4). This information was given beforehand to avoid any unforeseeable issues with internet connection on the day of the telephone or Skype interviews and also to give participants time to consider them prior to the interviews. The details of potential participants from the church were given to the researcher, who later contacted them. After participants had opted to take part in the interviews and their eligibility was confirmed, they were given the options of having their interviews conducted over the phone, via Skype, or face-to-face. They were also allowed to choose a suitable time and venue for the face-to-face interviews (if that was their preferred interview option) or a suitable time for the telephone or skype interviews. A day before the scheduled interviews, participants were given a reminder call. If they attended the face-to-face interview, they signed a consent form (see appendix 5) and were reminded that the session would be audio-taped and transcribed for analysis. Those who participated in the telephone or Skype interviews gave oral consent, which was recorded and transcribed. All participants were also reassured that whatever they discussed in the session would remain confidential. After answering the interview questions, face-to-face interview participants were handed PC information, obtained from PCUK and CRUK and NHS, which contained information such as PC statistics, symptoms, and screening methods. This was intended to allow participants to tell whether the information from these sources met their needs. As this information had already been sent to all interview participants by email prior to the interviews, they had seen it before the interviews. After having a look at the PC information, they were asked for their views on the information (including the layout, font size, and terminology used and how they would like PC information to be).

D. Analysis

The data were analysed using both the top-down and bottom-up methods of thematic analysis. Data analysis in the top-down method is driven by the researcher's theoretical interest, where data are used to explore a theory (Braun and Clarke, 2006), whereas In the bottom-up method of thematic analysis, themes are identified based on what is in the interview data. The choice to use both approaches was in order to explore the PMT constructs that were present in the data, while ensuring that the analysis gave a description of the interview data without only concentrating on the PMT constructs. This then renders the analysis as a mixture of the inductive and deductive approaches, as it was not just shaped by the existing theory (Braun and Clarke, 2013), the PMT, but also by identifying themes using the data. Analysis can be performed using both the top-down and bottom-up methods (Braun and Clarke, 2006).

Thematic analysis is a method of identifying and analysing patterns in qualitative data (Boyatzis, 1998) and is used in research questions relating to people's views and perceptions. As it suits questions related to people's views and perceptions, it could therefore help to explore men's views on PCS and PC information. Thematic analysis was deemed appropriate for analysing the data of the qualitative study, as the study contains a pre-existing theory (the PMT), which made it possible to show whether or not the PMT applies to Black men's views on PCS and PC information. This would not have been possible in other methods of analysis such as grounded theory, in which a theory is derived from the data (Charmaz and Henwood, 2008). Also, unlike in grounded theory, thematic analysis is more flexible in terms of theoretical framework, making it possible to use any theoretical framework or epistemology, as thematic analysis can be conducted within both realist and constructionist paradigms (Braun and Clark, 2006). Another method of qualitative analysis, Interpretative Phenomenological Analysis (IPA), was not deemed to be an appropriate method for analysing the results of this study. IPA is an interpretation of the participant's major life experience (Smith, 1997), focuses on conscious experience, and aims at understanding a phenomenon from the perspective of the person who has been through that experience (Morgan, 2000). Since this study was not on participants' experience of PC, but rather their views, this method of analysis was not deemed appropriate either.

The analysis was performed following the six-step thematic analysis procedure recommended by Braun and Clark (2006). Firstly, the interview data were transcribed verbatim, and then the transcripts were read and re-read to ensure familiarity with the content. An initial list of ideas (initial codes) that were deemed to be of relevance to the research topic were also generated at this stage. Codes identify a feature of the data that appears interesting to the analyst and refer to "the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon" (Boyatzis, p. 63). The codes written at this stage were words and sentences identified from the transcripts as relevant to the research and were written on sheets of paper, which were later explored further in the second stage. Interviewing the participants, listening to the recordings, transcribing the data, and reading and re-reading the transcripts, enabled the researcher to become immersed in the data. This helped in providing dense descriptions from the narrative data gathered from the participants, to interpret and portray their views. Immersion was also obtained through the researcher-participant relationship, which was built through effective interviewing skills (Green et al, 2007) and the establishing of rapport with the participants. This was achieved by building trust with the participant, which eventually led to the participants sharing their views. The researcher's effective interviewing skills were enhanced by the ability to recognise and judge when and how to probe for further discussion, and knowing when to stop if probing further might cause distress in the participants, as recommended by Guillemin and Heggen (2009). Handling of participant distress has been discussed earlier in this chapter.

Secondly, the initial codes were then categorised, putting those with similar meanings together into general codes and giving them provisional names. Items were coded manually. As recommended by Braun and Clarke (2006), the codes were examined and those codes that seemed to be related or that captured a common theme or meaning were marked with the same colour pen. Those that seemed to have different meanings were also marked with different colour pens to make it easier to identify and group them together. After marking the codes with different colour pens, they were then grouped according to what colour they fell into.

Moving on from categorising the data into codes was the third stage, where the codes were then grouped into potential themes. The codes that were grouped into different colours according to the meaning they conveyed were further grouped into themes that accurately depicted the data, and each theme was given a provisional name. Tables were used to help in organising the codes and grouping them into themes (see appendix 6). The fourth stage involved comparing each theme with the interview data to see if they represented the data (and the theoretical constructs). Themes that could not be supported by the data were collapsed into other themes where possible; those that could not be collapsed into other themes or that were not supported by the data were discarded. After reviewing, collapsing some themes into other themes, and discarding those that were not supported by the data, five main themes emerged.

The fifth stage involved the definition of the themes, where the aspect of the data captured by each theme was identified and then given a succinct definition. In the final stage, extracts from the transcripts were selected to illustrate themes and demonstrate the themes' prevalence (an illustration of the whole analytical process can found in appendix 6). The TA approach also ensured that rigour was achieved in this study. Recommended strategies for achieving rigour, such as prolonged engagement with, and member-checking of, data (Morse, 2015), were used in the analysis process. In the process of being immersed in the data, the researcher also had a prolonged engagement with it. Themes were reviewed and discussed with the researcher's study supervisor, whose feedback helped to improve the study's credibility, one of the core components of qualitative rigour originally proposed by Lincoln and Guba (1985).

E. Findings

Thirteen Black men participated in the interviews, of whom twelve were married whilst one was single. Their ages ranged from 42 to 52 years. Among these thirteen men, two had previously obtained PCS. The table below (Table 2), represents the demographic data of the interview participants.

Participant (pseudonym)	**Age**	**Marital status**	**Job title**	**Receive/accessed PC info?**	**Screened for PC?**	**Diagnosed with PC?**
Elias	46	Married	Project manager	Yes	Yes	No
Edgar	47	Married	Research associate	No	No	No
Elvin	41	Married	Assistant hotel manager	Yes	No	No
Evans	50	Married	Self-employed	Yes	Yes	No
Ethan	42	Married	Research coordinator	No	No	No
Esau	52	Married	Rail engineer	Yes	No	No
Eli	42	Married	Medical assistant	No	No	No
Ewan	42	Single	PhD student	No	No	No
Etienne	52	Married	School cover supervisor	No	No	No
Ernest	41	Married	Director of business	No	No	No
Eden	42	Married	Senior auditor	Yes	No	No
Earl	43	Married	Transport regulator	Yes	No	No
Elijah	43	Married	Company manager	No	No	No

Table 2: Demographic details of participants

Table 3 (below) illustrates the themes developed from the interviews. From the data, five major themes relating to PCS and information were identified. These are: awareness of PC, perception of PC, predictors of PCS, publicity; and PC information needs.

Themes	**Sub-themes**
Awareness of PC	General Knowledge Source of knowledge Preferred source of knowledge
Perception of PC	Perceived risk Fear of cancer Physical and psychosexual impact
Predictors of Behaviour	Attitudes Understanding of the importance of screening Emotional factors Healthcare professional Support Intention
Publicity	Black media Opinion leaders Public places Information availability
PC information needs	Education Simplicity Demonstration

Table 3: A summary table of themes and sub-themes

Awareness of PC

This theme summarizes the participants' knowledge of PC from the information they have either accessed or received. These include their general knowledge of the disease, the source from which they acquired this knowledge of the disease, and their preferred source of PC information.

General Knowledge

Generally, all participants had some knowledge of the disease but felt that their knowledge was not enough to help them make informed decisions about whether or not to be screened. The participants' responses revealed that they all had a basic knowledge of PC, which includes its causes, symptoms, and age risks. Although most of them were aware of the availability of PC treatment, they felt that they lacked knowledge of the disease due to their non-exposure to PC information. They expressed the need for more detailed information about PC illustrating PCS procedure, the benefits of screening, and the effects of not obtaining screening. Because they lacked information on this aspect, they felt they still needed more information in order to help them in their decision-making. Some participants felt that PC information was not readily available, which is a contributory factor to their lack of knowledge of the disease.

> *Why I'm saying this is because prostate cancer is something that the information on it is very scanty and many people do not know about it [Ethan, 42].*

Some participants reported lacking in-depth PC information, such as its causes, the benefits of early screening, and the consequences of not screening. This, according to some of them, is the information they might require if they are considering screening.

> *So information like that would umm, get me, and I would want to umm, definitely get screened if I knew a bit, what, umm, why, what is causing it, the benefits of early screening and then a bit of a worst case scenario, if you didn't, what is likely to happen, you know, things like that, I will definitely, umm, will get me to go and get screened [Ewen, 42].*

Some participants appeared to have a better knowledge of PC than others (probably because they had been screened before) and so discussed what they knew of the disease with regard to screening. A participant who had received PC information and PCS explains the process of testing:

> *Screening is for them to pass their finger through your backside to see whether there is any growth there, followed by biopsy, and also followed by, depending on the result, either ultrasound or other additional tests. They can also check the prostate to see the level of PSA a man has. [Evans, 50].*

Source of knowledge

This sub-theme depicts sources from which participants got PC information. Although they mentioned that they had little knowledge of PC, participants indicated that they obtained PC information from different sources, such as word-of-mouth information from friends, leaflets and noticeboard at the GP surgery, PC notices in their place of work, internet searches, and on TV. Some heard of PC from their employers through health talks at work and free screening sessions. A participant who used screening provided by his employer explains how he heard about the disease:

> *I have benefited from a health talk that was organised by my employers on prostate cancer after which we had the opportunity of being screened for the disease [Elias, 46]*

Information about PC sent by email from cancer organisations appears to raise awareness of PC among some Black men. One participant had access to such PC information:

> *Umm, you know, currently I support Cancer Research UK and I get emails from them. I got an email on prostate cancer too but I can't remember when, but I read about it. [Earl, 43]*

Some participants also mentioned that they had heard/ seen PC being discussed on TV programmes, which created their awareness of the disease.

> *I have listened to a programme on TV where an expert spoke on this particular field… the condition prostate cancer [Ethan, 42].*

Preferred source of knowledge

When asked where they would like to receive PC information from (though there was no in-depth discussion of which sources they would ignore), participants explained that they would not pay much attention to information given to them on the streets, as they may not know the sources of such information and would therefore doubt the credibility of such sources. However, most of them stated that they attach so much importance to sources such as medical professionals or cancer organisations, because they feel that information coming from these sources has been supported by research and is professionally validated. A participant who had not received/ accessed PC information explains:

> *If I were to be getting stuff from … recognised bodies, maybe Cancer Research… then I might pay attention to that [Ewen, 42].*

Some participants mentioned that information is being offered to people from many different sources, some of which may not be trustworthy. Therefore, to be sure that the kind of information they receive about PC is legitimate, they would rather access it from their doctor, whom they trust.

> *Oh, umm, yeah, possibly I think if I were umm, if I were to be receiving information from say, my GP, umm, I know that it's not just junk, filtering through, if you know what I mean. Because these days there are a lot of umm, people just bombarding us with a lot of information and umm, like those who give leaflets on the streets. [Ewen, 42].*

Some expressed their preference for PC information from their GP or healthcare professional, as they feel it is their area of expertise. A participant who had not received/accessed PC information before explained:

> *And I would have wished to hear it from somebody with a medical background so in that case you should know that you are getting the information from the right source and from the right people…because the medical professional is somebody who is in the profession and knows of it [Eden, 42].*

Perception of PC

This theme captures the varying individual participant's perception of PC, which originates from their knowledge of the disease or stories they have heard from people who have been diagnosed with the disease. It also includes their perception of their risk of getting the disease, the frightening nature of PC, and the physical and psychosocial impact of living with PC.

Perceived risk

Most of the participants believe that as Black men in their 40s and 50s, they were at a high risk of getting PC and therefore would obtain screening, because it has been recommended for Black men in their age group.

> *When I'm a Black man, yes, I have a higher probability. The age. Now I'm 46 now. If you say okay, the age, the more affected age is from 40 onwards, then okay I'm among the people with high probability. (Edgar, 46].*

Some participants mentioned that PC information indicates a high risk of PC among Black men. However, they argued that regardless of one's race, any man can get it if they are within the high-risk age. Some also mentioned that the risk might be due to lifestyle factors such as diet.

> *I think that personally, this is my opinion…be you White, Black, whatever, you could get it. One could also inherit it. It could be genetic. It could also be as a result of one's lifestyle. So every male umm, 45 and beyond is a potential, but that will depend on these factors… [Elijah, 43].*

Fear of cancer

All participants believed that PC is a serious disease. Because of this belief, they fear it, which causes anxiety. To avoid this anxiety, they may not want to be screened for PC. They believe it is deadly and can be painful to live with and that it can also affect one's sex life. One participant explained that anything that will potentially affect a man's sexual performance will create anxiety for the man.

> *You know, prostate cancer and anything related to male sexual organ, oh, you know, people might be worried that if I'm diagnosed with PC I might not be able to function sexually. That might be one of the worries (laughs). Yeah so that will be one of the reasons [Edgar, 47].*

Another whose friend's father had been diagnosed with PC recounted how painful he thought it might have been for the man, as he struggled to pass urine and always appeared to be in severe pain.

> *What I gathered from my friend's old boy is that it's very painful at that stage, at the severe stage. Hardly can one pass urine. It means that the urine is collected in the bladder but it can't go out…That pain alone is scary. [Elijah, 43].*

Most participants believed that, as screening is the only way to detect PC in a man, this may mean that one may have it without knowing and may only find out in the later stages, which might be too late for it to be treated.

And also the fear is that you can be, you can have it without knowing about it, and it only comes out during routine screening. [Evans, 50].

Physical and psychosocial impact

They all established that PC comes with inconvenient consequences, which most men dread to experience. They felt that being diagnosed with the disease alone is distressing, as one has to first of all come to terms with the diagnosis. They believed this can affect one's marriage and can also have negative psychological impact on the person.

> *That it is real and that it can affect one's potential… both in normal life, in marriage, at work because it can give you some psychological effects, yeah, exactly, there's no sickness that comes without any psychological effects [Elijah, 43].*

Some discussed the difficulties of living with PC, as it affects one's day-to-day life, including one's work life.

> *You… you… maybe you attend a conference and then after every two… one hour, you get out to urinate or two hours you have to get out and urinate and things like that and sometimes it comes with pain, you know, they are conditions that someone would not like to get himself into [Ethan, 42].*

Predictors of PC screening

This themes captures the factors determining PC screening (facilitators and impediments) among Black men, which involve participants' perception of Black men's attitudes towards healthcare practices, their perception of the health benefits of screening, the psychological aspect of screening, the role of the healthcare professional, social support and their intention to screen.

Attitudes

All participants believed that screening is important, as it is the only way to find out whether or not one has PC and also to get effective treatment if they are diagnosed with the disease at an early stage. Participants who had not obtained screening all expressed an interest in getting screened because of the importance they attach to screening. They therefore saw themselves as having good attitudes towards health. However, most of them mentioned that they had not been screened, because they did not know much about the disease. Nevertheless, they were also mindful of the negative attitudes of some Black men towards health seeking, which they felt might prevent those men from being screened. Some mentioned that, until they are ill, most Black people do not regularly seek healthcare, and this attitude towards health might prevent them from screening.

> *Yes I understand that if I get screened and diagnosed with PC I can get early and effective treatment but normally Black people, I don't know if I can say Black people, we don't want to go and check our health unless we are sick [Edgar, 47].*

Though most participants believed that they were at risk of getting PC, one felt a sort of protection from his religion, which could make him downplay the seriousness of PC and therefore not think it is important to screen.

> *You know, because, I believe in the bible and given my knowledge of the bible, you know… my faith, I tend to believe that such things wouldn't come my way [Earl, 43].*

Understanding of the importance of screening

Participants explained that they would get screened because of the importance of general health screening. They therefore felt that if PC screening is available, it would be beneficial to add it, if possible, whenever they have routine health checks. One participant elaborated:

> *Yeah I will… I would wish to go because as I have told you already, I normally check my health every year... So cancer being one of the problems… health problem, I'll wish to check it because I want to check my health [Edgar, 47].*

Others also explained that they would like to be screened, as screening will help them know their status and then enable them find solutions if they are diagnosed with the disease.

> *Okay. I would want to go and get screened to know my status because that knowledge will empower me to adapt certain mechanisms as to how to get the remedy, if it is not too serious [Elijah, 43].*

Some men would like to be screened, as they see screening as a healthy practice – a positive behaviour that will enable them to have an early diagnosis if they have PC, and so be able to be treated for it.

> *So in terms of reasons why I should go is that I want to stay healthy. For example if I am suffering from a disease that can be controlled I want to have that notice early [Ernest, 41].*

Emotional factors

All participants recognised the importance of screening and expressed an intention to screen for PC, as they saw screening as the only way to find out whether or not they had the disease. However, some of them agreed that the possibility of getting a positive diagnosis might negatively affect their screening intentions. This then suggests that some of these men may avoid screening because of the anxiety of knowing that they might have the disease. One participant mentioned that he has not been screened due to lack of courage and the difficulty of getting an appointment due to waiting list constraints.

> *Yeah I don't have any reason that I shouldn't be screened but I haven't really got the courage to go because umm, sometimes when you read leaflets you think that it's easy as umm, as it's written but when you want to try it they start telling you the booking time, waiting list, all this makes people discouraged, so if it is something that is practically easy as it's written there, yeah I will like to go for it [Esau, 52].*

Some of them felt it might be better not to know by not being screened. One participant explained that the best way to avoid the emotional trauma of being given a positive diagnosis of PC is to avoid PCS, as he saw not knowing that he had PC as a better option than getting a positive diagnosis.

> *Umm it's difficult because I think there's this… sometimes, even generally, not just with cancer but generally, there's this notion that what you don't know won't kill you (laughs) [Ernest, 41].*

Some mentioned fear of the outcome of screening as a factor that might determine whether or not they are screened for PC.

> *Yeah, so umm, sometimes when you want to go and do something you'll be scared that oh, what's going to be the outcome? So because someone is prone to it, what's going to be the consequences? The person might be scared to know the result [Etienne, 52].*

Healthcare professionals

Although participants were aware of the importance of being screened, they mentioned that they needed to be prompted by their doctor or a healthcare professional in order to consider screening, as they felt that a prompt from a medical professional reinforces the importance of screening. They would heed to advice from a healthcare professional because of the trust they have in them and also because that is their area of competence.

> *So if there were to be a prompt, say, maybe, if I visited the GP and they said okay, go for a screen, in that case I wouldn't say no [Ewen, 42].*

A good relationship with healthcare professionals is also a determining factor for screening. Participants explained the importance of the patient-doctor relationship on screening as they felt this means that their doctors listen to and understand them. They therefore felt that if healthcare professionals listen to them, then they are more likely to take their advice by obtaining PCS if it is recommended to them.

> *If I have a good relationship with my healthcare professional then that will make me comfortable to go and get tested [Etienne, 52].*

Support

Most of the participants explained the importance of support in determining if they would get screened for PC. The types of support they mentioned included: financial – whether screening is free or affordable; psychological – guidance and counselling; and moral support – reassurance. Guidance and counselling prepare men for the outcome of their screening and help allay their fears of what the outcome may be. Advice on what to do when they are given the results of the diagnosis helps men to accept whatever the outcome may be and also helps them to adjust to the reality of possibly living with PC. It also reassures them that there is life beyond PC diagnosis.

> *Counselling first. You know when people are counselled and they know the right way, that after getting cancer, it's not the end of your life, umm, they begin to accept "I'll still be living" [Eli, Medical assistant].*

Considering that they all felt that the thought of screening could cause anxiety, they needed someone with experience of the screening procedure to give encouraging words to them, in order to eliminate that fear. Listening to the personal stories of those who have had screening are motivators for Black men to consider screening, as this can give them an idea of the procedure and also reassure them that, if another man has done it, they can also do it.

> *Maybe somebody who has been there to say look, it's not that bad…. It's not….yeah [Esau, 52].*

Intention

Some of the participants explained that, prior to their contact with the researcher and participating in the interviews, they had never thought about screening for PC. They explained that this lack of intention to screen was due to their lack of in-depth information about the disease and its low level of promotion.

> *It's not something I've ever thought about, that let me go and then have a cancer screening… I've never really, myself, thought about, can I go for or should I go for umm, a cancer screening to see if there's something, everything is alright even though my, there's a history of cancer in my family [Ewen, 42].*

However, they saw the interview as a sort of PC awareness promotion intervention as they acknowledged having been well-informed about the disease through the interview and having thereby developed an intention to be screened because of the interview.

> *Yeah because it's umm, it's like now I've been warned or I have been, a bit. This is a more… I know it's your research but indirectly it's telling me what's on board. Yeah so, something to make me, maybe look into it, maybe how to follow it up [Esau, 52].*

Although most of the participants believed PC was serious and frightening, all those who had not yet been screened agreed that, regardless of the frightening nature of PC information, they would like to be screened because they would like to know whether or not they had the disease.

I will just be interested to know my situation as far as prostate cancer is concerned. So me personally, I will go for it irrespective of what the situation is, whether it is cost, whether it is distance… [Ethan, 42].

Publicity

This theme depicts the best ways of promoting PC awareness to Black men. Participants believed that the best ways PC awareness could be promoted to Black people were through the Black media, opinion leaders, public places, and the availability of PC information.

Black media

Some of the participants mentioned that the Black media, such as Black TV and radio channels and Black newspapers, could be appropriate channels for promoting PC information in the Black community. They felt that Black people are more likely to use these services, as they identify with them and therefore could benefit from PC information provided through these channels. One suggested that PC information targeted at creating awareness amongst Black men could be advertised in Black newspapers, since these are more likely to be used by Black people.

> *We have some papers that are predominantly Black papers, like reading materials. So you can just advertise a small portion or a caption about what prostate cancer is, the type of people that… I mean, are at risk, you know, some small caption of it. But because the reading populations are Black, the idea is that most of those who read that paper will chance seeing it so that is one form of marketing tool [Eden, 42].*

PC discussions or adverts could also be made on Black radio stations.

> *The radio stations too are also available to make such publications as well as these umm, social media that we have, yes [Elijah, 43].*

Opinion leaders

Participants believed that opinion leaders could serve as appropriate channels through which PC information could be disseminated to Black men. They explained that opinion leaders such as church leaders, Black artists (singers), and councillors, among others, are respected and believed to have the interest of their people, and therefore the Black community is more likely to listen to these significant figures. Black celebrities are seen as people who could promote PC to the Black community. More Black people would listen to them, as they are more likely to have a strong following/ fan base among Black people.

> *Black celebrities can also talk about it, maybe on TV or radio, maybe that way people will learn more about it [Earl, 43]*

Participants explained that church leaders are respected by their congregation and are thought to have the interest of their people, and therefore their congregations are more likely to listen to and take advice from them.

> *So in our churches, if umm they speak with churches' leadership, they could always leave leaflets like that and I think a source like that, Black people will definitely, umm, listen to information coming from such a source because we… we do know that the church do look for our well-being [Ewen, 42].*

Public places

Participants suggested that in order to target Black men and promote PC awareness to them, PC health promoters need to do this through public places. They were certain that public places, such as pubs, betting shops, job centres, and community centres, are the appropriate places to attract Black men's attention to PC information. Some also believed that community leaders, such as councillors, could help promoters of PC awareness to disseminate the information among Black people in the community, either by getting healthcare workers to come and give talks about PC to the community or by working collaboratively with other local organisations in order to generate awareness of PC.

> *I don't know in London but if you come to Birmingham we have umm, unions that we have registered with … if the local authority can, you know, umm, make those umm, unions aware, select some people to go and speak to them and make them aware of this umm, prostate cancer [Elvin, 41].*

They also suggested going to places where Black people gather most, such as Black churches, parties for Black groups, or Black societal gatherings.

> *So I think the best way people could be informed about prostate cancer could be the Black gathering, either in the church or in the party, umm somebody can have courage to address them, look this is the importance of this, because approaching people one by one is not the way, is not easy [Esau, 52].*

Participants also saw places mostly visited by men, such as betting shops as suitable venues for promoting PC awareness to Black men.

Also some Black men go to betting shops, so it can be advertised there too. [Evans, 50]

Information availability

All participants believed that promotion of PC information in the Black community was low, as most of them had never been offered information or advice on the subject by their healthcare professional or by any other source. They therefore concluded that this low level of PC promotion among Black people might have contributed to the lack of depth knowledge of PC amongst Black men. They then suggested that the availability of PC information should be increased and then disseminated using all the methods and venues of promotion to target Black men, so as to increase their awareness of the disease.

> *The information needs to be intensified because it is not getting to people. I don't see it anywhere. I've seen it once in the Peckham area but I haven't seen it anywhere so it needs to be intensified. It needs to involve a lot of people… like I said, it needs to go beyond local councils [Earl, 52].*

Some of the participants also felt that, considering that research reveals that Black men have a higher risk to PC, there should have been an intensified promotion of PC to this population group. However, they recognised that PC information was not publicised enough to create awareness within the black community.

> *This is cancer that is predominantly among umm, Black men and up until now I've never heard much, I've never seen much information or heard much about the dangers of it and umm, why it is umm mostly umm, affecting Black men…, if there can be a bit more if… if there can be a bit more information available regarding it, it might help save lives, you know. (Ewen, 42).*

Some of the participants explained that they needed more information that encourages people to be screened and that tells people about the advantages of screening.

> *I think it's through information from any medical…. I just think it's information from schools, you know, encouraging people to do some screening, you know and telling them the advantages of going for the screening. I think it's information [Etienne, 52].*

PC Information needs

With regard to participants' views of the PC information that was shown to them during the interviews, they felt that, although the information was educative, it needed to be more simplified, to be summarised more, and to feature Black men or Black professionals more in order for Black men to use it.

Education

They all agreed that the information (which was shown to them during the interview or sent to the emails of those who had their interviews on Skype) carried the data they would like to see in health promotion materials related to PC, such as the causes, symptoms, and risk factors. They felt that it was instructive and reading that information enlightened them a bit more about PC. Although a few of them felt the information was not as compelling as they would have wanted it to be, most of them felt reading about the causes, symptoms, and risk factors increased their knowledge and awareness of the disease.

> *It was informative. It carried the needed information [Elias, 46].*

Some were also impressed with the layout of the information, such as the use of italics and the subtopics printed in bold. These features made it easier to spot all the main points in the information.

> *First of all, the information I saw is eye-catching and draws your attention to it. Another thing is the early signs or the symptoms are printed in italics, very bold. It makes you know that these are the symptoms; it draws your attention [Evans, 50].*

Simplicity

Some participants stated that, although they found the PC information useful, it was not so easy to understand, as it contained several medical terms which are not easily understood by the lay person. They also complained about the length of the information and suggested that it could have been shortened and summarised. They all stated that, in order to encourage them to access PC information, such information should be simplified, summarised, detailed, and easily accessible.

> *If it was a bit more simplified, 'cos there was a lot in terms of umm, umm, what is this and that and that, what is prostate cancer and yeah there was a lot of heavy information regarding that there [Ewan, 42].*

Some also felt that one has to spend a considerable amount of time to access online PC information, as some of this information is provided using links, which can sometimes be difficult to navigate through. These men mentioned that they wanted online PC information to be simple and straight-forward and not interspersed with many links.

> *It makes it very difficult for some people and sometimes it's inconvenient for you to be clicking umm, links and links and links and links to read further information that is provided on a single thing [Ethan, 42].*

Demonstration

Some of the participants mentioned that the PC information shown to them could attract more Black men if pictures or videos were used to tell a story. They also felt that if videos are used to demonstrate PC information or screening to convince them that Black men have higher risks of getting PC, then the people featured in these pictures or videos should be Black men.

> *You know like I was telling you, if you have like leaflets with people's stories, you know, maybe like Black people you know, people from, sort of ethnic personality… you might be tempted to go and do probably, a test [Earl, 52].*

Participants also wanted to get PC information from Black professionals, as they felt that Black men will be more willing to listen to someone they identify with.

> *And I also want to see more Blacks talking about it, testifying about it. And when I say testifying about it, the one talking should be a Black professional – okay, a Black professional who knows and has very good understanding in the field talking to me [Eden, 42].*

F. Black men's screening intentions and the Protection Motivation Theory

The study sought to use the PMT module to explain how Black men's views of PCS might be influenced by PC information and how this could influence their PCS intentions. The PMT has been discussed in an earlier chapter.

Results of the qualitative data show that response effectiveness had an influence on Black men's intentions to seek PC information or screen for PC. All participants felt that screening had beneficial consequences, as they all saw it as the only way of finding out whether or not one has the disease and to be able to be treated for it. They also saw screening as a tool to keep their health in check. Those who had not been screened yet saw screening as the only way to know their status and also as a way of knowing what next to do if they are diagnosed with the disease. The influence of response effectiveness on intentions/ behaviours has been supported by Thrasher et al (2016) who found an association between response effectiveness and smoking cessation.

The current study also demonstrates the effectiveness of self-efficacy at influencing participants' screening intentions. Participants mentioned that they felt confident to be screened if screening was facilitated by information explaining the disease and the screening process, counselling and encouragement, and if they had PC discussions with family, friends or their healthcare professionals. Self-efficacy has also been linked to PC screening intentions in a study to establish the psychological predictors of PCS behaviours among 200 Iranian men (Barati et al, 2016). Another construct of the PMT that was found to influence participants' intentions/behaviour to some extent was perceived susceptibility. Although most of them argued that they did not have a higher risk compared to men of other races, they all agreed that, at their age (40 years and over), they had a risk of getting PC and would therefore obtain screening, because they perceived themselves as being in the age group most affected by PC. Black men's age-related perceived susceptibility to PC was also reported by Rice et al (2017) in their study of 198 African-American men, which found that participants perceived themselves to be at the same, or lower risk, of developing PC compared to men of other races who were the same age. Steele et al (2000) also reported that Black men expressed a medium to low perceived susceptibility to PC.

Participants expressed fear of PC as it is a type of cancer and also because of the accompanying physical and psychological problems. It also showed that some may avoid screening because of the possibility of being diagnosed with the disease. However, all participants expressed their intentions to be screened regardless of this fear. Black men's fear of cancer was reported in a systematic review by Alexis and Worsley (2018) regarding the possibility of getting a positive diagnosis, anxiety about a perceived loss of sexual function, impotence, and incontinence.

Participants' perceptions of the severity of PC was also found to have influenced their behavioural intentions. They all saw the physical, social, and emotional effects of living with PC as inconvenient and therefore felt the impacts of PC were severe. Men's perception of the severity of PC was also reported by Odedina et al (2011) and Allen et al (2007).

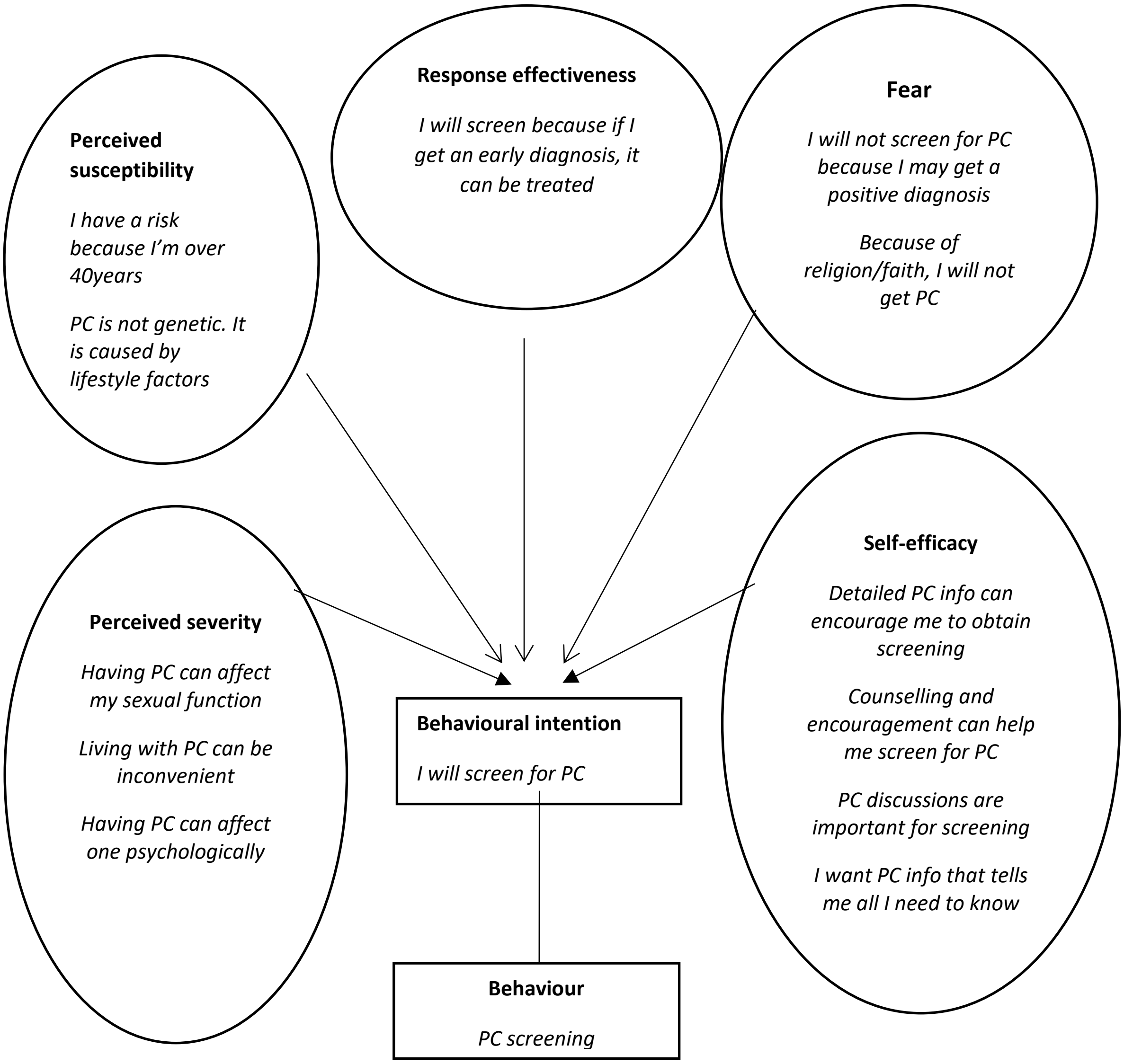

Diagram 2: Components of PMT (from interviews)

G. Discussion

This study used interview data to assess Black men's views of PCS and PC information and how that might influence screening amongst them. The interview questions were based on the PMT, which has already been explained in detail earlier in the first chapter. Data from the interviews reflected the participants' views of PC information they have either accessed or received. Their views of PC information reflect their awareness of PC, their perception of PC, their suggestion of the determinants of PCS, their recommendations for PC publicity, and their PC information needs. Most of the participants demonstrated a lack of knowledge of PC with regard to the types of PC test available, the screening procedure, the age at which screening should begin, treatment types, and the support available for those who have either been diagnosed with PC or those who are considering screening. However, they had a general knowledge of the disease with regard to what PC is and what the risk factors and the potential inconvenience of living with the disease are. This finding is similar to that of Blocker et al (2006), who also found that Black men had some knowledge of the disease but lacked thorough knowledge in subject areas such as the age at which men should start being screened and how frequently they should obtain screening. While all men in this study knew what the PC symptoms were, a similar study by Grogan et al (2015) using a sample of White-British men found that some men did not know the symptoms of PC. Their study established that, although most men in general had some knowledge about the prostate, some did not know anything about the symptoms of prostate problems and would not know what to look for.

This study also shows Black men's efforts to access PC information from credible sources, such as medical professionals or cancer organisations, as they believe that these sources have had a medical validation. Similar to this finding, in their study of preferences regarding a recommendation from the NHS and information provision in the context of colorectal cancer (CRC) screening, Waller et al (2012) found that participants wanted a recommendation from an authoritative source, and also found that an 'expert' view may be an important part of autonomous health decision-making regarding screening. This study's findings, however, contrast with earlier findings by Friedman et al (2009) in the USA which found that Black men preferred PC information from clergymen, female relatives, and African-American male cancer survivors. Ferrante, Shaw, and Scott (2011) also indicate that men are much more likely to obtain PC information from the media, friends, or family members. Although participants in this present study recommended the church/ church leaders as a PC promotion strategy, they did not see them as a source of PC information, but rather a channel through which PC information from credible sources could be promoted.

Results revealed that the likelihood of participants obtaining a PC test is influenced by factors such as Black men's attitudes towards health, in-depth PC information, the health benefits of screening, the psychological effects of screening, healthcare professionals, social support, and the individual's intention to be screened. It shows that men's negative attitudes towards health may negatively impact on their intentions to obtain PCS. Men's negative attitudes towards health were also reported by Teo, Ng, and White (2017) in their study that explored the factors affecting Malaysian men's decisions to obtain health screening. They found that, just like Black men, Malaysian men do not actively engage in health screening until they are ill. Similarly, other studies have also found that men in general are reluctant to seek healthcare. Smith et al (2006) suggest that this may be attributed to sociocultural factors (such as the social construction of masculinity and cultural stereotypes) and biological factors (such as the prevalence of genes that promote risk-taking), and a decrease in disease prevention amongst males. Wang et al (2013) attribute this to age and reproduction, as they found that men were less likely than women to seek healthcare between the ages of 16 and 60 years but that from 60 years onwards there was no difference in the health-seeking behaviours between them and women. A systematic review by Seidler et al (2016) also found that conformity to traditional masculine norms may inhibit help-seeking and reinforce maladaptive coping styles amongst men.

The study suggests the importance of encouragement from people who have been screened in the past and motivation from healthcare providers in screening among Black men. The interviews also revealed that Black men potentially need someone to talk to them one-to-one about PC, as most of the participants indicated that they learnt more about the disease through the interview and were therefore intending to be screened. Similarly, Ford et al (2006) reported that social support in the form of encouragement from church members, personal, face-face approaches, and the promotion of the awareness of PC by healthcare professionals to their patients encouraged screening among Black men. Also similar to the findings of this study, Patel et al (2010) reported that not having enough PC information and the psychological effects of getting a positive diagnosis are some of the obstacles that might prevent men from being screened. The psychological effects of possibly getting a diagnosis of

PC has also been identified as an obstacle in PC screening among White and Hispanic men by Ferrante et al (2011). This may be an indicator that men worry about PCS, regardless of race/ ethnicity. The positive influence of healthcare professionals on screening was also reported by Hoffman et al (2009), as a strong association was found between healthcare providers' recommendations and PSA testing. Although men in this study all expressed intentions to screen, they were aware that screening is a difficult task which needs thorough thinking to facilitate decision making with regard to whether or not they are prepared to endure the anxiety of possibly getting a positive diagnosis.

The findings from this study show the low level of promotion of PC awareness. Participants were of the view that there was low level of awareness of PC in the community. They held this view as a result of not seeing PC information in their communities, the consequence of which, they explained, is their limited knowledge in the subject area. They view PC as a disease which can have adverse physical and psychosocial impact on the individual and their family. Regardless of their knowledge of the importance of screening and their expression of their screening intentions, they are not keen to be screened until they are able to obtain PC information to increase awareness of the disease, which could facilitate informed decision making. Guidelines on screening decision-making stress the need for the healthcare providers to give the patient the information needed to aid in their decision-making (UK NSC, 2016). This can be facilitated by healthcare provider-patient communication, and this has been supported by research (Ng et al, 2013; Penderson et al, 2012, Allen et al, 2007; Blocker et al, 2006). Further research on factors influencing decision-making suggests the involvement of the spouse/ partner in discussions and interventions facilitating PCS (Miller et al, 2014).

An interesting finding from this study is the participants' perception of their risk of PC. They did not believe they had a higher risk compared to men of other races. However, they felt that, if they did, then it was probably due to their age (40 years and over) or due to lifestyle factors, and this could be the same for other men in that age group. This is similar to the findings of Blocker et al (2006) in their study to explore the knowledge and beliefs of African-American men and their spouses about PC behaviour changes to reduce PC and barriers to screening. In their study, participants were also of the view that the reason for the high risk of PC among African-American men was their diet and lack of physical activity.

The study participants saw the use of Black media, opinion leaders, public places, and the increased circulation of PC information in the Black community as effective ways of promoting PC to Black men. Friedman et al (2009) found word of mouth to be the most effective strategy for reaching Black men. Although their study found PC promotion through multimedia helpful, they did not see this channel to be sufficient or as effective as word of mouth communication. The findings also suggest that the trust placed on Black opinion leaders by Black men positively affects their health. Church leaders can therefore play an important role in promoting PC to Black men, as they believe their church leaders care not only about their spiritual wellbeing but also their physical wellbeing. This suggests the importance of the church's active participation in health promotion targeted at Black men. The role of the church/ church leaders in promoting health to Black men has been supported in the study by Blocker et al (2006) to explore the knowledge and beliefs of African-American men and their spouses about PC, behaviour change to reduce PC risk and encourage PCS, as well as barriers to making health-promoting lifestyles. They found that the church plays a critical role in the lives of most African-American men, as it is viewed as serving the best interest of the people. This is also supported by Drake et al (2010) in their study of 73 African-American men to increase knowledge and promote self-efficacy in decision-making. They reported that faith-based settings are practical and acceptable venues where health information can be promoted to African-American audiences, as they represent a trusted institution that addresses both spiritual and physical health. The endorsement of the pastor was seen to be important for receptiveness of the church community in health promotion activities, as church leaders serve as highly credible role models and persuaders in encouraging behaviours through sermons, organised activities, and personal example. Similarly, Bopp et al (2007) examined the perceived influences on physical activity participation, the link between spirituality and health behaviours, and the role of the church in promoting physical activity in African-Americans. Their study of 44 male members of African-American churches found that African-Americans view the need to take care of their bodies through healthy behaviours, as instructed by the Bible, as important. They also saw a link between faith and healthy behaviours, as they felt healthy behaviours contributed to an individual’s Christianity.

Allen et al (2007) also found in their study of PC and Black men that the development of partnerships between PC programme planners, community leaders, and community-based organisations, together with the establishment of a sustained presence in the community, were among the best strategies and settings for providing Black men access to PC information. In addition, they found that going to gatherings where Black men were likely to be found, such as churches, barbers’ shops, fraternal organisations, sporting events, civic and social groups, and prisons were good strategies for promoting PC to Black men. The present study found that speaking to men directly could be an effective way of promoting PC to Black men, as most of the participants felt informed by the interviews, as they mentioned it had increased their awareness. This is, therefore, an indication that it might be more effective to target Black men by going to them, rather than waiting for them to come to centres/ venues where PC information may be available.

Generally, all the participants in the qualitative study viewed the PC information as educative, as they felt it informed them about the causes and symptoms of PC. However, they felt that the information they saw during the interview was too wordy, too long, and somewhat complicated to read. Dulaney et al (2016) found that important PC information in cancer websites is generally presented within multiple layers of content, which makes it difficult to access. This suggests the need for PC information targeted at Black men to be simple, short, summarised, and precise. It also means that Black men may want improvements in how PC information is presented through this channel, as this determines whether or not they would read, see, or listen to such information. Although the PC information presented to them was not specifically for Black men, their responses could offer insight as to how they would like PC information to be presented to them. Black men’s need for simplified PC information was also identified in the study of Friedman et al (2009), who reported participants' need for simple and direct PC messages telling them to get tested. Likewise, Woods et al (2004) found that PC information must be readily understandable in order to have an impact on Black men. Scherer et al (2008) also found that US males needed basic descriptive information about PCS to enable them to make informed decisions about screening.

This study also points out the importance of using Black demonstrators, such as Black professionals, and images of Black men in PC promotion information targeted at Black men, as this makes the information more appealing to them. This finding is similar to that of Woods et al (2004) who reported that health messages featuring Black men and reflecting Afrocentric perspectives are more appealing and motivational to Black men. The preference for screening information from healthcare professionals from one's own race was also reported by Teo et al (2017), who found that Malay men preferred doctors of the same ethnicity because they shared the same language and culture. This underlines the fact that, when it comes to PC information or screening, people feel more comfortable when they are spoken to, or when it is performed by, a healthcare professional with whom they share a culture, or with whom they can identify. This demonstrates that Black men prefer PC information from the Black community - made by Black people, specifically for Black people.

Using both the bottom-up and top-down approaches in analysing the interview data meant that the researcher was able to demonstrate which constructs of the PMT were present in the data and at the same time reveal some novel themes. In addition to the five constructs of the PMT, it was necessary to include PC information needs and publicity as components to the theory (in this study) as men's behavioural intentions may be influenced by their PC information needs and the publicity of PC information within their communities. PC information needs, such as culturally sensitive information, has been found to facilitate decision making in Black and minority ethnic (BME) men (Cremin (2015). Also, PC information that explains what the disease is, has been found to increase Black men's understanding of the disease and also prepare them for diagnosis (Bungay and Cappello, 2009). Publicising PC information in BME communities has been suggested as an effective way of increasing Black men's knowledge and awareness of the disease and helping them to make informed decisions (Wray et al, 2009). A knowledge of the information needs of Black men and their thoughts on how best to publicise PC information in the Black communities can be beneficial to healthcare professionals. These novel themes may therefore be used to suggest the possibility of an extension of the PMT (in relation to this study) and can guide health promoters and health psychologists in developing PCS awareness information and interventions specifically for Black men.

H. Conclusion

This qualitative study examined Black men's views of PCS and PC information and PCS. However, considering its small sample size, results cannot be generalised to a larger population of Black men. A quantitative survey, informed by this qualitative study, was therefore used to gather data from a larger sample to ascertain whether or not other Black men would agree with the findings from this study. The next chapter presents this quantitative survey.

Chapter 4: Quantitative study

Black men’s views on prostate cancer screening and information

Introduction

This chapter presents the quantitative study from the mixed-method design, which used a survey developed from the data of the earlier qualitative study. The chapter consists of the survey development, procedure, and analysis of data, results and discussion. This study builds on the qualitative study in chapter three in an attempt to ascertain whether a larger population of Black men agreed with statements made by participants in the qualitative study.

A. Survey aims

Based on the findings from the interviews in the qualitative study, a survey was developed to expand on the findings of that study. The aim of the survey was to find out whether the results of the interviews were supported by a larger participant group. It specifically aimed to compare responses from the interviews to responses on the survey questionnaire which answer questions based on the five themes of the qualitative data: awareness of PC, predictors of PCS, Black men’s perception of PCS and PC information, publicity, and Black men’s PC information needs.

B. Method (Survey development)

The extracts used to support the themes from the interviews were developed into a questionnaire and these then made up the questions for the survey (see questionnaire development in appendix 7). The questions covered all the themes (awareness of PC, perception of PC, predictors of PC screening, publicity, and PC information needs) and the PMT constructs (perceived severity, perceived susceptibility, response effectiveness, fear, and self-efficacy) found in the interview data. The survey questions (see appendix 8) were then entered into Qualtrics survey software and scored on a five-point Likert scale (strongly agree, agree, not sure, disagree, and strongly disagree).

The qualitative study, which took priority, informed the quantitative study. Using previous research survey questions on PC and the PMT model may therefore not be suitable for this quantitative study since this is part of an explorative sequential mixed-methods study. It was therefore deemed appropriate to use a new survey questionnaire as some of the themes from the interviews (such as PC information needs and publicity of PC awareness) were not found in existing standardised questionnaires used in research on PC and the PMT. The new survey was therefore developed using the qualitative data to find out whether or not the survey participants agreed with the interview participants. Also, although pre-existing standardised questionnaires are extensive, some are not exhaustive and therefore users of such questionnaires may not find what they are seeking in them (Hyman et al, 2006). Standardised questionnaires on the PMT or PCS could not properly fit the research question. Considering the design of the study, it was therefore necessary to develop questionnaires using data from the qualitative study.

Eligibility criteria for the survey were the same as in the qualitative study. The recruitment approach employed in this study was the snowballing approach, where the sample was built up through the network of the researcher and other participants. This included recruiting from African and Caribbean churches in London, social media (Facebook), and libraries. Participants recruited for this study were Black men from 40 years and above, with no upper age limit. The age range is in line with the recommendations for screening and discussing PC among healthcare professionals and their patients. Participants included Black men who had received/obtained PC information, or who had never received/obtained PC information. They also included those who had obtained PCS and those who had not obtained PCS. The following groups were excluded from this study: women, men of other races, men below 40 years old, men who had been diagnosed with PC and men who could not communicate in the English language. Including men who could not communicate in the English language would have meant that the researcher would have required a translator, which could result in the possibility of meaning being lost in the translation process (van Nes et al, 2010). Black men who had obtained PCS were included in this study as the aim of the study was to establish their views on

PCS and information, but not their experience of disease PC. Those men who had been diagnosed with PC would have accessed further information to learn more about the disease, which may have increased their knowledge of the disease. These men were therefore excluded from the study.

The church was considered a suitable channel for recruiting Black men as it has been, historically, known to create change within the Black community (Tinson, 2013). Recruitment from the church was carried out through a representative each from two churches in London, of which one was mostly Caribbean and the other was mostly African. The representatives were each given the research information sheets and an explanation of the participant group from which the researcher aimed to recruit. These information sheets were then distributed among men in the two churches, who were also given an explanation on the scope of the research. Those men who were interested in the study later contacted and gave their contact details to their church representative. These details were then passed on to the researcher, who later contacted potential participants to find out which channel they wanted to receive the survey from: a link via WhatsApp, a link via email, Facebook Messenger (social), and a hard copy (paper) survey. Those who chose to complete the paper surveys were later contacted by their church representative again, who first gave them the consent form (appendix 9). After this was read and signed, they were then given the surveys, which were completed and returned to church representative, who in turn handed them over to the researcher. Those who chose to complete the online surveys were sent a link to the survey on Qualtrics, through their chosen digital channel. Participants clicked on the link, read the research information and then ticked a box to indicate their consent before completing the survey. Because they ticked a box to indicate their consent, they were not required to sign the paper consent form. Out of a total of 29 potential participants who were recruited through this strategy, 23 participants completed the surveys.

Social media has been shown to reach more people than the researcher’s contacts as it is able to influence a more diverse, distinctive audience (Saines, 2017). A page was created for the study on Facebook, which contained information about the research, including the inclusion/exclusion criteria.

Potential participants were then invited to join the page. All the men who liked the study's Facebook page were invited to the page. Those who accepted the invitation were contacted by the researcher and asked if they were interested in participating. A total of 69 Black men were recruited through this channel, of which 67 participated.

Libraries support every community as they offer a place for self-improvement; supply resources for life and learning; and provide information for residents wishing to apply for jobs, or seeking social security information (Department for Digital, Culture, Media and Sport, 2016). The researcher spoke to Black men individually in three libraries in South London about the research and gave them the information sheets, consent form and survey (hard copy). Potential participants were given some time to read the information and sign the consent form if they wanted to proceed with completing the survey. The researcher then waited in the library and collected the surveys after they were completed. A total of 87 surveys were given to men in the libraries, of which 85 were completed.

Participants were also recruited through other participants who had already taken part in the study. Their contact details were given to the researcher who later contacted them. The same procedure was employed to explain the research to them and to ask them whether they wanted to complete an online survey or hard copy survey, and which digital channel they wanted to receive the survey from. These were a total of 45 potential participants, of which 41 completed the survey. Participant recruitment initially took place in London as it is has the highest Black population (7% African and 4.2% Caribbean) in England and Wales (Office for National Statistics, 2011). However, this was later extended to other parts of the UK (such as Birmingham and Huddersfield).

Initially, 223 surveys were completed online, and nine paper copies were completed. The hard copy surveys were entered on Qualtrics. The data was then transferred to SPSS and examined to identify missing and incomplete surveys. Sixty-nine surveys were found to be incomplete - some of them had not completed the demographic questions, while others had not completed some or all of the main research questions. They were therefore removed from Qualtrics, leaving 154 complete surveys.

Respondents who had missed out one question were not removed. Removing incomplete surveys required further recruitment of participants, which followed the same strategy as the earlier recruitment. It was noted that most of the incomplete surveys were accessed via WhatsApp. Therefore, to prevent this from happening again, surveys were distributed to participants' emails.

A. Analysis

In handling the missing data, it was observed that data was missing completely at random: there was no pattern in the missing data on any variables (Rubin, 1976). For this type of missing data, Rubin (1976) recommends listwise deletion (where all data from any participant with missing values are deleted) or recovering of values (where participants whose responses have missing values can be contacted and asked to fill out the missing values). Listwise deletion was used to delete all the data from the WhatsApp surveys which had missing values (if all the main questions of the survey were unanswered), as the participants could not be traced, while missing values in email surveys were recovered from the participants, as they could be traced. They were contacted by phone and asked the questions which they had not answered, and their responses were recorded on Qualtrics. This brought the completed surveys to 200. Three further surveys were removed because those participants had had a PC diagnosis. The 197 surveys were then transferred to SPSS software to be analysed. Data were analysed on SPSS using Descriptive Statistics. In presenting the results, the responses for "agree" and "strongly agree" were added together to show how many participants had agreed with the statements in the survey, while responses for "disagree" and "strongly disagree" were added together to show how many participants had disagreed with statements in the survey. The majority of respondents agreed with statements made by participants in the interviews (see survey analysis in appendix 10).

B. Participants

The ages of participants were categorised into three different groups (40–50 years, 51–60 years, and 60 years and above). The rationale was to match the categories with the different age groups used for

PCS recommendations (which have been discussed earlier in chapter one). One hundred and fifty-nine (80.7%) of the respondents were in the 40–50 years age range; 14.7% (n=29) were between 51 and 60 years; while 4.6% (n=9) were 60 years and above. The majority (n=93; 47.2%) had a Master's degree, while 20 (10. 2%) were educated to high-school level. Most respondents were married (n=155; 78.7%) or were employed (n=139; 70.6%), while 5 (2.5%) were unemployed. While 122 (61.9 %) reported having received PC information in the past, 70 (35.5%) had not. Just under a third (n=54; 27.4%) had obtained screening, while 137 (70.1%) had not. Out of the 54 (27.4%) participants who had received PCS, the majority (n=39; 72.2%) were in the 40–50 age group, followed by 9 (16.7%) who were between 51 and 60 years old, while the fewest (n=6; 11.1%) were aged 60 years and above. Of those who reported having received PC information before (n=54), 46 (85.2%) had obtained screening, while 8 (14.8%) had not been screened. Among those who had received PC information (122), the majority 97 (79.5%) were between 40 and 50 years old, followed by 19 (15.6%) who were between 51 and 60 years old, while 6 (4.9%) were 60 years and above. The table below (Table 4) illustrates the demographic details of participants.

Demographic variable	**Participant response**		
		Frequency	**Percentage**
How old are you?	>60	9	4.6
	51-60	29	14.7
	40-50	159	80.7
	Total	197	100
What is the highest level of education you have completed?	High school	20	10.2
	College	1	.5
	Bachelor's	57	28.9
	Masters	94	47.0
	Doctorate	10	5.1
	Other, please specify	11	5.6
	No response	5	2.5
	Total	197	100
What is your marital status?	Married	155	78.7
	Single	16	8.1
	Divorced	9	4.6
	Separated	8	4.1
	Civil partnership	1	.5
	Widowed	1	.5
	Other, please state	1	.5
	No response	6	3.0
	Total	197	100

What is your employment status?	Employed	139	70.6
	Self-employed	38	19.3
	Unemployed	5	2.5
	Student	3	1.5
	Retired	5	2.5
	Other, please specify	1	.5
	No response	6	3.0
	Total	197	100
Have you received prostate cancer information from any source before?	Yes	122	61.9
	No	70	35.3
	No response	5	2.5
	Total	197	100
Have you had prostate cancer screening before?	Yes	54	27.4
	No	138	70.1
	No response	5	2.5
	Total	197	100
Have you been diagnosed with prostate cancer before?	No	192	97.5
	No response	5	2.5
	Total	197	100

Table 4 Demographic data of men who completed the online survey

F. Findings

Awareness of PC

Questions on awareness of PC were: whether they knew PCS could be carried out using the prostate to detect the level of a man's PSA; whether having PC could affect their sexual function; whether they thought many people did not know about PC; and whether they thought detailed PC information could encourage them to obtain screening. Other questions on this theme were: whether they thought PC notices in healthcare centres would attract Black men's attention; whether they had heard about PC on TV; whether their knowledge of PC could be increased if their employers organised talks on PC at their workplace; whether they would pay more attention to PC information from reputable sources; and whether they would not pay attention to PC information distributed on the streets.

Over half (60.9%) agreed that PSA is carried out using the prostate to detect a man's PSA levels, while 87.8% agreed that many people did not know about PC. Almost all of them (92.4 %) indicated that detailed PC information could encourage them to obtain screening. Most of the respondents (85.3%) also felt that PC notices in healthcare centres would attract Black men's attention to the disease. Also, many of the participants (82.7 %) indicated that they had heard about PC either on the radio or TV, while 91.9% of them agreed that their knowledge of PC could be increased if their employers organised talks on the disease. The only statement not supported by respondents was whether they would pay attention to PC information handed to them on the streets, which most of them (51.8%) disagreed with.

Perception of PC

Questions on their perceptions on PC were: whether living with PC could be inconvenient; whether having PC could affect their sexual function (this has been merged with a similar question in their knowledge of PC); whether having PC could affect one psychologically; whether they believed they had a risk of getting PC because they were over 40 years old; and whether they thought that PC was caused only by lifestyle factors, and not by genetic factors.

One hundred and twenty-two respondents (61%) perceived themselves as being at risk of developing PC because of their age. Most (74.1%) agreed that PC can affect one's sexual function, and 87.9% agreed that living with the disease can be inconvenient. The only statement which they were unsure about was their perception of lifestyle as a sole cause of PC, with about half (50.3%) indicating that they were not sure about this, while only 36% agreed with this statement. In addition, most of them (90.9%) agreed that having PC could have a psychological impact on them.

Predictors of screening

Questions on predictors of PCS were: whether participants thought Black people did not seek healthcare unless they were ill and were therefore more unlikely to be screened; whether they felt they would not get PC because of their faith/ religion; whether they would obtain PCS because an early diagnosis can be treated; whether they may not screen because of the fear of being diagnosed with the disease; whether screening may depend on their doctor's advice; whether counselling and encouragement could help them to be screened; whether intention was a determinant of being screened; and whether discussions about PC are important for screening.

Most (89.3%) agreed that they would be screened for PC because of the knowledge that the disease can be treated if they get an early diagnosis. About 81.8% agreed that Black men's attitudes towards health adversely affected their intentions or readiness to be screened for PC. Many participants (88.8%) also agreed that counselling could encourage them to go for PC screening, and an equivalent proportion (89.4%) agreed that discussions among family and friends could encourage them to screen for the disease. About half (50.8 %) agreed that they had not been screened for PC because they did not have the intention to be screened.

Notably, some of the survey results did not support the qualitative study findings. Specifically, survey participants disagreed with three statements that were based on the interview findings. The majority (84.8%) disagreed with the statement that they would not get PC because of their religion/faith. Moreover, 77.2% disagreed that the fear of a possible diagnosis would prevent them from being screened, and 53.3% disagreed that their readiness to screen for PC depended on their healthcare professional.

Publicity

Questions on publicity were: whether awareness of PC could be created through Black media; whether Black celebrities were a good channel for promoting awareness of PC; whether Black churches/church leaders were a good channel for promoting PC awareness. Other questions from this theme were: whether local authorities could promote PC to its residents; whether occasions mostly attended by Black people could be used to promote PC awareness; whether betting shops could be used to promote PC awareness; whether the community could promote PC awareness; and whether PC information is lacking in the community.

Half (50.2%) of the respondents agreed that PC information was rarely available in the Black community, while 37.1% indicated that they were not sure. When asked about ways in which PC awareness could be promoted to Black people, the majority of respondents (86.3%) agreed that this could be done through media specifically for Black people. Eighty percent agreed that Black celebrities could promote awareness of the disease, while 85.8% suggested Black churches/ church leaders. Most (95.4%) suggested local authorities had a role to play, while 67.5% proposed using events mostly attended by Black people. About forty five percent (41.1%) recommended using betting shops whilst forty percent indicated that were not sure about this.

PC information needs

The final theme from which questions were asked was what participants thought about PCS information which was shown to them and what they believed to be the PC information needs of Black men. Questions asked here were: whether they wanted PC information that tells them what they needed to know about the disease; whether they preferred reading simple and short PC information; whether they wanted PC information to be summarized; whether they wanted PC information from Black professionals; and whether they wanted PC information that include pictures of Black men on them.

Almost all of the respondents (93.4%) agreed with the statement that they would want PC information that tells them all they needed to know about the disease. Most (90.4%) would prefer to read simple and short PC information, which summarises information as much as possible. While the interview participants were keen for PC information to be provided by a Black health professional, 42% did not agree with this: only 30% of the survey respondents agreed with this statement, and 28.4% were not sure. Almost half (47.2%) indicated that they wanted PC information with pictures of Black men. While 26.9% disagreed with this, 25.9% were not sure.

G. Discussion

This survey was developed using the results of the qualitative study and was aimed at establishing whether the findings of the first study could be supported by a larger sample of Black men. Results show that respondents in this study agreed with most of the statements made by participants in the interviews. The survey results agreed with statements relating to their awareness of PC. This is in contrast with the findings of Nakandi et al (2013) who found a low level of knowledge of PC among

Ugandan men. These findings are also different from that of the cross-sectional study of Ogunsanya et al (2017), which assessed the knowledge of PC and screening and its associated factors in young Black men aged 18 to 40 years. This found a low level of knowledge among the participant group with regard to risk factors and guidelines on screening age. There is also a disparity between this finding and that of Chan et al (2011) who found that Hispanic men had low levels of knowledge of PC, but it is similar to the study by Magnus (2004) which reported an adequate level of knowledge of PC among Black African, African-American and African-Caribbean men.

With regard to participants' perception of PC, the findings show that participants perceived themselves as being at risk of getting PC because of their age, as most of them agreed they could get the disease because they were at least 40 years old. Age has been proven to be a risk factor for PC and a determinant of PCS by several other studies (see Brawley, 2012; Leitzmann and Rohrmann, 2012). However, Nakandi et al (2013) found most Ugandan men could not identify the age at which men are mostly affected by PC. This survey's findings also show that men thought that PC could affect their sexual function. Sexual dysfunction in men diagnosed with PC was also reported by Donovan et al (2017) and Lane et al (2016) in their studies of men receiving treatment for PC. The survey also agreed with the interviews with regard to the inconvenience associated with living with the disease. This is similar with the study of Lane et al (2016), who reported that men undergoing treatment for PC had incontinence problems, sexual dysfunction, and urinary tract symptoms. Participants believed that PC had a psychological impact on those diagnosed with it, which has also been supported by Bancroft et al (2015) in a mixed-method study of 121 men to explore the psychological impact of risk perception on men with a family history of PC undergoing PCS and genetic-risk profiling. It found that men with a family history of PC experienced acute anxiety when waiting for results after undergoing genetic-risk profiling.

The results show that survey participants knew the importance of screening, which may impact on their behavioural intentions, as they were aware that the disease can be treated if an early diagnosis is made. Similarly, Ng et al (2013) in their study on the factors influencing PC healthcare practices in Barbados, found that one of the predictors of screening among Barbadian men was the knowledge that earlier checks might have better outcomes. This finding was also reported by Woods et al (2006), who, in their study on the social ecological predictors of PC, reported that men's understanding of the need to screen (when explained by their doctor) facilitated screening.

This survey also shows that Black men's attitudes towards health adversely affect their screening intentions to screen for PC. This finding has been supported by Ng et al (2013) who also reported that African-Barbadian men perceived regular visits to the doctor to be unnecessary unless they were ill. They further elaborated that physicians indicated that, in general, African-Barbadian men took little responsibility for their own health and were not interested in finding out about their health status.

The findings of the current study suggest that counselling and encouragement could also increase PC screening in Black men. Similarly, Liberatore et al (2003) found that encouragement from healthcare providers and family members could positively influence men to obtain PCS; and concluded that a well-designed decision-counselling protocol, administered by a trained facilitator could be successfully implemented in a primary care patient population. This survey also demonstrates that discussions among family and friends could encourage screening, as well as participants' intention to screen. Similarly, a systematic review (Walsh-Chambers et al, 2017) of effective channels, sources, and content approaches for communicating PC prevention information to Black men found that discussing PC with family members, such as spouses, predicted screening among those men.

Men in the current study felt that PC information could be promoted to Black men through Black media, Black celebrities, churches/ church leaders, local authorities, occasions mostly attended by Black people, and betting shops. Walsh-Childers et al (2018) found that Black men wanted PC information presented in a religious context by trusted sources, such as the clergy, and also through community leaders. They also identified Black celebrities as effective spokespersons for Black men and reported that TV and radio stations that target Black audiences could be effective PC communication channels for Black men.

The study showed that the respondents want PC information that tells them all they need to know about the disease. A similar finding was reported by Walsh-Childers (2018) in a review which indicated that Black men wanted comprehensive information, such as the causes and symptoms of prostate cancer, how screening is done, and what treatment options are available. Respondents also indicated that they prefer PC information that is simple, short, and summarised as much as possible. Black men’s need for simplified PC information was also identified by Friedman et al (2009). Likewise, Woods et al (2004) found that PC information must be readily understandable in order to have an impact on Black men. Similarly, Scherer et al (2008) reported that US males needed basic descriptive information to enable them to make informed decisions about PCS.

The findings of this survey indicate that survey participants mostly agreed with statements made by those in the interviews. The next chapter presents the final chapter of this research, which is an overall discussion of the whole research.

Chapter 5: Final discussion and researcher’s reflection

Introduction

This chapter gives an overall discussion of the two studies. It discusses the extent to which the qualitative data converged with the quantitative data, the strengths and limitations of the research as a whole, and implications for future research and promotion of PC information. It also outlines the researcher’s reflections on the whole research process.

A. Final Discussion

The qualitative study aimed to establish what views Black men have about PCS and information, while the quantitative study explored whether the qualitative study findings could be supported by a larger population sample. The results from the interviews were mostly supported by the survey findings. However, a striking difference between the interview and survey results was participants’ preferences for PC information sources. Interviewees valued PC information from reputable sources, such as healthcare professionals, and would not pay attention to information handed to them in the street, as they mentioned that they may not know the sources of such information and therefore felt these may not be trusted sources. However, the quantitative study respondents did not see PC information from the street as irrelevant. With regard to the theme perception of PC, most of the survey responses supported the qualitative results. However, almost half of them were not sure if PC is caused solely by lifestyle factors. Also, although respondents in the survey mostly agreed with interviewees, they had different views with regard to three statements - the belief that religion/ faith reduces the chances of getting PC, that fear of a possible diagnosis may prevent some men from screening, and that healthcare professionals can influence respondents’ screening intentions. While the interviews showed that one’s faith/religion may influence them to believe that they are not prone to PC, most (84.8%) of the survey respondents disagreed with this. Though participants in the qualitative study mentioned that they wanted to find out whether or not they had PC, they were also mindful of the fact that the mere thought of getting a positive diagnosis may prevent them from getting screened.

However, the survey respondents mostly (77.2%) disagreed with this statement. In addition, the qualitative study found that healthcare professionals can influence one's screening intentions. However, over half (53.3%) of the survey respondents disagreed with this statement.

The survey results support the interview results with regard to how PC awareness can best be promoted. With regard to PC information needs, the survey findings supported the interview findings except for one of them, with majority of them disagreeing with the need to access PC information from a Black professional.

While there were similarities in the qualitative and quantitative data, there was also some divergence. Divergence in the results of mixed-methods studies have been reported in other studies (Wagner et al, 2012; Tonkin-Crine et al, 2016). In the current studies, factors that might have influenced this divergence in results may arise from participants' views and discussions on sensitive topics such as PCS. Verbal and non-verbal communication took place between the researcher and participants in the qualitative interviews, which was absent in the quantitative surveys, and this could have determined the discrepancy of results in the two studies. The findings of these studies should not be misconstrued as conflicting because of this divergence. However, they could offer potential for further future research on PCS using mixed methods. Future research in this area could consider employing equal numbers of participants from the various age groups (by including more Black men from 60 years and above, as most of the PC diagnoses are often from men in this age group) and also by exploring other variables such as spouses' influence on their partners' perception of the disease. Also, future studies could explore which variables might increase Black men's perception of their risk of the disease (such as motivation), as motivation could facilitate men's active PC information seeking behaviours.

Another way of looking at this divergence of findings is by exploring the methodology or methodological rigour of each data set, as advocated by Barbour (1999) and Moffatt et al (2006). Rigour in the this research was achieved through the use of different recruitment strategies (which ensured that all potentially eligible participants were invited to participate in the research); by obtaining ethics approval and participants' consent; by using the step-by-step process of thematic analysis; through the systematic process of descriptive statistics (with SPSS), and the interpretation of results. Since the qualitative study informed the quantitative study, it might have been speculated that results in both studies would be the same. Although results in the quantitative study show that most participants agreed with findings from the qualitative study, a few of the statements were not supported, and this could possibly be explained by the sample sizes of each of the studies and the time within which each study was conducted. As already discussed in chapter two, these two studies form an exploratory sequential mixed-methods study, where the qualitative study was conducted first, which then informed the quantitative study. This was one of the main reasons for using a mixed methodology - in order that each of the methods could compensate for the limitations of the other. In addition, the qualitative data was collected in 2016, a year earlier than the quantitative data. However, some of the participants in the quantitative study had been informed about the study in the earlier stages but opted to participate in the survey instead. They therefore had the chance of accessing more information on the topic prior to commencing the survey. These differing time periods might therefore provide an explanation for this divergence.

B. The PMT and survey findings

Most participants agreed with questions on the PMT's construct of perceived severity. Statements in the questions reflecting this construct were: living with PC can be inconvenient; having PC can affect my sexual function; and having PC can affect one psychologically. Most (n=176; 88%) agreed with the statement about the inconvenience of living with PC. Participants mostly (n=149; 74%) agreed that having PC could affect their sexual function, while 182 (91%) believed that having the disease could have a psychological impact on them.

Questions on the construct of self-efficacy included the following statements: detailed PC information can encourage me to obtain PCS; counselling and encouragement can help me to get screened for PC; and PC discussions are important for screening. Most (n=185; 92.5%) of respondents agreed that detailed PC information could encourage them to be screened. Also, the majority (n=178; 89%) agreed that counselling and encouragement could increase screening, while 179 (89.5%) agreed that discussing PC could encourage men to be screened.

Question statements on the construct of fear were: because of my faith/religion, I will not get PC; I may not get screened for PC because of the fear of being diagnosed with the disease. Only 22 (11%) agreed with, while 170 (85%) disagreed with the statement that they would not get PC because of their religion/ faith. Only 23 (11.5%) agreed that they may not screen for PC because of the fear that they may be diagnosed with the disease, while 154 (77%) disagreed.

Statements on response effectiveness were: I will obtain PCS because, if I get an early diagnosis, I can be treated; and I want PC information that tells me all I need to know about the disease. They mostly (179, 89.5%) agreed with the importance of having an early diagnosis, while 187 (93.5%) believed it was important to get PC information that tells them all they needed to know about the disease. PCS information is therefore seen as a facilitator of screening intention/ behaviour among these men who obtain/ access it.

The questions on perceived susceptibility were: I have a risk of getting PC because I am above 40 years; and PC is not genetic, it is caused only by lifestyle factors. Almost half (99, 49.5%) were not sure if PC is caused by genetic factors or lifestyle factors, while 73 (36.5%) indicated that PC is caused by lifestyle factors and not genetic factors.

Based on this study, perceived severity, response effectiveness, and self-efficacy may help in explaining Black men’s behaviour in PCS and PC information seeking; the construct of fear may play little role in whether or not Black men may seek PC information or have screening intentions. Participants’ perception of the likelihood of getting PC (susceptibility) might cause them to downplay the risks of the disease and might not be strong enough to motivate them to seek more information about the disease or encourage behavioural intentions. Interventions can be designed to increase awareness of PC, showing statistical information on how many Black men are diagnosed with the disease annually, compared with men of other races. This may increase their willingness to believe in their high susceptibility and may therefore initiate or encourage health-seeking intentions or behaviours among them. Other studies have pointed out the weakness of perceived susceptibility in determining health behaviour (Boer and Mashamba, 2005; Sheeran and Abraham, 1996). However, its importance has been acknowledged by others, such as Abraham and Sheeran (2000), who argue that creating awareness of a health threat and persuading people of their susceptibility to that health threat can influence their behaviours. Fear has also been found to be weak at determining health behaviours (Betsch and Schmid, 2013; Van der Velde and Van Der Pligt, 1991), as the individual may try to reduce anxiety (caused by the fear), rather than avoiding danger through behaviour change.

The PMT model can therefore help us to understand Black men's perception of PCS and information. However, researchers using this model should be mindful of the fact that all the constructs do not completely determine intentions or behaviour. The constructs of fear and susceptibility may, therefore, be adapted to include concepts which could act as moderators. If statistical information is added to susceptibility, this may influence Black men's perception of risk and may therefore influence intentions or behaviour. Also, due to the studies' findings that talking to men can increase awareness of PC, the PMT can be strengthened with social support for designing interventions aimed at promoting PCS awareness amongst Black men.

C. Strengths and limitations

These studies examined Black men's understanding of PC and their views of PCS and PC information, using mixed methods. The strength of these studies is evident in the fact that it was successful in recruiting men from a hard-to-reach population group to engage them in discussions on a sensitive topic – PC. The use of semi-structured interviews and thematic analysis in the qualitative study provided a detailed account of participants' perspectives of PCS and PC information. The quantitative study, which used a larger sample, also ensured the objectivity of the findings. These studies can be beneficial in the field of health psychology as their results can contribute to the design of PC information materials that best suit the information needs of Black men. The studies also give insight into the participants' perception of PC and what PCS information Black men are more likely to access. Knowing that they do not perceive themselves as having a higher risk than men of other races could be an indication that health psychologists may need to design PC information specifically for Black men, comparing their risks with other men, using convincing statistics to demonstrate their higher risk of the disease. Also, few studies have focused specifically on Black men's views on PCS and PC information. Although several studies have been conducted on PC and Black men, none has applied the PMT as a theoretical framework to explore Black men's views on PCS and PC information. Findings from these studies can therefore contribute to research on this topic. Ogden (2007) recommends suggesting variables that may bridge the gap between intentions and actual behaviour as a way of addressing the limitations of research in predicting behaviour. This research suggests that Black men have negative attitudes towards health-seeking behaviours. Motivation may, therefore, be employed as a variable to help in bridging the gap (between intentions and behaviour) to help them to actively seek PCS information which can help them in informed decision-making and which may subsequently enable them to implement their intentions. Exploring the role of information on Black men's perception of their risk may increase knowledge of what might encourage Black men to seek PCS information and may influence their behavioural intentions. Future research may consider exploring what might convince Black men to believe that they have high risk of getting PC.

The sample included a wide population of Black men, but the majority had been educated to degree level. Education is an important social determinant of health, as it provides the individual with the knowledge that can better help them to access and use information and services to maintain and improve their health (Institute of Public Health in Ireland, 2008). This meant that the results were mostly based on the perspectives of participants with that level of education and offered limited opportunity to explore the perspectives of other men. Also, the population group mostly diagnosed with PC (60 years and above) constituted just 4.6% of the whole participant population group. Though the recruitment strategies were diverse, they still could not recruit more participants from this age group. With hindsight, recruitment could have been extended to settings where the elderly are likely to be found, such as Age UK. Since it is the UK's largest charity that works with older people, contacting this charity could have helped to increase recruitment from this age group.

Another limitation of this study is that the majority of participants were married. Marital status can have an influence on ones' health and therefore meant that those few unmarried men may not have had that influence the married men had. Marital status (being married) has been found to positively influence survival rates in people diagnosed with cancer (de Graeff et al, 2001) and to reduce functional limitations in people with depression and chronic conditions (Kail, 2016). Though the sample was deemed to be representative of Black men in the UK from 40 years and above, this cannot be said about the socio-demographic factors of marital status, education and age (specifically for this study). The sample may therefore not represent the UK Black males, taking into account these socio-demographic factors.

D. Implications and recommendations for future research

This study has health promotion implications for promoting PC awareness among Black men. The findings point out that, in order to promote PC awareness among Black men, healthcare professionals, church leaders, opinion leaders, and friends and family of Black men may need to engage them in discussions on PC, as they may be more receptive to PC information from these sources. Facilitating behaviour change can be challenging considering the amount of research suggesting low levels of health-seeking behaviour among Black men. The negative determinants of their behaviour, such as poor attitudes towards health seeking, may need to be addressed first to ensure behaviour change among this population group.

These studies also reported Black men's perception of PC, which can inform PC promotion strategies targeted at this population. PC information can be designed specifically for Black men, comparing their risks with other men, using convincing statistics to increase awareness of their risk of the disease. These studies also offer some insight for further research on the topic. The differences between the two studies' findings can prompt further investigation, in that future research can be directed towards explaining the differences that emerged between the qualitative and quantitative studies, by including and exploring other variables that might influence intentions and behaviour such as motivation and information illustrating Black men's risks compared to men of other ethnicities. This information may increase their perception of their susceptibility to the disease. Moreover, the study did not probe further one important issue raised in the interviews. The interview participants mentioned that they preferred information from healthcare professionals and healthcare organisations, as these are legitimate and have been supported by research. However, they said they would not pay attention to PC information they received in the street. Although they explained that they may not know the sources of such information, further probing could have helped to gain insight on why they held these views about this source of information.

It is evident that Black men have a higher risk of getting PC and are disproportionately affected by the disease. It is therefore important that they are targeted in promotions that raise awareness of the disease in order to offer them the information to help them to make informed decisions. Novel themes from this study, such as PC information needs and publicity of PC information, can direct public health promoters and health psychologists on effective ways of increasing awareness of PCS and publicising information through the provision of PC formation that are more suitable to Black men. This can therefore guide in health promotion interventions.

E. Researcher's reflection

I feel that, apart from this being a research, it also served as a form of PC awareness promotion for the Black men who participated in the study. Out of the thirteen interview participants, only two had obtained screening and the other eleven had never actually considered screening, due to the fact that they had limited knowledge of the disease. However, these eleven men all mentioned that discussing the topic with me had enlightened them about PC, and, because of that, they would seek more information on the disease and probably consider screening. Expressing their intentions of obtaining PCS information and probably screening raised ethical issues as their intentions might have raised concerns. I believe that I was able to handle this well as they were all given the contact details of PC UK, which they could contact for more information and support. I also advised them to speak to their doctor if they had any worries, and that I was available to answer any further questions they might have had after the research. Most of the survey participants I spoke to also mentioned that they felt inspired to seek more information on PC as a result of participating in the study. I therefore feel that my research might have influenced their health-seeking behaviour. This also suggests that Black men need someone to discuss PC with them, as discussions can influence their intentions.

This study was not intended to encourage men to screen for PC, as there are still controversies surrounding the effectiveness of PCS. However, the fact that participants have expressed their intentions to seek further information means that this may increase their awareness of the disease, which can facilitate informed decision-making. What I found interesting during the interviews was the participants' beliefs about Black men's susceptibility to PC. Although they recognised that information on PC states that Black men are highly susceptible to the disease, they still did not believe that wholly. They agreed that their age was a risk factor and also speculated that the lifestyle of Black people might be a risk factor, rather than risk being heightened by a biological predisposition to the disease. Participants who took part in the interviews were sent PC information prior to the interview day. This may have increased their knowledge of PC. Consequently, although most of them said they had no knowledge of PC, they appeared to know about PC symptoms and their possession of the PC information prior to the interviews could explain this.

I was particularly concerned that interview participants would not feel comfortable discussing a sensitive topic such as PCS with a female researcher. However, they were open about it and went further when I probed further.

What I found most challenging in this research was the recruitment process. Recruiting participants for this study was not an easy one as it took several months (more than a year). Initially, I thought that my African ethnicity might have positively influenced potential participants to show more interest in the research and therefore encourage them to participate. I was hoping that recruitment could be improved and I would get the desired sample size, using the snowballing approach of recruiting through churches, libraries and social media. However, I do not think being an African researcher helped in the recruitment. Most of the potential participants I initially spoke to about my research were not interested in talking about PC or participating in PC research. Some of them mentioned that it was too sensitive a topic to talk about. Others simply avoided the topic, and I feel it was because they did not feel comfortable discussing it. On reflection, I understand their worries as the topic of cancer is regarded as a taboo by many and I feel that this was the reason for their lack of interest towards the study. This can also be explained by the difficulties of recruiting from hard-to-reach populations (including Black men), which has been discussed in a previous chapter. I however feel that by using the snowballing approach, I was able to overcome this challenge, to some extent, as this permitted me to recruit from different sources. I was also able to overcome the challenges of recruitment by inviting those potential participants who declined to take part in the interview to complete the survey, by reassuring them that they did not have to answer any questions they were not comfortable answering. Also, to help maximise recruitment, those who had already participated were asked to inform their friends, families, and colleagues to participate in the study. In addition, I believe that, involving a church member from each church also maximised recruitment from that setting as the representatives were known to those men.

Considering the sensitive nature of the topic, I was mindful of how discussing this topic might affect interview participants. I think that I was able to resolve this by my use of effective communication skills. Establishing rapport with interview participants and listening and summarising back to them seemed to make it less difficult for them to discuss the topic. Also, being aware of when not to probe further issues mentioned in the interviews ensured that participants’ distress was minimised. In addition, I think that participants found it reassuring, knowing that they could withdraw from the study at any time, though none of them did.

Initially, I was concerned about how to answer potential questions by interview participants regarding the need to be screened. Considering that there is still inconclusive evidence supporting the effectiveness of screening, I was cautious not to tell them that they needed to be screened. At the same time, I was equally concerned that telling them that I was not promoting screening could mislead them to believe that screening was not important. However, I believe that the information I provided, the further information they could access, and discussions they could have with their doctors can help them in making informed decisions. I was inspired by my previous research on PC (a systematic review on factors influencing PCS in Black men) to conduct these studies. I previously worked in a pharmacy, where I provided advice to customers and also gave out information leaflets, including cancer leaflets. I was shocked to see the prevalence of PC among Black men and therefore wanted to explore this topic further.

F. Conclusion

This study examined the views of Black men on PCS and PC information. PC is among the cancers with highest mortality rates in the UK, even higher than that of breast cancer. However, there is no PCS programme in the country yet, as research cannot yet conclusively determine the effectiveness of screening. It is therefore imperative to raise awareness among the population, to give people the necessary information to aid informed decision-making. These studies have shown that, although Black men view PC as a serious disease, they do not believe that they have a higher risk of the disease compared to men of other races. The PMT was found to influence men’s intentions and behaviour when applied to their views on PCS and information. In addition, these studies have given insight into the information needs of the study participants, which could help in designing PC awareness information specifically for men in this group, as it shows that Black men may want changes in the way PCS information is being presented to them. Their views about their risks of getting PC can determine their information seeking, and this could direct promoters of PC awareness as to what information to include in their promotional materials. If PC information includes a clear comparison of the risks of Black men and men of other races, this may convince them of their higher risk of the disease and might therefore encourage preventive behaviours among this population group.

Novel themes from this study, such as PC information needs of Black men and publicity of PC information, can also guide health promotion interventions on the best ways of increasing awareness of PCS and publicising information in Black communities. As information can facilitate informed decision-making, it was useful to explore Black men's information needs, as this helped to gain their views on the subject and can help in designing PC information for Black men.

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Appendices

Appendix 1. Information sheet (interviews and surveys)

In confidential file

Appendix 2. Ethics approval

In confidential file

Appendix 3: Interview schedule

Research questions
1. What do you know about prostate cancer or prostate cancer screening?
2. Have you received/accessed any information about prostate cancer before? If yes, where did you get that information from?
3. What makes the difference to whether or not you might attend for prostate cancer screening?
4. **Fear component** – Can you think of any information about prostate cancer that could increase/decrease your fear of the disease?
5. **Seriousness component** – What information could make you believe that prostate cancer is/is not a serious illness?
6. **Susceptibility component** – Can you think of anything about prostate cancer that can make you believe that as a Black man, your chances of getting it are/are not high?
7. **Response effectiveness component** – How would you know that if you get screened, you can obtain early and effective treatment if you are diagnosed with prostate cancer? In your opinion, what do you think is the best way of increasing awareness of prostate cancer among Black men?
8. **Self-efficacy component** - What do you think would make you feel more confident that you could get screened for prostate cancer?
Let participants have a look at prostate cancer leaflets/information. After this, ask them:
9. What do you think about the prostate cancer information you have just seen? What is it about the information that might encourage you to go for screening or put you off going for screening?
10. Is there any other thing you would like to add?

Appendix 4: Prostate cancer information

1. NHS

Prostate cancer

Prostate cancer is the most common cancer in men in the UK. It usually develops slowly, so there may be no signs for many years.

Symptoms of prostate cancer

Symptoms of prostate cancer do not usually appear until the prostate is large enough to affect the tube that carries urine from the bladder out of the penis (urethra).

When this happens, you may notice things like:

- an increased need to pee
- straining while you pee
- a feeling that your bladder has not fully emptied

These symptoms should not be ignored, but they do not mean you have prostate cancer.

It's more likely they're caused by something else, such as prostate enlargement.

What is the prostate?

The prostate is a small gland in the pelvis, found only in men.

About the size of a satsuma, it's located between the penis and the bladder, and surrounds the urethra.

The main function of the prostate is to produce a thick white fluid that creates semen when mixed with the sperm produced by the testicles.

Why does prostate cancer happen?

The causes of prostate cancer are largely unknown. But certain things can increase your risk of developing the condition.

The chances of developing prostate cancer increase as you get older. Most cases develop in men aged 50 or older.

For reasons not yet understood, prostate cancer is more common in men of African-Caribbean or African descent, and less common in Asian men.

Men whose father or brother were affected by prostate cancer are at slightly increased risk themselves.

Recent research also suggests that obesity increases the risk of prostate cancer.

Tests for prostate cancer

There's no single test for prostate cancer.

All the tests used to help diagnose the condition have benefits and risks that your doctor should discuss with you.

The most commonly used tests for prostate cancer are:

- blood tests
- a physical examination of your prostate (known as a digital rectal examination, or DRE)
- an MRI scan
- a biopsy

Find out more about how prostate cancer is diagnosed

PSA testing

The blood test, called a prostate-specific antigen (PSA) test, measures the level of PSA and may help detect early prostate cancer.

Men over 50 can ask for a PSA test from a GP.

Men are not routinely offered PSA tests to screen for prostate cancer, as results can be unreliable.

This is because the PSA blood test is not specific to prostate cancer.

Your PSA level can also be raised by other, non-cancerous conditions.

Raised PSA levels also cannot tell a doctor whether a man has life-threatening prostate cancer or not.

If you have a raised PSA level, you may be offered an MRI scan of the prostate to help doctors decide if you need further tests and treatment.

Find out more about PSA screening and testing in the UK

How is prostate cancer treated?

For many men with prostate cancer, treatment is not immediately necessary.

If the cancer is at an early stage and not causing symptoms, your doctor may suggest either "watchful waiting" or "active surveillance".

The best option depends on your age and overall health. Both options involve carefully monitoring your condition.

Some cases of prostate cancer can be cured if treated in the early stages.

Treatments include:

- surgically removing the prostate
- radiotherapy – either on its own or alongside hormone therapy

Some cases are only diagnosed at a later stage, when the cancer has spread.

If the cancer spreads to other parts of the body and cannot be cured, treatment is focused on prolonging life and relieving symptoms.

All treatment options carry the risk of significant side effects, including erectile dysfunction and urinary symptoms, such as needing to use the toilet more urgently or more often.

For this reason, some men choose to delay treatment until there's a risk the cancer might spread.

Newer treatments, such as high-intensity focused ultrasound (HIFU) and cryotherapy, aim to reduce these side effects.

Some hospitals may offer them as an alternative to surgery, radiotherapy or hormone therapy.

But the long-term effectiveness of these treatments is not known yet.

Living with prostate cancer

As prostate cancer usually progresses very slowly, you can live for decades without symptoms or needing treatment.

Nevertheless, it can affect your life. As well as the possible side effects of treatment, a diagnosis of prostate cancer can understandably make you feel anxious or depressed.

You may find it beneficial to talk about the condition with your family, friends, a family doctor and other men with prostate cancer.

Financial support is also available if prostate cancer reduces your ability to work.

Find out more about living with prostate cancer

2. PROSTATE CANCER UK

What is prostate cancer?

Prostate cancer can develop when cells in the prostate start to grow in an uncontrolled way.

Some prostate cancer grows too slowly to cause any problems or affect how long you live. Because of this, many men with prostate cancer will never need any treatment.

But some prostate cancer grows quickly and is more likely to spread. This is more likely to cause problems and needs treatment to stop it spreading.

Does prostate cancer have any symptoms?

Most men with early prostate cancer don’t have any signs or symptoms.

One reason for this is the way the cancer grows. You’ll usually only get early symptoms if the cancer grows near the tube you urinate through (the urethra) and presses against it, changing the way you urinate (wee). But because prostate cancer usually starts to grow in a different part (usually the outer part) of the prostate, early prostate cancer doesn’t often press on the urethra and cause symptoms.

If you do notice changes in the way you urinate, this is more likely to be a sign of a very common non-cancerous problem called an **enlarged prostate**, or another health problem. But it’s still a good idea to get it checked out. Possible changes include:

- difficulty starting to urinate or emptying your bladder
- A weak flow when you urinate
- A feeling that your bladder hasn’t emptied properly
- Dribbling urine after you finish urinating
- Needing to urinate more often than usual, especially at night
- A sudden need to urinate – you may sometimes leak urine before you get to the toilet.

If prostate cancer breaks out of the prostate (**locally advanced prostate cancer**) or spreads to other parts of the body (**advanced prostate cancer**), it can cause other symptoms, including:

- Back pain, hip pain or pelvis pain

- Problems getting or keeping an erection
- blood in the urine or semen
- Unexplained weight loss.

These symptoms can all be caused by other health problems. But it’s still a good idea to tell your GP about any symptoms so they can find out what’s causing them and make sure you get the right treatment, if you need it.

Am I at risk of prostate cancer?

In the UK, about 1 in 8 men will be diagnosed with prostate cancer in their lifetime. We don't know exactly what causes prostate cancer but there are some things that may mean you are more likely to get it – these are called risk factors.

There are three main risk factors for getting prostate cancer, which are things you can't change. These are:

- Getting **older** – it mainly affects men aged 50 or over
- Having a **family history of prostate cancer**
- Having **black**.

If you have any of these risk factors or if you have any **symptoms**, speak to your GP. They can talk to you about your risk, and about the **tests** that are used to diagnose prostate cancer. You can also get in touch with **our Specialist Nurses**, who can help you understand your individual risk of prostate cancer.

See and share our infographic on prostate cancer risk factors.

Prostate tests

Read about the tests and checks used to see if you have prostate cancer or another prostate problem. They include the PSA test, digital rectal examination (DRE), prostate biopsy and scans. We also explain what your results might mean.

Treatments

There are different treatments for prostate cancer. We’ve listed them all here. You may have a choice of treatments and this will depend on the stage of your cancer. Read more about **choosing a treatment**.

Filter by topic:

☐ Localised prostate cancer (8)

☐ Locally advanced prostate cancer (7)

☐ Advanced prostate cancer (9)

Update list

Showing **18 results**

Active surveillance

Active surveillance is a way of monitoring slow-growing localised prostate cancer, rather than treating it straight away. The aim is to avoid or delay unnecessary treatment and its side effects.

Watchful waiting

Watchful waiting is a way of monitoring prostate cancer that isn't causing any symptoms or problems. The aim is to keep an eye on the cancer over the long term, and avoid treatment unless you get symptoms.

Surgery: radical prostatectomy

Information about having surgery to remove the prostate. Surgery may be a treatment option for men with localised prostate cancer.

External beam radiotherapy

External beam radiotherapy uses high energy X-ray beams to treat prostate cancer. This page is for men who are thinking of having this treatment to treat their prostate cancer.

Permanent seed brachytherapy

Permanent seed brachytherapy involves implanting tiny radioactive seeds into your prostate gland. This is also called low dose rate brachytherapy. Radiation from the seeds destroys cancer cells in the prostate. You may have this treatment on its own or together with external beam radiotherapy or hormone therapy.

Hormone therapy

This page explains how hormone therapy treats prostate cancer, who can have hormone therapy, and the possible side effects.

High dose-rate (HDR) brachytherapy

High dose-rate brachytherapy is also known as HDR brachytherapy, or temporary brachytherapy. It is a type of internal radiotherapy used to treat prostate cancer.

High-intensity focused ultrasound (HIFU)

Read about using high-intensity focused ultrasound (HIFU) to treat prostate cancer, how it works and what the side effects are.

Cryotherapy

Cryotherapy is a treatment that uses extreme cold to freeze and destroy cancer cells. You might also hear it called cryosurgery or cryoablation.

Treatment options after your first hormone therapy

Information about treatment options for men with prostate cancer that is no longer responding so well to their first hormone therapy.

Chemotherapy

This page describes how chemotherapy can be used to treat prostate cancer, and the possible side effects.

Abiraterone

If you have advanced prostate cancer, you may be interested in our information on abiraterone (Zytiga®), a new type of hormone therapy.

Enzalutamide

Learn about enzalutamide, a new type of hormone therapy for men with advanced prostate cancer.

Clinical trials

Clinical trials are types of medical research that test medicines, medical procedures or medical equipment. If you have prostate cancer, you might have the chance to take part in a clinical trial.

Radiotherapy for advanced prostate cancer

This page describes how radiotherapy can be used in men with advanced prostate cancer.

Bisphosphonates for advanced prostate cancer

Bisphosphonates are drugs that can be used to treat bone problems or prevent further bone damage in men with advanced prostate cancer. They do not treat the cancer itself, but can help to slow the breakdown of bone and may help to relieve bone pain.

Follow-up after treatment

Information about the care and support you can expect after your treatment and what to expect at follow-up appointments.

If your prostate cancer comes back

Recurrent prostate cancer is cancer that has come back after having treatments such as surgery (radical prostatectomy), external beam radiotherapy, permanent seed brachytherapy or temporary brachytherapy.

3.

Together we will beat cancer

What is prostate cancer?

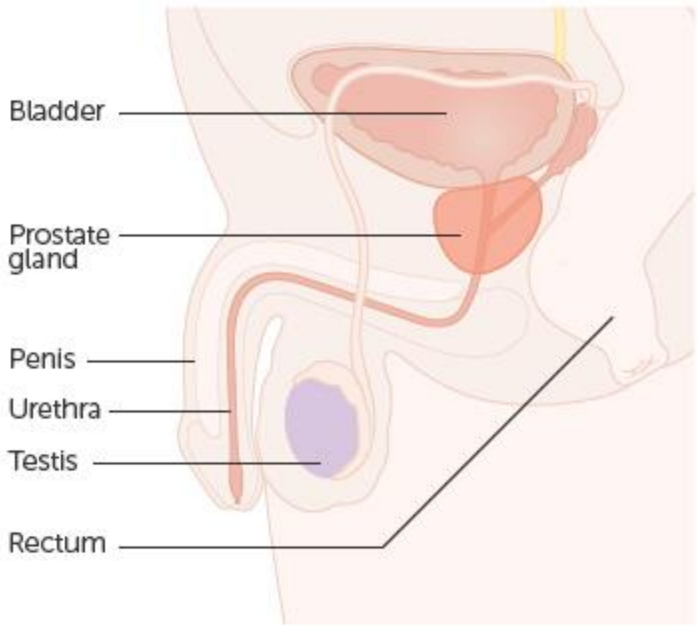
Prostate cancer is cancer of the prostate gland. Cancer is when abnormal cells start to divide and grow in an uncontrolled way. The cells can grow into surrounding tissues or organs, and may spread to other areas of the body.

The prostate

The prostate is a small gland at the base of the bladder. It is about the size of a walnut but gets bigger as men get older.

The prostate surrounds the first part of the tube that carries urine from the bladder to the penis (urethra). The urethra also carries semen, the fluid containing sperm.

The prostate gland produces a protein called prostate specific antigen (PSA). A blood test can measure the level of PSA.



Cancer Research UK

Risks and causes

Your risk of developing prostate cancer depends on many things including age and ethnicity.

Having any of these risk factors doesn’t mean that you will definitely develop prostate cancer.

Risk factors for prostate cancer include:

Age

Ethnicity

Family history and genes

Being overweight or obese

Height

Insulin like growth factor (IGF-1)

A previous cancer

Vasectomy

Inflammation of the prostate

Cadmium

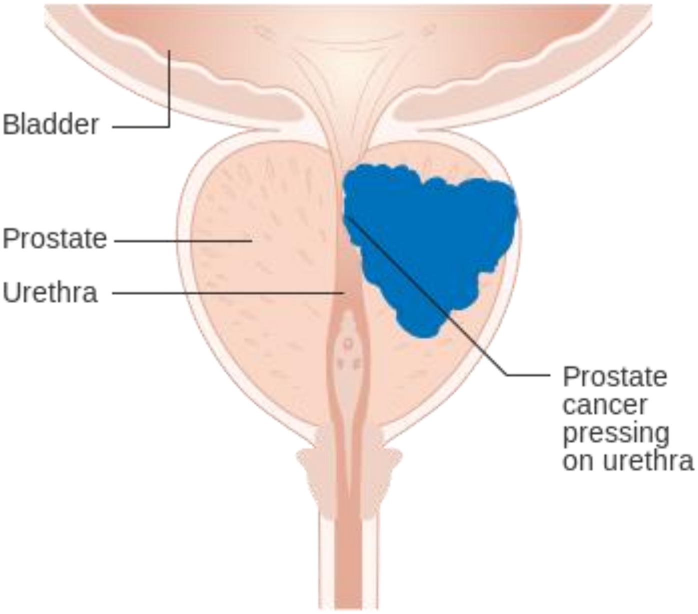
Other possible causes

Stories about potential causes are often in the media and it isn’t always clear which ideas are supported by evidence. There might be things you have heard of that we haven’t included here. This is because either there is no evidence about them or it is less clear.

- **Find out more about possible causes and cancer controversies**

Symptoms of prostate cancer

Early prostate cancer doesn't usually cause any symptoms. Most prostate cancers tend to start in the outer part of the prostate gland. This means that to cause symptoms the cancer needs to be big enough to press on the tube that carries wee from your bladder out of your body. This tube is called the urethra.



The following symptoms can be a sign of cancer but are much more likely to be caused by your prostate gland becoming enlarged as you get older. They can include:

- passing urine more often
- getting up during the night to empty your bladder (nocturia)
- difficulty passing urine – this includes a weaker flow, not emptying your bladder completely and straining when starting to empty your bladder
- urgency
- leaking urine
- blood or semen in your urine
- erection problems

What else can cause these symptoms

As men get older their prostate gland enlarges. It isn't normally cancer. But instead a condition called benign prostatic hyperplasia (BPH). BPH doesn’t usually develop into cancer. But an enlarged prostate might sometimes contain areas of cancer cells.

BPH and prostate cancer have very similar symptoms, caused by the prostate gland pressing on the urethra. The urethra is the tube that empties out urine from the bladder.

When to see your doctor

See your doctor if you have any of the changes described here.

The changes might not mean that you have cancer but it is important to get them checked.

Tests to diagnose

You might have one or more of these tests to work out the cause of your symptoms.

Examination of your prostate

An examination of your back passage (rectum) involves your doctor feeling inside your rectum using their finger. This procedure is also called a digital rectal exam (DRE).

Prostate Specific Antigen (PSA) test

The PSA test is a blood test. Men with prostate cancer can have a raised level of PSA.

MRI scan

An MRI scan creates pictures using magnetism and radio waves. It can show up abnormal areas in the prostate gland.

Transrectal ultrasound scan (TRUS)

A transrectal ultrasound scan (TRUS) is an examination of the prostate gland using ultrasound.

Transrectal ultrasound guided (TRUS) biopsy

Your doctor might take a sample of tissue from your prostate gland to look for cancer cells. This can be done during a transrectal ultrasound.

Transperineal (template or targeted) biopsy

Your doctor might take small samples of tissue from your prostate to help diagnose prostate cancer. They can do this during a transperineal biopsy.

Treatment for advanced cancer

Deciding about treatment can be difficult when you have advanced prostate cancer. Treatment can help to reduce symptoms, make you feel better and can help you to live longer.

Find out about the different types of treatment you might have.

Making decisions about treatment for advanced cancer

Read about making treatment decisions when you have advanced cancer.

Treating symptoms of advanced cancer

Symptoms of advanced prostate cancer can include bone pain, problems passing urine and tiredness. Find out about things that can help.

Chemotherapy treatment

You might have chemotherapy for advanced prostate cancer. The most common type is docetaxel. Find out about chemotherapy for advanced prostate cancer and how you have it.

Radiotherapy for advanced cancer

Radiotherapy uses high energy waves similar to x-rays to kill prostate cancer cells.

Hormone therapy for advanced prostate cancer

You might have hormone therapy for prostate cancer that has spread to another part of your body. You can have it as an injection, tablets or rarely surgery. Find out about when you have it.

Appendix 5. Consent form (interviews)

Participant Consent Form –Interviews

Black men’s views on prostate cancer information

Researcher’s name – Anne Alagskomah

The researcher named above has briefed me to my satisfaction on the research for which I have volunteered. I understand that I have the right to withdraw from the research at any time and can question the investigator if I have any concerns. I understand that, within the constraints of the research, my rights to anonymity and confidentiality will be respected, and in the event of this research ever being published, I give my permission for my information to be used, provided my identity remains anonymous, unless I request it to be otherwise.

I agree to have the interview recorded, on the understanding that the information I give will be treated as confidential material, my anonymity will be protected as stated above and that the recorded information will be stored in a secure location.

Signature of participant……………………………………………

Date……………………………………………………………………………

Appendix 6. TA analysis process

Document too big. See research appendices B

Appendix 7. Survey questionnaire development

Document too big. See research appendices B

Appendix 8: Survey questionnaire

Survey Questionnaire

Questions will be scored on a five-point Likert scale (Strongly disagree, disagree, not sure, agree, strongly disagree)

Demographic data

A. How old are you? ☐

B. What is the highest level of education you have completed?

- No school completed
- High school
- Bachelor's degree
- Master's degree
- Doctorate degree
- Other. Please specify ☐

C. What is your marital status?

- Single
- Married
- Widowed
- Divorced
- Separated
- Other. Please specify ☐

D. What is your employment Status?

- Employed
- Self-employed
- Student
- Retired
- Unemployed

- Other. Please specify ☐

E. Have you received prostate cancer information from any source before?

- Yes
- No

F. Have you ever had prostate cancer screening before?

- Yes
- No

g. Have you been diagnosed of prostate cancer before?

- Yes
- No

Questions

The following are statements that have been made by other Black men about prostate cancer. I would therefore want to know to what extent you agree or disagree with them.

1. Prostate cancer screening can be done using the prostate to detect the level of a man's PSA.
2. Living with prostate cancer can be so inconvenient. (Perceived severity)
3. Having prostate cancer can affect my sexual function. (Perceived severity)
4. Having prostate cancer can affect one psychologically. (Perceived severity)
5. I need to see more prostate cancer information in my community.
6. I think many people do not know about prostate cancer.
7. Detailed prostate cancer information can encourage me to obtain prostate cancer screening. (Self-efficacy)
8. Prostate cancer notices in healthcare centres would draw Black men's attention to it.
9. I have heard about prostate cancer on TV.
10. If my employer organises a talk on prostate cancer at my place of work, it may help me know more about the disease.
11. I will pay more attention to prostate cancer information from reputable sources.

12. I will not pay attention to PC information distributed on the streets.
13. Black people do not seek healthcare unless they are ill. They are therefore more unlikely to screen.
14. Because of my faith/religion, I will not get prostate cancer. (Fear)
15. I will obtain prostate cancer screening because if I get an early diagnosis, I can be treated. (Response effectiveness)
16. I may not screen for prostate cancer because of the fear of being diagnosed of the disease. (Fear)
17. Whether I screen or not may depend on my doctor’s advice.
18. Counselling and encouragement can help me screen for prostate cancer. (Self-efficacy)
19. I have not obtained prostate cancer screened because I have not had the intention to.
20. Prostate cancer discussions are important for screening. (Self-efficacy)
21. The severity of prostate cancer will not prevent me from screening.
22. The awareness of prostate cancer can be created through the Black media.
23. Black celebrities are a good channel through which the awareness of prostate cancer can be promoted.
24. Black churches/church leaders are a good channel through which the awareness of prostate cancer can be promoted.
25. I have a risk of getting prostate cancer because I am above 40 years. (Perceived susceptibility)
26. Prostate cancer is not genetic, it is caused by only lifestyle factors. (Perceived susceptibility)
27. The local authorities can help promote prostate cancer awareness to its residents.
28. The awareness of prostate cancer can be promoted through occasions mostly attended by Black people.
29. Betting shops are a good channel through which prostate cancer awareness can be promoted.
30. The community is a good channel for the promotion of the awareness of prostate cancer.
31. Prostate cancer information is rarely available in the Black community.

32. I want prostate cancer information that tells me all I need to know about the disease. (Response effectiveness)
33. I prefer reading simple and short prostate cancer information.
34. I want prostate cancer information to be summarised as much as possible.
35. I would want prostate cancer information coming from a Black professional.
36. I want to see prostate cancer information that has pictures of Black men in it.

Appendix 9. Consent form (surveys)

Participant Consent Form –Survey
Black men's views on prostate cancer information

Researcher's name – Anne Alagskomah

The researcher named above has briefed me to my satisfaction on the research for which I have volunteered. I understand that I have the right to withdraw from the research at any time and can question the investigator if I have any concerns. I understand that, within the constraints of the research, my rights to anonymity and confidentiality will be respected, and in the event of this research ever being published, I give my permission for my information to be used, provided my identity remains anonymous, unless I request it to be otherwise.

I agree to have my information used, on the understanding that the information I give will be treated as confidential material, my anonymity will be protected as stated above and that the information will be stored in a secure location.

Signature of participant…………………………………………………

Date………………………………………………………………………………

Appendix 10. Survey results (frequency tables)

How old are you?

	Frequency	Percent	Valid Percent	Cumulative Percent
>60	9	4.6	4.6	4.6
40-50	159	80.7	80.7	85.3
51-60	29	14.7	14.7	100.0
Total	197	100.0	100.0	

What is the highest level of education you have completed?

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	5	2.5	2.5	2.5
Bachelor's degree	57	28.9	28.9	31.5
Doctorate degree	10	5.1	5.1	36.5
High school	20	10.2	10.2	46.7
Master's degree	93	47.2	47.2	93.9
Other, College	1	.5	.5	94.4
Other. Please specify	11	5.6	5.6	100.0
Total	197	100.0	100.0	

What is your marital status?

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	6	3.0	3.0	3.0
Divorced	9	4.6	4.6	7.6
Married	155	78.7	78.7	86.3
Other, Civil partnership	1	.5	.5	86.8
Other. Please specify	1	.5	.5	87.3
Separated	8	4.1	4.1	91.4
Single	16	8.1	8.1	99.5
Widowed	1	.5	.5	100.0
Total	197	100.0	100.0	

What is your employment status?

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	6	3.0	3.0	3.0
Employed	139	70.6	70.6	73.6
Other. Please specify	1	.5	.5	74.1
Retired	5	2.5	2.5	76.6
Self-employed	38	19.3	19.3	95.9
Student	3	1.5	1.5	97.5
Unemployed	5	2.5	2.5	100.0
Total	197	100.0	100.0	

Have you received prostate cancer information from any source before?

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	5	2.5	2.5	2.5
No	70	35.5	35.5	38.1
Yes	122	61.9	61.9	100.0
Total	197	100.0	100.0	

Have you ever had prostate cancer screening before?

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	5	2.5	2.5	2.5
No	138	70.1	70.1	72.6
Yes	54	27.4	27.4	100.0
Total	197	100.0	100.0	

Have you ever been diagnosed with prostate cancer?

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	5	2.5	2.5	2.5
No	192	97.5	97.5	100.0
Total	197	100.0	100.0	

Prostate cancer screening can be carried out using blood test to detect the level of a man's PSA.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	62	31.5	31.5	31.5
Disagree	4	2.0	2.0	33.5
Not sure	71	36.0	36.0	69.5
Strongly agree	58	29.4	29.4	99.0
Strongly disagree	2	1.0	1.0	100.0
Total	197	100.0	100.0	

Living with prostate cancer can be so inconvenient.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	60	30.5	30.5	30.5
Disagree	2	1.0	1.0	31.5
Not sure	18	9.1	9.1	40.6
Strongly agree	113	57.4	57.4	98.0
Strongly disagree	4	2.0	2.0	100.0
Total	197	100.0	100.0	

Having prostate cancer can affect my sexual function.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	50	25.4	25.4	25.4
Disagree	3	1.5	1.5	26.9
Not sure	48	24.4	24.4	51.3
Strongly agree	96	48.7	48.7	100.0
Total	197	100.0	100.0	

Having prostate cancer can affect one psychologically.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	64	32.5	32.5	32.5
Disagree	5	2.5	2.5	35.0
Not sure	12	6.1	6.1	41.1
Strongly agree	115	58.4	58.4	99.5
Strongly disagree	1	.5	.5	100.0
Total	197	100.0	100.0	

I need to see more prostate cancer information in my community.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	79	40.1	40.1	40.1
Disagree	4	2.0	2.0	42.1
Not sure	5	2.5	2.5	44.7
Strongly agree	107	54.3	54.3	99.0
Strongly disagree	2	1.0	1.0	100.0
Total	197	100.0	100.0	

I think many people do not know about prostate cancer.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	81	41.1	41.1	41.1
Disagree	6	3.0	3.0	44.2
Not sure	18	9.1	9.1	53.3
Strongly agree	92	46.7	46.7	100.0
Total	197	100.0	100.0	

Detailed prostate cancer information can encourage me to obtain prostate cancer screening.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	80	40.6	40.6	40.6
Disagree	4	2.0	2.0	42.6
Not sure	11	5.6	5.6	48.2
Strongly agree	102	51.8	51.8	100.0
Total	197	100.0	100.0	

Prostate cancer notices in healthcare centres would draw Black men's attention to the disease.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	89	45.2	45.2	45.2
Disagree	5	2.5	2.5	47.7
Not sure	24	12.2	12.2	59.9
Strongly agree	79	40.1	40.1	100.0
Total	197	100.0	100.0	

I have heard about prostate cancer on TV/Radio

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	98	49.7	49.7	49.7
Disagree	9	4.6	4.6	54.3
Not sure	22	11.2	11.2	65.5
Strongly agree	65	33.0	33.0	98.5
Strongly disagree	3	1.5	1.5	100.0
Total	197	100.0	100.0	

If my employer organises a talk on prostate cancer at my place of work, it may help me to know more about the disease.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	89	45.2	45.2	45.2
Disagree	1	.5	.5	45.7
Not sure	14	7.1	7.1	52.8
Strongly agree	92	46.7	46.7	99.5
Strongly disagree	1	.5	.5	100.0
Total	197	100.0	100.0	

I will pay more attention to prostate cancer information from reputable sources

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	87	44.2	44.2	44.2
Not sure	10	5.1	5.1	49.2
Strongly agree	100	50.8	50.8	100.0
Total	197	100.0	100.0	

I will not pay attention to prostate cancer information distributed on the streets.

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	1	.5	.5	.5
Agree	36	18.3	18.3	18.8
Disagree	77	39.1	39.1	57.9
Not sure	48	24.4	24.4	82.2
Strongly agree	10	5.1	5.1	87.3
Strongly disagree	25	12.7	12.7	100.0
Total	197	100.0	100.0	

As Black people do not seek healthcare unless they are ill, they are less likely screen for prostate cancer.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	87	44.2	44.2	44.2
Disagree	20	10.2	10.2	54.3
Not sure	13	6.6	6.6	60.9
Strongly agree	74	37.6	37.6	98.5
Strongly disagree	3	1.5	1.5	100.0
Total	197	100.0	100.0	

Because of my faith/religion, I will not get prostate cancer.

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	1	.5	.5	.5
Agree	8	4.1	4.1	4.6
Disagree	60	30.5	30.5	35.0
Not sure	7	3.6	3.6	38.6
Strongly agree	14	7.1	7.1	45.7
Strongly disagree	107	54.3	54.3	100.0
Total	197	100.0	100.0	

I will go for prostate cancer screening because if I get an early diagnosis, it can be treated.

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	1	.5	.5	.5
Agree	68	34.5	34.5	35.0
Disagree	1	.5	.5	35.5
Not sure	18	9.1	9.1	44.7
Strongly agree	108	54.8	54.8	99.5
Strongly disagree	1	.5	.5	100.0
Total	197	100.0	100.0	

I may not screen for prostate cancer because of the fear of being diagnosed of the disease.

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	1	.5	.5	.5
Agree	13	6.6	6.6	7.1
Disagree	91	46.2	46.2	53.3
Not sure	22	11.2	11.2	64.5
Strongly agree	9	4.6	4.6	69.0
Strongly disagree	61	31.0	31.0	100.0
Total	197	100.0	100.0	

Whether I screen for prostate cancer or not may depend on my doctor's advice.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	61	31.0	31.0	31.0
Disagree	80	40.6	40.6	71.6
Not sure	16	8.1	8.1	79.7
Strongly agree	15	7.6	7.6	87.3
Strongly disagree	25	12.7	12.7	100.0
Total	197	100.0	100.0	

Counselling and encouragement can encourage me to go for prostate cancer screening.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	103	52.3	52.3	52.3
Disagree	5	2.5	2.5	54.8
Not sure	16	8.1	8.1	62.9
Strongly agree	72	36.5	36.5	99.5
Strongly disagree	1	.5	.5	100.0
Total	197	100.0	100.0	

I have not been screened for prostate cancer because I have not had the intention to.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	77	39.1	39.1	39.1
Disagree	53	26.9	26.9	66.0
Not sure	25	12.7	12.7	78.7
Strongly agree	23	11.7	11.7	90.4
Strongly disagree	19	9.6	9.6	100.0
Total	197	100.0	100.0	

Prostate cancer discussions among family and friends can encourage me to screen for the disease.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	114	57.9	57.9	57.9
Disagree	6	3.0	3.0	60.9
Not sure	14	7.1	7.1	68.0
Strongly agree	62	31.5	31.5	99.5
Strongly disagree	1	.5	.5	100.0
Total	197	100.0	100.0	

The severity of prostate cancer will not prevent me from being screened for the disease.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	94	47.7	47.7	47.7
Disagree	14	7.1	7.1	54.8
Not sure	21	10.7	10.7	65.5
Strongly agree	64	32.5	32.5	98.0
Strongly disagree	4	2.0	2.0	100.0
Total	197	100.0	100.0	

Awareness of prostate cancer can be promoted through the Black media.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	94	47.7	47.7	47.7
Disagree	6	3.0	3.0	50.8
Not sure	19	9.6	9.6	60.4
Strongly agree	76	38.6	38.6	99.0
Strongly disagree	2	1.0	1.0	100.0
Total	197	100.0	100.0	

Black celebrities are a good channel through which awareness of prostate cancer can be promoted.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	85	43.1	43.1	43.1
Disagree	9	4.6	4.6	47.7
Not sure	30	15.2	15.2	62.9
Strongly agree	73	37.1	37.1	100.0
Total	197	100.0	100.0	

Black churches/church leaders are a good channel through which awareness of prostate cancer can be promoted.

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	5	2.5	2.5	2.5
Agree	88	44.7	44.7	47.2
Disagree	3	1.5	1.5	48.7
Not sure	18	9.1	9.1	57.9
Strongly agree	81	41.1	41.1	99.0
Strongly disagree	2	1.0	1.0	100.0
Total	197	100.0	100.0	

I have a risk of getting prostate cancer because I am over 40 years of age.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	73	37.1	37.1	37.1
Disagree	27	13.7	13.7	50.8
Not sure	44	22.3	22.3	73.1
Strongly agree	47	23.9	23.9	97.0
Strongly disagree	6	3.0	3.0	100.0
Total	197	100.0	100.0	

Prostate cancer is not genetic, it is caused by solely lifestyle factors.

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	1	.5	.5	.5
Agree	44	22.3	22.3	22.8
Disagree	21	10.7	10.7	33.5
Not sure	99	50.3	50.3	83.8
Strongly agree	27	13.7	13.7	97.5
Strongly disagree	5	2.5	2.5	100.0
Total	197	100.0	100.0	

Local authorities can help promote prostate cancer awareness to their residents.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	108	54.8	54.8	54.8
Disagree	2	1.0	1.0	55.8
Not sure	6	3.0	3.0	58.9
Strongly agree	80	40.6	40.6	99.5
Strongly disagree	1	.5	.5	100.0
Total	197	100.0	100.0	

The awareness of prostate cancer can be promoted on occasions mostly attended by Black people.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	93	47.2	47.2	47.2
Disagree	31	15.7	15.7	62.9
Not sure	29	14.7	14.7	77.7
Strongly agree	40	20.3	20.3	98.0
Strongly disagree	4	2.0	2.0	100.0
Total	197	100.0	100.0	

Betting shops are a good channel through which prostate cancer awareness can be promoted.

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	1	.5	.5	.5
Agree	65	33.0	33.0	33.5
Disagree	30	15.2	15.2	48.7
Not sure	80	40.6	40.6	89.3
Strongly agree	16	8.1	8.1	97.5
Strongly disagree	5	2.5	2.5	100.0
Total	197	100.0	100.0	

The community is a good channel for the promotion of the awareness of prostate cancer

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	119	60.4	60.4	60.4
Not sure	15	7.6	7.6	68.0
Strongly agree	63	32.0	32.0	100.0
Total	197	100.0	100.0	

Prostate cancer information is rarely available in the Black community.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	80	40.6	40.6	40.6
Disagree	24	12.2	12.2	52.8
Not sure	73	37.1	37.1	89.8
Strongly agree	19	9.6	9.6	99.5
Strongly disagree	1	.5	.5	100.0
Total	197	100.0	100.0	

I want prostate cancer information that tells me all I need to know about the disease.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	93	47.2	47.2	47.2
Disagree	4	2.0	2.0	49.2
Not sure	9	4.6	4.6	53.8
Strongly agree	91	46.2	46.2	100.0
Total	197	100.0	100.0	

I would prefer to read simple and short prostate cancer information.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	100	50.8	50.8	50.8
Disagree	9	4.6	4.6	55.3
Not sure	9	4.6	4.6	59.9
Strongly agree	78	39.6	39.6	99.5
Strongly disagree	1	.5	.5	100.0
Total	197	100.0	100.0	

I would want prostate cancer information to be summarised as much as possible.

	Frequency	Percent	Valid Percent	Cumulative Percent
No response	1	.5	.5	.5
Agree	98	49.7	49.7	50.3
Disagree	12	6.1	6.1	56.3
Not sure	8	4.1	4.1	60.4
Strongly agree	76	38.6	38.6	99.0
Strongly disagree	2	1.0	1.0	100.0
Total	197	100.0	100.0	

I would want prostate cancer information to come from a Black health professional.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	38	19.3	19.3	19.3
Disagree	69	35.0	35.0	54.3
Not sure	56	28.4	28.4	82.7
Strongly agree	21	10.7	10.7	93.4
Strongly disagree	13	6.6	6.6	100.0
Total	197	100.0	100.0	

I want to see prostate cancer information that includes pictures of Black men.

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	63	32.0	32.0	32.0
Disagree	43	21.8	21.8	53.8
Not sure	51	25.9	25.9	79.7
Strongly agree	30	15.2	15.2	94.9
Strongly disagree	10	5.1	5.1	100.0
Total	197	100.0	100.0	

Cross tabulations

How old are you? * Have you ever had prostate cancer screening before? Crosstabulation

			Have you ever had prostate cancer screening before?			Total
				No	Yes	
How old are you?	>60	Count	$0_{a, b}$	3_{b}	6_{a}	9
		% within Have you ever had prostate cancer screening before?	0.0%	2.2%	11.1%	4.6%
	40-50	Count	5_{a}	115_{a}	39_{a}	159
		% within Have you ever had prostate cancer screening before?	100.0%	83.3%	72.2%	80.7%
	51-60	Count	0_{a}	20_{a}	9_{a}	29
		% within Have you ever had prostate cancer screening before?	0.0%	14.5%	16.7%	14.7%
Total		Count	5	138	54	197
		% within Have you ever had prostate cancer screening before?	100.0%	100.0%	100.0%	100.0%

Have you received prostate cancer information from any source before? * Have you ever had prostate cancer screening before? Crosstabulation

			Have you ever had prostate cancer screening before?			Total
				No	Yes	
Have you received prostate cancer information from any source before?		Count	5	0	0	5
		% within Have you ever had prostate cancer screening before?	100.0%	0.0%	0.0%	2.5%
	No	Count	0	62	8	70
		% within Have you ever had prostate cancer screening before?	0.0%	44.9%	14.8%	35.5%
	Yes	Count	0	76	46	122
		% within Have you ever had prostate cancer screening before?	0.0%	55.1%	85.2%	61.9%
Total		Count	5	138	54	197
		% within Have you ever had prostate cancer screening before?	100.0%	100.0%	100.0%	100.0%

How old are you? * Have you received prostate cancer information from any source before? Crosstabulation						
			Have you received prostate cancer information from any source before?			Total
				No	Yes	
How old are you?	>60	Count	0_a	3_a	6_a	9
		% within Have you received prostate cancer information from any source before?	0.0%	4.3%	4.9%	4.6%
	40-50	Count	5_a	57_a	97_a	159
		% within Have you received prostate cancer information from any source before?	100.0%	81.4%	79.5%	80.7%
	51-60	Count	0_a	10_a	19_a	29
		% within Have you received prostate cancer information from any source before?	0.0%	14.3%	15.6%	14.7%
Total		Count	5	70	122	197
		% within Have you received prostate cancer information from any source before?	100.0%	100.0%	100.0%	100.0%

Appendix 11. Systematic Review

Black men’s views on prostate cancer screening and information

Student ID: 13030039

[Date]

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Abstract

Background: The incidence of prostate cancer is higher in Black men. However, research shows that Black men are less likely to access preventive healthcare. This implies that they are more likely to be diagnosed with the disease at advanced stages and also more likely to die from it.

Objective: The objective of this review was to explore the evidence available from literature with regards to the factors influencing (barriers and facilitators) prostate cancer screening in black men.

Methods: Six databases were searched for studies on the predictors (barriers and facilitators) of prostate cancer screening in Black men. Abstracts of the selected studies were independently screened by the researcher and a second reviewer. Eighteen studies were included in this review. Quality assessment was developed based on the recommendations of Sirriyeh et al (2012).

Results: Factors influencing prostate cancer screening in Black men were almost similar across all the studies (which were found to be of high or medium quality). These factors have been grouped under the following four themes: cultural beliefs, attitudes and behaviours; individual factors, economic factors, and social factors. Knowledge/awareness of prostate cancer, fear of getting a positive diagnosis, healthcare provider-patient communication, social support, and cost of screening, age, threat to masculinity and sexuality, and perception of risk were among the facilitators or barriers to prostate cancer screening in Black men.

Conclusion: This review shows that the factors that influence Black men negatively in getting screened for prostate cancer may delay or contribute to late diagnosis. These factors should therefore be taken into consideration when designing interventions to increase uptake of prostate cancer screening in Black men. This review also indicates that there is the need for similar research to be conducted in other countries, such as African and Caribbean countries, besides the USA.

Keywords: *Prostate cancer, screening, Black men.*

Introduction

The American Prostate Cancer Society (2014) reported that prostate cancer (PC) cases in the USA were estimated to be around 233,000 in 2014 and that about 29,480 men will die from the disease. They further postulated that PC was the second leading cause of cancer death, behind lung cancer, in American men and indicated that one in every seven men will be diagnosed with the disease in a lifetime whiles one in every thirty-six men will die of PC. About six in ten cases are diagnosed in men aged sixty-five years and above, with sixty-six years being the average age at the time of diagnosis (American Cancer Society, 2014; NICE, 2014). Though the disease can be serious, diagnosis does not necessarily lead to death. About 2.5 million men diagnosed with PC in the USA are still living today (American Prostate Cancer Society, 2014).

In 2011, PC was diagnosed in about 41,736 men in the UK, and was responsible for 10,837 deaths in 2012. Also, 81.4% of those diagnosed with the disease survived for five years or more between 2005-2009 (Cancer Research UK, 2014). It was further estimated that about one in every eight men in the UK will get PC at some point in their lives and indicated that men with a family history of PC, and Black men are at higher risk. The incidence and mortality rates of PC in Black men are so high that about one in four Black men will be diagnosed with the disease at some point in their lives (Prostate Cancer UK, 2014). Black men also have a greater likelihood of been diagnosed with PC at an advanced stage compared to men of other races. Considering that Black men have the highest risk of getting PC, delay or non-participation in routine prostate cancer screening (PCS) compounds their risk, and increases situations where they present with diagnosis of PC at advanced stages. Early detection, which can be achieved through routine screening, is therefore imperative as cancer detected at this stage is more likely to be curable.

Routine PCS is a highly controversial issue due to the lack of sufficient evidence that it leads to better health outcomes and the uncertainty with regards to the best treatment of the disease. Regardless of the convincing research evidence suggesting the benefits of PCS, various health associations and medical review groups have maintained that there is insufficient evidence for or against routine PCS. Though the USA Preventive Services Task Force (USPSTF) agrees that screening can lead to early detection of PC, they do not endorse routine population screening, citing that it is not very clear how early detection improves health outcomes (US Preventive Services Task Force, 2012).

After a detailed evaluation of the evidence from reviews on the costs and benefits of screening for PC, the Prostate Advisory Committee (PAC) of the American Cancer Society (ACS) made the following recommendations: that men should be given information about the uncertainties, risks, and potential benefits of PCS and thereafter, be given the chance to make an informed decision regarding whether or not to be screened. Also, that healthcare providers start discussing PCS with their male patients with average risks and with at least a 10-year life expectancy, from 5o years; men with high risks (African American men and men whose father, son or brother have been diagnosed with PC) from 45 years and men with even higher risks (those with more than one first-degree relative who had PC at an early age) from 40 years. They recommend the use of the Prostate Specific Antigen (PSA) blood test and Digital Rectal Examination (DRE) screening procedures to detect PC (American Cancer Society, 2010). Central to the recommendations of major medical organizations is that healthcare/medical practitioners discuss PCS with their patients to enable them make informed decisions regarding screening.

The European Association of Urology (EAU) also recognizes PC as a major health problem and one of the main causes of male cancer deaths. They however elucidate that due to the large overtreatment effect, existing published information is inadequate to endorse the implementation of routine population screening for PC. They further explained that before population screening is considered by national health authorities, the level of opportunistic screening, over diagnosis, overtreatment, quality of life, costs, and cost-effectiveness should be taken into account (EAU, 2009). The EAU then advises that in the absence of a routine population screening programme, men considering screening for PC should obtain information on the risks and benefits of screening and an individual risk assessment.

Background

Dragan, O'Connor, Green and Wilt (2007) conducted a systematic review of randomised controlled trials (RCTs) to determine whether PCS reduces prostate cancer-specific mortality, impact on all-cause mortality and patient health-related quality of life. Results from the review showed that screening did not significantly decrease PC mortality or all-cause mortality. The researchers further reported that it may take up to 10 years for the benefits of PCS to be recognised and therefore recommended that those with a life expectancy of 10 to 15 years who are considering screening should be informed about the harms of screening so that they can make informed decisions with regards to screening.

A most recent systematic review on PCS and Black men was conducted by Penderson, Armes and Ream (2012) on Black African and Black Caribbean men's perceptions of prostate cancer. This review also compared PC knowledge and perception between Black men and White men. The researchers reported that knowledge of the prostate and PC, individual factors such as patient-provider communication, family history, and socio-cultural factors such as fear of cancer, mistrust of the healthcare system, culturally specific health information, lack of preventive care among Black communities and limited access to care influence Black men's willingness to be tested for PC. A limitation of this review was that almost all the studies in the review were conducted in the USA. Out of the 33 studies, only one was conducted in the UK and then another one conducted both in the USA and Nigeria, therefore making it difficult to apply findings from this review to populations from other African or Caribbean countries.

Luque, Ross and Gwede (2014) conducted a systematic review to examine the roles played by Black barbershops in the African-American community for feasibility studies and intervention research on men's health issues, and to evaluate the potential for barber-administered health education and outreach to reach Black men and promote positive health behaviours to address the persistent health disparities. The intervention studies reviewed were mostly on PC and hypertension, where barbers provided health education, screening and referrals to healthcare whiles non-intervention studies focused mostly on surveying or interviewing barbers to assess the feasibility of future interventions. It was found that barbershops were culturally appropriate venues for disseminating health education materials, and also acceptable venues for training barbers to conduct education and screening. In studies where barbers received training, their knowledge of various health conditions increased as they were able to increase knowledge and promote positive health behaviour among customers.

Objective

The objective of this review was to explore the evidence available from the literature with regards to the factors (barriers and facilitators) influencing PCS in black men.

Inclusion Criteria

The inclusion criteria were, studies published in English, studies on the barriers to PCS in Black men, studies on the facilitators of PCS in Black men, Studies on PCS in Black men, and published studies covering a period of 10 years.

Exclusion Criteria

The exclusion criteria were, studies on other types of cancers, studies that do not seek to explore the barriers to, or facilitators of PCS in Black men, and studies not conducted in English.

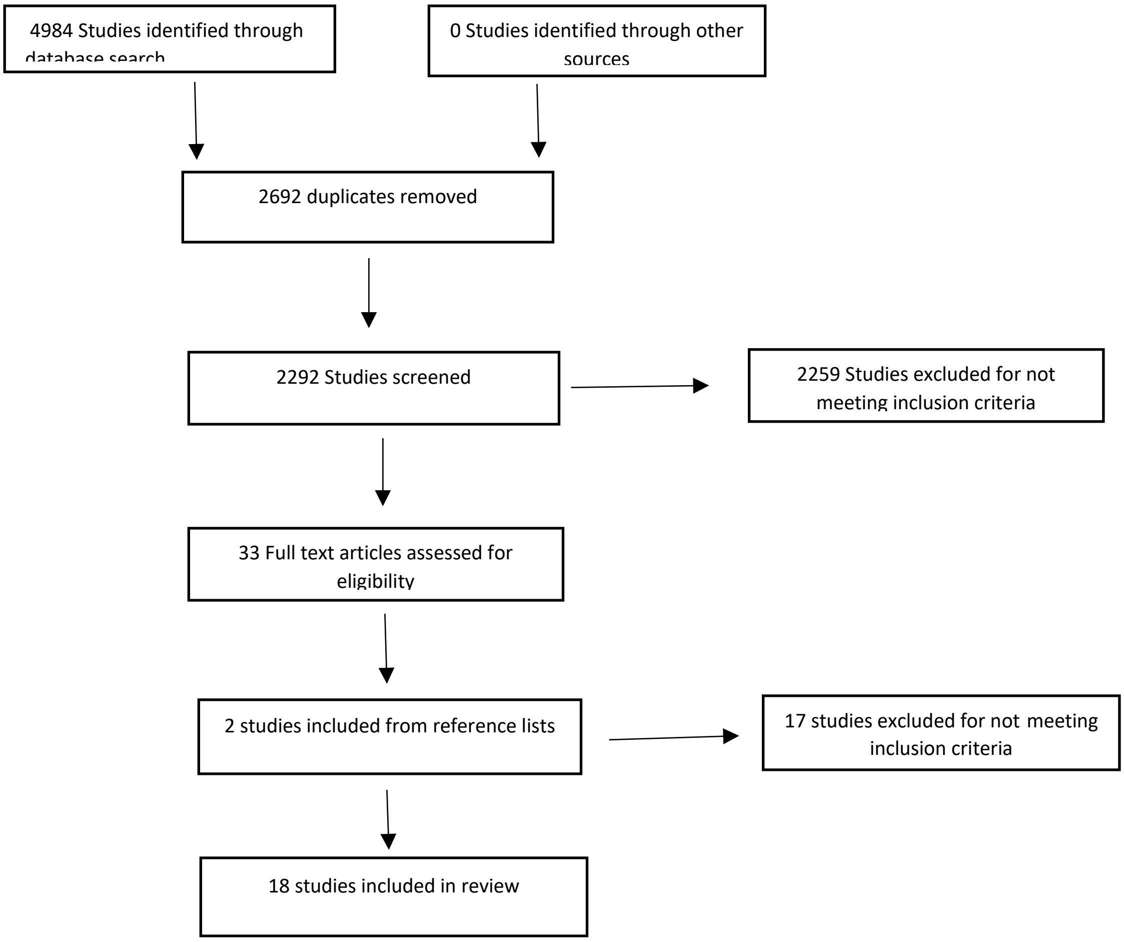
Study materials

Quantitative surveys and qualitative studies that examined factors influencing PCS in Black men were reviewed. Studies were obtained from journals if the information on their abstracts suggested that they met the eligibility criteria.

Search Strategy and terms

The following databases were searched between March and April 2014 for studies on the barriers and facilitators of PCS uptake in black men: Medline, PsychInfo, PsychArticles, PubMed, ScienceDirect, and the Cochrane Database for Systematic Reviews. Search terms were developed and run on these databases. The search produced 4984 results. After duplicates were removed, 2292 studies were left and their abstracts reviewed from which 32 studies were found to be eligible. Reference lists of the eligible articles were hand-searched, which generated 2 studies. These 35 studies were then obtained and independently reviewed by the researcher (AA) and another reviewer (FA). 17 of these studies did not meet the inclusion criteria and were excluded, leaving 18 studies, which were included in the review. The search terms used were: Black men* OR African men* OR African-American men* OR African-Caribbean men* OR Black-British men* AND prostate cancer* OR prostate screen* AND factors* OR predictors* OR barriers* OR facilitators*.

Figure 1. Flow diagram of studies search and retrieval



Review methods

Abstracts of the selected studies were independently screened by the researcher and a second reviewer. Decision on the eligibility of studies were made and disagreements of study eligibility resolved using information provided in the inclusion and exclusion criteria. In cases where it was difficult to make a definite decision about the eligibility of the study from the title and/or abstracts alone, the whole paper was obtained and read for a detailed assessment. Out of the 35 studies chosen for this review 18 studies conducted between 2004 and 2013 met the inclusion criteria and were therefore included within the review while 17 studies were excluded because they did not meet the inclusion criteria.

Data extraction

A data extraction form was developed in order to obtain the relevant information about the selected studies and their findings (results). The data was extracted methodically on information such as the author(s), objective(s), study setting, country where study was conducted, description of participants, sampling type, design, analysis and results/findings.

See data extraction forms in appendix 1

Quality Assessment

A quality assessment form was developed based on the recommendations of Sirriyeh et al (2012) as this was deemed appropriate for assessing a systematic review containing qualitative, quantitative and mixed methods. The studies' quality was assessed on items such as full description of the study, the sampling type, the sample size, full description of the procedure of data collection, description of the research settings, informed consent, eligibility criteria, whether the sample was representative of the target population, outcome measures used, the analysis, a justification of their choice of analysis, and a discussion of the strengths and limitations of the study. They were then scored on a scale of 0-3 (Not at all 0, Very slightly 1, Moderately 2 and Complete 3). Studies were deemed to be of low quality if they scored between 1 to 11 points, moderate quality if they scored between 12 to 23 points and high quality if they scored between 24 to 34 points.

Table 1: Quality of studies

Quality	**Studies**
High quality (24 – 34 points)	(Ford et al, 2006; Lehto, 2010; Nakandi et al, 2013; Odedina et al, 2008a; Patel et al, 2010; Woods et al, 2006; Ross et al, 2005; Woods et al, 2004a) - 7 studies.
Moderate quality (12– 23 points)	(Abernethy et al, 2009; Allen et al, 2007; Blocker et al, 2006; Carter et al, 2010; Lehto et al, 2010; Ng et al, 2012; Ocho et al, 2013; Odedina et al, 2008b; Odedina et al, 2004; Parchment, 2004; Woods et al, 2004b) - 11 studies
Low quality (1 -11 points)	None

See quality assessment forms in appendix 1

Results: Factors influencing prostate cancer screening in Black men

The sample sizes of the studies ranged from 21 to 736 and altogether, had a total of 4,411 participants. Ages of participants were from 18 years and above. More than 90% of the study participants were Black men, with the rest consisting of females (spouses of Black men diagnosed of prostate cancer), significant others of Black men and Asian Caribbean men (Ocho et al (2013). Some of the studies included spouses of African American men (Blocker et al, 2006), spouses and significant others of African American men (Carter et al, 2010), Asian Trinidadian men (Ocho et al, (2013) spouses of African Barbadian men, other community members, religious leaders (Ng et al, 2012) three women (Allen et al, 2007). These studies were conducted in five different countries: the USA (Abernethy et al, 2009; Allen et al, 2007; Blocker et al, 2006; Carter et al,2010; Ford et al, 2006; Lehto et al, 2010; Odedina et al, 2008a; Odedina et al, 2004; Patel et al, Parchment , 2004; Ross et al, 2005; Woods et al, 2006;

Woods et al, 2004a; Woods et al, 2004b;), Uganda (Nakandi et al, 2013), Barbados (Ng et al, 2013), Nigeria and the USA (Odedina et al, 2008b) and Trinidad and Tobago (Ocho et al, 2013). 8 studies used quantitative methods, 8 used qualitative methods whiles 2 used mixed methods.

Generally, the studies were found to be of good quality as 7 were given high quality rating and 11 given moderate quality rating. Studies were given high quality rating if they fulfilled the quality criteria such as giving a full and clear description of the study, using the appropriate sampling type, sample size, design, analysis and measures. None of the studies fulfilled all the quality criteria, owing to the fact that most of them either failed to record the setting for the study (Ross et al, 2005; Patel et al, 2010; Blocker et al, 2008), failed to justify their choice of analysis or did not present a discussion of the strengths and limitations of their studies. Due to the size of the review, the results of the studies were presented together in a thematic form. Taking time constraints into consideration, it was not feasible to present each study's findings separately.

Table 3: Results of studies

Study	**Participants**	**Sampling**	**Design**	**Analysis**	**Results**	**Quality**
Abernethy et al (2006)	481 Black men aged 40-79years	Convenience sampling	Correlational	Hierarchical regression, MANOVA	-Intrinsic religiousness -Non-organised religiousness -Organised religiousness -Cost of screening -Socioeconomic status	Moderate
Allen et al (2007)	65 African Americans (62 men and 3 women) 35+	Snowball, purposive sampling	Semi-structured interviews, focus groups	Thematic content	-Lack of knowledge of PC and screening -Absence of insurance -Health behaviours (male machismo) -Mistrust of the healthcare system -Poor healthcare provider-patient communication -Threat to masculinity/sexuality -Threat to sexual function -Fear of cancer	Moderate

					-Culturally-specific health promotion materials -Partnership between community leaders and healthcare providers -Suitable intervention channels -Need for holistic educational efforts	
Blocker et al (2006)	29 African American men and their spouses 34 to 68 years.	Purposive sampling	Focus groups	Thematic	-Threat to masculinity -Threat to sexual function -Invasion of privacy -Fear of cancer -Mistrust of healthcare providers -Patient-doctor communication -Absence of health insurance -Role of the church -Putting family needs first	Moderate
Carter et al (2010)	541 African American men, their spouses and significant others) 40+	Unknown	Focus group, education intervention, community-based participatory research	Pearson correlational analysis	-Fear of cancer -Habit of not discussing health issues -Wives discuss their own health more -Lack of knowledge of test types -Age (older men screen more than younger men -Social support from spouse -Education intervention -Health insurance	Moderate
Ford et al (2006)	21 African American men 55+	Random sampling	Focus groups	Content	-Knowledge of prostate cancer and screening -Health beliefs (male machismo) -Fear of cancer Embarrassment of having PC -Intergenerational transfer of health information -Social support -Information from healthcare provider -Computerised medical reports reminder -Health insurance	High

Lehto et al (2010)	66 African American men	Convenience sampling	Descriptive crossectional study, surveys	ANOVA, chi-square tests, logistic regression	-Age -Knowledge of prostate cancer and screening -Health behaviours -Health values -Marital status	Moderate
Nakandi et al (2013)	545 Ugandan men 18+	Random sampling	Descriptive cross-sectional study	SPSS, thematic analysis	-Lack of knowledge of prostate cancer, risks and screening -Advice from doctors/health workers -Level of education -Age -Attitudes to screening	High
Ng et al (2012)	33 Barbadians	Random sampling	Semi-structured interviews, community-based participatory research	Thematic analysis	-Threat to masculinity -Threat to sexuality -Values of privacy and self-sufficiency -Limited knowledge of prostate cancer risks -Putting family needs and work first -Barriers to care -Information dissemination -Discontinuity of care	Moderate
Ocho et al (2013)	75 Trinidadian men 19 – 60years	Purposive sampling	Semi-structured interviews	Thematic analysis	Discomfort/embarrassment of screening or Invasion of privacy -Threat to sexual identity - Fear of being examined by homosexual men -Fear of discrimination on grounds of sexuality-homosexuals -Screening procedures with less discomfort -Family history -Female examiners (lessons fear of threat to masculinity)	Moderate
Odedina et al (2008a)	298 African American men	Unknown	Longitudinal study	Multiple regression, logistic regression	-Attitudes towards PC -Social influence -Perceived behavioural control -Self-efficacy -Instrumental beliefs	High

					-Behavioural intension	
Odedina et al (2008b)	249 Nigerian men 39-79years	Convenience sampling	Structured questionnaires	Descriptive statistics, two sample *t*-test, Cronbach's alpha	-Favourable attitudes towards pc screening -Perceived behavioural control -Perceived severity -Knowledge of PC -Screening intention	Moderate
Odedina et al (2004)	49 African American men 40+	Convenience sampling	Focus groups	Comprehensive ethnological analysis	-Perception of risks -Negative beliefs about PC -Lack of knowledge of PC and screening -Discomfort of the DRE -PC messages concepts, sources and channels -Social influence -Positive health activities -Resources and opportunities facilitating screening -Experience of illness	Moderate
Parchment (2004)	100 African American and Caribbean men 37-89years	Convenience sampling	Survey, intervention, focus groups	Thematic analysis	-Discomfort of DRE -Fear of impotence or incontinence -Insurance -Knowledge of PC and screening -Information from healthcare provider -Symptoms -Encouragement from spouses	Moderate
Patel et al (2010)	293 African American men 45+	Purposive sampling	Surveys	Binary logistic regression	Transportation issues -Difficulty getting time off work -Lack of adequate information about PC and screening -Health insurance -Pain and discomfort of screening -Cost of screening -Fear of PC	High
Ross et al (2005)	736 Black men 45+	Probability sampling	Structured interviews	Statistical analysis - SUDAAN	-Age (being 50+) -Level of education -Geographical location -Income status -Marital status	High

					-Health insurance and insurance type -Current physical health -Family history	
Woods et al (2006)	276 Black men, mean age 53years	Convenience purposive sampling	Cross-sectional	Multiple statistical analysis (Descriptive, bivariate and factor analysis)	-Fear of prostate cancer -Threat to sexual function -Pain and discomfort of screening -Discomfort of discussing PC with significant others -Knowledge of PC and screening -Health insurance Awareness of the existence of a screening facility - Public health messages - Physician communication style -Denial of self-risk	High
Woods et al (2004a)	277 Black men 40+	Purposive sampling	Longitudinal cohort study, interviews and focus groups	Grounded theory, descriptive frequencies	-Lack of knowledge of PC and screening -Communication issues with healthcare providers (verbal and non-verbal) -Social support -Mistrust of healthcare providers and quality of care given to Black men -Threat to sexual identity -Threat to sexual function	High
Woods et al (2004b)	277 Black American men 40+	Purposive sampling, community outreach	Focus groups	Grounded theory	-Lack of knowledge of PC. Discomfort/embarrassment of discussing PC -Preventative behaviours -Health insurance -Transportation issues -Quality of care -Mistrust of the healthcare system -Lack of culture-sensitive health information -Doctor-patient communication	Moderate

Cultural beliefs, attitudes and behaviours

i. *Religion*

Black men were positively influenced by their Christian faith as they endeavoured to take care of their bodies by adopting healthy behaviours because of their belief that their bodies are the temple of God and therefore should be as healthy as their souls. They also emphasized the importance of the role of the church on their health behaviours. Black men were more likely to adhere to health promotion activities if those activities had the support of the church as they felt their church's support of health promotion activities implied that such activities had the endorsement of the church (Blocker et al, 2006).

ii. *Beliefs and attitudes towards cancer*

Positive beliefs, attitudes and health behaviours influenced Black men positively in PCS behaviours. Whiles 50% of participants believed that prostate cancer was not preventable, all of the participants however felt that if detected early, PC could be cured, and believed that they had higher risks of getting PC. Black men's intentions to screen for PC were found to be influenced by their risk perception of PC (Odedina et al, 2008a). 80% agreed that PC is a problem whiles 77% said they had never considered screening for PC. 71% of respondents thought that early diagnosis of PC increases clinical outcomes whiles 63.5% felt that they had high PC risks Nakandi et al (2013). In the study of Odedina et al (2008b), respondents' attitudes positively predicted their intention to screen for PC. Black men were more likely to have PCS if they perceived they were at risk of getting PC, and reported that knowledge of the incidence rates of PC encourages Black men to be screened (Odedina et al, 2004). Positive health activities such as being focused on one's health and including PCS in their annual physical examination positively influenced screening (Odedina et al, 2004). On the other hand Woods et al (2006) reported a denial of self-risk as some participants refused to accept that they were at high risk of getting PC. Negative beliefs and attitudes such as these could pose as barriers to healthcare and can therefore lead to non-participation in screening.

iii. *Threat to masculinity and sexual function*

Ford et al (2006) found that Black men reported a “macho image” which they try to maintain and therefore see routine health visits as feminine behaviour. Black men generally abstain from seeking preventive healthcare, as they find preventive health behaviour threatening to their masculine identity. They therefore tend to wait and only access healthcare when they need to, which in most cases is usually too late for treatments to be effective. (Allen et al, Blocker et al, 2006; 2007; Ford et al, 2006; Lehto et al, 2010; Ng et al, 2012; Woods et al, 2004b). Most Black men also felt PCS or treatment may cause impotence (Blocker et al, 2006; or incontinence. 42% of participants feared that PCS could lead to the inability to have normal erection and intercourse, 44.5% feared screening could lead to weak erection, 46.2% feared it could lead to an erection not sufficient enough for vaginal penetration, while 91.9% felt that sexual functioning was very important (Woods et al, 2004b). Since Black men tend to be hypersensitive to threats to their masculinity, impotence to them would therefore mean being powerless.

They also feared that PCS such as the DRE may suggest homosexuality (Allen et al, 2007; Ng et al, 2012; Ocho et al, 2013; Woods et al, 2004a). Apart from associating DRE with homosexuality, the gender of the examiner was also a barrier to screening as some participants feared the possibility of being examined by homosexual men, whom they felt could achieve sexual gratification from the procedure. To increase screening rates, participants stated that they would prefer to be examined by female examiners, or someone they were less familiar with (Ocho et al, 2013).

iv. *Culture*

Health messages that appeal to Black men and reflect Afrocentric perspectives could motivate them to obtain screening. Health promotion materials targeted at reaching Black men should specifically demonstrate Black culture in order for them to identify with. Focus group discussions in Woods et al (2004b) revealed that Black men are discouraged from accessing healthcare services that use only Anglo-type promotion materials. Health services or health promotion targeted at reaching Black men should be delivered through intervention channels such as churches, barber shops, sporting events, civic and social groups, prisons, schools and fraternal organisations Allen et al (2007). African-Barbadian men often use herbal remedies to treat illnesses and either do no seek preventive healthcare or discontinue seeking preventive healthcare, which compromises the physician-patient relationship Ng et al (2012)

v. *Mistrust of the healthcare system and quality of care*

Black American men had reservations about the healthcare system and the healthcare that were offered to them, as some of they felt they received poor quality care (Allen et al, 2007; Blocker et al, 2006; Woods et al, 2004a; Woods et al, 2004b). Among other things, the major source of mistrust was the Tuskegee Syphilis Study (Allen et al, 2007). 40% of participants felt that the healthcare system was not intended to help Black men, whiles 45.2% believed they received poor quality of healthcare due to their race (Woods et al, 2004a). To facilitate participation in screening, Black men require to be provided with quality care, the sort of service that allows them to participate in decision making, and allows for the development of an interpersonal relationship with the healthcare professional (Woods et al, 2004b)

Individual-specific factors

i. *knowledge of prostate cancer*

knowledge/awareness of PC determined PCS in Black men (Allen et al, 2007, Ford et al, 2006; Lehto et al, 2010; Nakandi et al, 2013; Ng et al, 2012; Odedina et al, 2008a; Odedina et al, 2008b; Odedina et al, 2004; Patel et al, 2010; Parchment et al, 2004; Woods et al, 2006; Woods et al, 2004a; Woods et al, 2004b). Knowledge of PC means the individual is more aware of the incidence, risks factors, screening methods and where and when to be screened. Lack of knowledge of PC creates fear and increases the likelihood that an individual will not access preventive healthcare. Black men displayed minimal knowledge about the location of the prostate (Allen et al, 2007). Some confused PC with colorectal cancer, some had misconceptions about the risk factors of PC whiles others had minimal awareness about the role of the PSA and DRE (Ford et al 2006). The Ugandan study found that 250 out of the 545 participants had never heard of PC or the prostate gland, and thought PC was gonorrhoea. Half of those who had heard of PC could not identify any risk factors and did not know the age at which men should start getting screened, whiles most of them did not know any means of screening (Nakandi et al, 2013). Although most men in the Barbadian study stated having some awareness of PC, many of them showed less awareness of the increased risk among African Barbadian men (Ng et al, 2012). 37% of participants (Patel et al, 2010) reiterated that they did not obtain PCS because they had little or no information about PC, whiles others stated that they would have a screening if they were well-informed about PC (Odedina et al, 2004). Woods et al (2004a) reported that though actual knowledge level of PC among participants were high, with 81%of the participants giving correct answers to the "signs and symptoms" questions, 48.7% of the participants were uncertain of their risks, 44.8% were not aware of PSA whiles 27% had not heard of DRE. Black men attributed their non-participation in screening to fear because they lacked adequate knowledge of PC (Woods et al, 2004b). An education intervention was found to increase Black men's knowledge of PC, which resulted in increased screening rates (Carter et al, 2010).

ii. *Fear of cancer*

Fear was identified as a barrier to PC screening in Black men due to their perception of PC as a deadly illness (Odedina et al, 2008b) or fear of getting a positive diagnosis (Allen et al, 2007; Carter et al, 2010; Ford et al, 2006). 31% of participants would not be tested due to fear of getting a positive result (Patel et al, 2010). Due to their perception of cancer as a death sentence, Black men felt that discussing cancer openly was a taboo. Negative message concepts about PC arouses fear, which discourages screening in Black men (Odedina et al, 2004). 79.7% of participants feared cancer-related problems, 79.3% feared cancer treatment, and 79.3% feared having surgery due to cancer diagnosis, whiles 75% feared discovering they had cancer (Woods et al, 2006). For homosexual Black men, it was not just the fear of getting a positive diagnosis, but also the fear of being discriminated against by healthcare professionals on the grounds of their sexuality (Ocho et al, 2013).

iii. *Embarrassment/discomfort of screening or discussing prostate cancer*

Most Black men were too embarrassed to talk about PC and felt it was embarrassing to have a positive diagnosis of PC (Carter et al, 2010; Ford et al, 2006). Generally, Black men do not discuss their health with anybody and also do not talk about cancer with significant others (Carter et al, 2010; Woods et al, 2006). They felt that PC was a private issue and felt uncomfortable discussing it unless the issue was raised by a healthcare professional (Woods et al, 2004b). Black men found it embarrassing to undergo PCS because they felt it was an invasion of their privacy (Blocker et al, 2006; Ocho 2013). Their values of privacy and self-sufficiency posed as a barrier to PCS, as majority of participants felt that health was not a regular topic of discussion, and therefore viewed illness as a private issue. For this reason, PC survivors kept their diagnosis within the family and did not seek any external support to help them through the treatment (Ng et al, 2012).

Most participants reported that pain and discomfort of undergoing the DRE was a barrier to PCS (Parchment et al; 2004). Patel et al (2010) found that 38% of participants felt the pain and discomfort of screening was an obstacle to PCS whiles Woods et al (2006) established that 75.4% of participants felt the DRE was uncomfortable.

iv. **Family history**

Family history of PC was found to be a facilitator of PCS (Ocho et al, 2013). The diagnosis of PC in a father or a brother was seen as a motivator to health seeking behaviour with regards to PCS as this increased their perception of risk. Similarly, Ross et al (2005) found that men with a family history of PC were more likely to be screened for PC than those with no family history of PC.

v. *Experience of illness/ physical health*

Parchment et al (2004) found that Black men were less likely to be screened if they felt that they were physically healthy, and more likely to be screened if they fell ill. Ross et al (2005) found that men with poor health were more likely to be screened for PC, as they would seek curative healthcare, which could eventually lead to recommendations from their physician to be screened for PC, depending on their age. Similarly, Black men with chronic conditions or illnesses that need regular medical care, such as diabetes or coronary heart disease, were more likely to be screened annually (Odedina et al, 2004).

Economic factors

i. ***Socio-economic status***

Though socioeconomic status was not associated with differences in PCS behaviour, it was associated with PCS intent, as men of higher socioeconomic status viewed treatment as more effective and expressed more intent to have a PCS compared to men of lower socioeconomic background (Abernethy et al, 2006). Level of education and cost of screening influenced PCS in Black men (Nakandi et al, 2013; Patel et al, 2010; Ross et al, 2005). 37% of participants regarded the cost of screening as a barrier towards PCS (Patel et al, 2010). 33% of employed men and 58% of unemployed men were concerned about the cost of screening. Higher levels of income, higher levels of education and living in the geographical location of the north-east positively influenced PCS in African-American men (Ross et al, 2005).

ii. ***Lack of insurance***

Lack of insurance or financial resources meant that Black men lack adequate access to health services (Allen et al, 2007; Ford et al, 2006; Blocker et al, 2006, Parchment et al, 2004; Ross et al, 2005; Woods et al, 2006; Woods et al, 2004b). 39% of participants could not have a screening because they did not have health insurance (Patel et al, 2010). Unlike White men, most Black men do not have health insurance, which limits their access to healthcare (Carter et al, 2010).

iii. ***Putting family needs and work first***

For employed men, getting a PCS would mean taking time off work. Getting time off work to seek health care was found to be a problem for African-American working men, who mostly have two jobs (Allen et al, 2007). 55% of participants cited getting time off work as a barrier towards PCS (Patel et al 2010). African-American men tend to prioritise the needs of their families, to the neglect of their own health (Blocker et al, 2007). African Barbadian men would rather ensure that they provide for their families if this could even result in neglecting their own healthcare needs (Ng et al, 2012).

iv. Other barriers to care

Apart from the barriers to PCS already mentioned, limited supply of urologists was an obstacle to PCS among Barbadian men. There were only two urologists in the country offering the free PCS under the free healthcare system, which meant that to access the free PCS, men had to wait long hours at screening centres, which they found discouraging (Ng et al, 2012).

Transportation to screening facilities posed as a barrier towards PCS in Black men (Carter et al, 2010; Woods et al, 2004b). 58% of participants attributed their inability to be screened to the lack of transportation to the test centres (Patel et al, 2010).

v. Men's recommendation

Apart from the facilitators of prostate screening already mentioned, participants felt that certain aspects of health promotion resources could help increase their uptake of PCS. They suggested the necessity of healthcare providers keeping computerised medical records that would remind them to invite their patients in for screening at the appropriate intervals (Ford et al, 2006; Odedina et al, 2004) and formulating other less-painful screening procedures besides the DRE (Odedina et al, 2004).

Social factors

i. Healthcare provider-patient communication

Communication between the healthcare provider and the patient influenced the patients' health behaviour. Black men's decision to have PCS depended on what health promotion information was conveyed to them by their healthcare provider and the manner in which this information was conveyed to them. Participants also cited healthcare providers' lack of response to African-American men's needs as a barrier to PCS. It was found that Black men tend to be passive in their interactions with physicians, an African cultural aspect, which healthcare providers need to be aware of, so as to be more sensitive to African-American men’s health concerns and communication methods (Allen et al (2007).

Participants were influenced to undergo PCS if it was recommended by their physician (Blocker et al, 2006) and if their physician promoted its awareness and explained the available examination procedures to them (Ford et al, 2006). There was also a direct relationship between doctors’ encouragement to be screened for PC, doctors’ positive communication style, and PSA and DRE (Woods et al, 2006).

Verbal and non-verbal messages of the healthcare provider were perceived as compromising to African-American men. Participants stated that whiles most health centres lack Afro-type health promotion materials, lack of knowledge of diversity of some health care providers tend to be insulting to their culture. For health messages to be appealing to Black men, participants stated that such health messages must feature Black men and demonstrate a reflection of Black culture (Woods et al, 2004b).

ii. Age

Older men were more likely to be screened for PC than younger men, probably because of its high risk in older men. A statistically significant relationship between the age of respondents and screening was found (Nakandi et al, 2013), especially those that were 50 years and above (Lehto et al, 2010). Carter et al (2010) also found that 64% of men within the age group 40-49 years reported that they had never been screened, whiles most of the respondents within the age group 70-78 years had obtained PCS. Men below 50 years were less likely to be screened as compared to men from 50 to 64 years, who were two times more likely to be screened, and men over 65 years, who were four times more likely to be screened (Ross et al, 2005)

iii. Social support

Social support such as encouragement from wives, physicians and significant others facilitated PCS in African-American men (Odedina et al, 2008a). 30.7% of respondents were encouraged to be screened by their spouses and significant others, 12.7% were reminded of their screening appointment by their spouses, 11.5% were accompanied to the screening appointment by their spouses, whiles 2.4% of respondents' screening appointments were booked by their spouses (Carter et al, 2010). Participants indicated that social support was not just being urged by others to obtain PCS but also, encouragement from people they could identify with, for example, church members (Ford et al, 2006). Respondents were more likely to get screened if it was recommended by their doctor (85.6%), if significant others asked them to be screened (75.1%) and if someone they knew died of it (68.3%) (Woods et al, 2004a). Wives were also found to be influential in encouraging men to visit their physicians (Parchment et al, 2004). A significant relationship was found between men who were married or living with their partners, and PCS (Ross et al, 2005; Carter et al, 2010).

Whiles wives were identified as instrumental figures in encouraging their husbands to be screened for PC, some had the encouragement from their doctors, whiles others were asked by their employer (as part of their job requirement) to be screened (Odedina et al, 2004). 12.3% of participants were advised by their physician to be screened, 85.7% of participants did not obtain screening because they were not advised by their physician to obtain screening (Nakandi et al, 2013) whiles 75% of participants stated that the information they received from their physicians did not lead them to obtain regular screening (Parchment et al, 2004).During health discussions, women generally discuss their own health more than that of their spouses, therefore losing focus on men's health, a barrier towards PC screening (Carter et al, 2010).

iv. Prostate cancer messages, intervention and channels

An education intervention designed to assess the impact of PC education on screening rates increased 60% of respondents' knowledge after a three month follow-up, increased their discussion about PC with male friends by 47%, increased their discussion with significant others by 44% and increased their screening behaviour by 45% (Carter et al, 2010).

Intergenerational transfer of health information between younger people and older people was suggested by participants as they felt this would encourage screening among Black men as compared to just getting PC information from older people alone (Ford et al, 2006).

In the study of Ng et al (2012), participants felt that current health information was inadequate and not tailored to the needs of Barbadian men. PC information dissemination was done through discussions as there was limited availability of written materials and community groups. However, it was found that Barbadian men respond better with direct type of information such as pictures and written materials.

When asked about recommended strategies and settings for providing PC information to Black men, some participants cited the need for healthcare providers to establish and maintain partnership with community or religious leaders since these are well-trusted by the community (Allen et al, 2007).

Message sources and channels act as either facilitators or barriers to PCS. Black men prefer visual health messages such as advertisement on TVs and buses, flyers, and fear-arousing messages. They also suggested that PC information be advertised by Black people, or be passed through the church/church leaders. Health information sources that were found to be less-accessible to Black men were the internet and newspapers, and channels such as mass media messages sponsored by drug companies (Odedina et al, 2004). Participants believed that Black men could be reached through intervention channels such as churches, schools, barber shops, fraternal organisations, sporting events, prisons, civic and social groups (Allen et al, 2007).

Men emphasised the need for holistic educational efforts to address Black men's health rather than focusing on just one aspect of health. They suggested that education on nutrition, physical activity, stress relief, and sexual health should be included in PC educational information and such information should be made available to men from a younger age (Allen et al, 2007). Woods et al (2006) found a positive relationship between public information and preventive health messages on having both PSA and DRE.

Discussion

This review sought to explore the factors predicting PCS in Black men. Due to the size of the studies, it was appropriate to present the results in themes. The studies were generally of good quality. The review found, among other factors, poor PC knowledge among Black men. Also, Blackman reported a reluctance in seeking healthcare, which can have serious consequences on their health. Attitudes towards health and beliefs were also found to influence Black men in PCS. These findings could be used as guidelines in developing and implementing interventions to increase PCS among this population group. The findings from this review indicate that it is imperative for providers of healthcare to Black men to increase their efforts at promoting general routine healthcare and PCS to this population group since they have a higher risk of getting PC compared to men of other races. This could help prevent or reduce situations where Black men present with positive diagnosis of PC at advanced stages. Also, for Black men to increase their uptake in PCS, communication with healthcare providers need to be addressed as this could help establish trust between the healthcare providers and Black men. Moreover, healthcare information targeted at reaching Black men should be culturally relevant and acceptable by them.

A limitation of the review is that 15 out of the 18 studies were conducted in the USA, the results of which might not be transferable to other countries. Also, the intervention study (Carter et al, 2010) had a three month follow-up of participants, which was too short to measure the efficacy of the intervention in the long-term. Besides, unpublished studies, which might have resulted in different findings, were not added to this review. Though this review identifies barriers and facilitators to PCS in Black men, it does not explain in “how” these factors influence PCS in Black men.

The strength of the review is that its results are similar to results of other studies on PCS in Black men. Results of the quantitative studies are almost similar to those of the qualitative studies, making the review reliable. Also, all of the studies were either of high or moderate quality.

Implications for practice

Interventions aimed at increasing PCS in Black men should focus on the factors influencing health behaviour and PCS in Black men to design appropriate interventions that can help this population group make informed decisions with regards to PCS. PC is a public concern due to its incidence worldwide and therefore requires high levels of research and investment also in other African and Caribbean countries apart from the USA. Future research on PC and Black men could focus on conducting a qualitative study in other African and Caribbean countries to examine how these factors influence Black men in seeking healthcare or obtaining PCS. Research such as this can give researchers an in-depth understanding of Black men's health behaviour. The results from this review aslo shows the importance of understanding health needs, health behaviour and communication styles of Black men by healthcare providers as this can help build trust between healthcare providers and Black men to facilitate health seeking behaviour among Black men.

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Systematic review appendices

1. Data Extraction and quality assessment forms

Quality marks range from a lowest score of 1 to a highest score of 34

Form 1

1. **Authors:** Abernethy, Houston, Bjork, Gorsuch and Arnold (2009)
2. **Title of study:** Religiousness and prostate cancer screening in African American men.
3. **Objective(s):**

To examine the relationship between religiousness and religious problem solving in prostate cancer screening, attitudes and behaviour.

4. **Setting:** Unknown
5. **Country of study**: USA
6. **Participants**: 481 Black men aged 40-79years, mean age 49.9.
7. **Sampling:** Convenience
8. **Design:** Correlational study
9. **Analysis:** Hierarchical regression and MANOVA.
10. **Results:**

- Intrinsic religiousness
- Non-organised religiousness
- Organised religiousness
- Cost of screening
- Socio-economic status

Quality assessment

Abernethy et al (2009)

1. **Was a full description of the study given?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

2. **Was the sampling appropriate for the study?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

3. **Was the sample size adequate?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. **Was a full description of the procedure of data collection given**?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

5. **Was a clear description of the research settings given?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

6. **Was informed consent given to participants?**

Yes 1 Not recorded 0

Given score= 1

7. **Were the eligibility criteria specified?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 3

8. **Was the sample representative of the target population?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

9. **Were the outcome measures used relevant to the research question?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. **Was the type of analysis appropriate for the research question?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

12. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

Total Score = 24

Form 2

1. **Authors:** Allen, Kennedy, Wilson-Glover and Gilligan (2007)
2. **Title:** African American men's perceptions about prostate cancer: Implications for designing educational interventions.
3. **Objective(s):** To explore African American men's perceptions about prostate cancer screening.
4. **Setting:** Unknown
5. **Country of study:** USA
6. **Participants**: 65 African Americans (37 healthy African American men, 14 African American male survivors of prostate cancer, 11 African American informants and 3 African American women) 35 years and above.
7. **Sampling:** Snowball, purposive
8. **Design:** Semi-structured interviews, focus groups
9. **Analysis:** Thematic content analysis
10. **Results:**
    - Lack of knowledge or awareness of prostate cancer and screening
    - Absence of insurance or financial resources
    - Health behaviours of African American men (belief that men have to be strong and endure illness)
    - Mistrust of the health care system (historical)
    - Poor healthcare provider- patient communication
    - Threat to male sexuality/masculinity
    - Threat to sexual function/fear of impotence from treatment
    - Fear of cancer
    - Afrocentric health promotion materials
    - Partnership between community leaders and healthcare providers
    - Suitable intervention channels (e.g. barber shops, churches)

- Need for holistic educational efforts

Quality assessment

Allen et al (2007)

1. **Was a full description of the study given?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

2. **Was the sampling appropriate for the study?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

3. **Was the sample size adequate?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. **Was a full description of the procedure of data collection given**?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

5. **Was a clear description of the research settings given?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

6. **Was informed consent given to participants?**

Yes 1 No 0

Given score= 1

7. **Were the eligibility criteria specified?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 3

8. **Was the sample representative of the target population?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

9. **Were the outcome measures used relevant to the research question?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. **Was the type of analysis appropriate for the research question?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

12. **Were strengths and limitations of the study discussed?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

Total Score =24

Score = 28

Form 3

1. **Authors:** Blocker, Romocki, Thomas, Jones, Jackson, Reid and Campbell (2006)
2. **Title of study:**

Knowledge, beliefs and barriers associated with prostate cancer prevention and screening behaviours among African American men.

3. **Objective(s):**

To explore the knowledge and beliefs of African American men and their spouses about prostate cancer, behaviour change to reduce prostate cancer risk and prostate cancer screening.

To explore barriers to making health promoting lifestyle changes.

4. **Setting:** Churches
5. **Country of study** : USA
6. **Participants**: 29 African American men and their spouses (14 African American men and 15 African American women) 34 to 68 years.
7. **Sampling:** Purposive
8. **Design:** Focus groups
9. **Analysis:** Thematic
10. **Results:**
    - Threat to masculinity
    - Threat to sexual function (fear of impotence)
    - Invasion of privacy
    - Fear of cancer
    - Mistrust of healthcare providers
    - Patient-doctor communication
    - Absence of health insurance

- The role of the church (or church leaders)
- Putting needs of family first

Quality assessment

Blocker et al (2006)

1. Was a full description of the study given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

2. Was the sampling appropriate for the study?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

3. Was the sample size adequate?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. Was a full description of the procedure of data collection given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

5. Was a clear description of the research settings given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

6. Was informed consent given to participants?

Yes 1 Not reported 0

Given score= 0

7. Were the eligibility criteria specified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

8. Was the sample representative of the target population?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

9. Were the outcome measures used relevant to the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. Was the type of analysis appropriate for the research question?
Not at all 0 Very slightly 1 Moderately 2 Complete 3
Score given = 3

11. Was the choice of analysis justified?
Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

12. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2
Total Score = 23

Form 4

1. **Authors:** Carter, Tippett, Anderson and Tameru (2010)
2. **Title:** Increasing prostate cancer screening among African American men
3. **Objective(s):**
    - To identify enablers and barriers to prostate cancer screening
    - To develop and test the effectiveness of an education intervention
    - To determine the impact of the intervention on prostate cancer screening rates through follow-up survey
4. **Setting:** Unknown
5. **Country of study:** USA
6. **Participants**: 541 African Americans (African American men, their spouses and significant others) 40 years and above.
7. **Sampling:** Unknown
8. **Design:**
    - Quasi-experimental three-phase design (focus group, education intervention and follow-up survey).
    - Community-based participatory research
    - 6 focus groups and 3 follow-up times.
9. **Analysis:** Pearson correlation analysis
10. **Results:**
    - Fear of prostate cancer (associating prostate cancer with death)
    - Black men's habit of not discussing health issues
    - Women discuss their own health more
    - Lack of knowledge of test type
    - Age (70-78 years screened more than those below those age)

- Social support from spouse
- Education intervention
- Insurance

Quality assessment

Carter et al (2010)

1. Was a full description of the study given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

2. Was the sampling appropriate for the study?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

3. Was the sample size adequate?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. Was a full description of the procedure of data collection given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

5. Was a clear description of the research settings given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

6. Was informed consent given to participants?

Yes 1 Not recorded 0

Given score= 1

7. Were the eligibility criteria specified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 0

8. Was the sample representative of the target population?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

9. Were the outcome measures used relevant to the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. Was the type of analysis appropriate for the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

12. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

Total Score =20

Form 5

1. **Authors:** Ford, Vernon, Havstad, Thomas and Davis (2006)
2. **Title of study:** Factors affecting behavioural intention regarding prostate cancer screening among older African-American men
3. **Objective(s):** To assess factors associated with perceptions of prostate cancer screening among African American men aged 55 years and above.
4. **Setting:** Research office
5. **Country of study**: USA
6. **Participants**: 21African American men 55 years and above
7. **Sampling:** Random
8. **Design:** Focus groups
9. **Analysis:** Content analysis
10. **Results:**
    - Knowledge of prostate cancer and screening
    - Health beliefs (machocism)

- Fear of cancer
- Embarrassment of having PC
- Intergenerational transfer of health information
- Social support
- Information from healthcare provider
- Computerised medical records reminder
- Health insurance

Quality assessment

Ford et al (2006)

1. **Was a full description of the study given?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

2. **Was the sampling appropriate for the study?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

3. **Was the sample size adequate?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. **Was a full description of the procedure of data collection given**?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

5. **Was a clear description of the research settings given?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

6. **Was informed consent given to participants?**

Yes 1 Not recorded 0

Given score= 1

7. **Were the eligibility criteria specified?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 2

8. **Was the sample representative of the target population?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

9. Were the outcome measures used relevant to the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. Was the type of analysis appropriate for the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

12. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

Total Score = 28

Form 6

1. **Authors:** Lehto, Song, Stein and Coleman-Burns (2010)
2. **Study title:** Factors influencing prostate cancer screening in African American men.
3. **Objective(s):** To determine whether certain ecological dimensions, including personal attributes and person-environment relationship factors affect African-American men's prostate cancer screening.
4. **Setting:** Community church classroom
5. **Country of study**: USA
6. **Participants**: 66 African-American men
7. **Sampling:** Convenience sampling
8. **Design:** Survey

9. **Analysis:** One-way Anova, chi-square tests, and logistic regression

10. **(11) Results:**
    - Age
    - Knowledge of prostate cancer and screening
    - Health behaviours
    - Health values
    - Marital status

Quality assessment

Lehto et al (2010)

1. Was a full description of the study given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

2. Was the sampling appropriate for the study?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

3. Was the sample size adequate?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

4. Was a full description of the procedure of data collection given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

5. Was a clear description of the research settings given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

6. Was informed consent given to participants?

Yes 1 Not recorded 0

Given score= 1

7. Were the eligibility criteria specified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 3

8. Was the sample representative of the target population?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

9. Were the outcome measures used relevant to the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. Was the type of analysis appropriate for the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

12. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

Total Score = 25

Form 7

1. **Authors:** Nakandi, Kirabo, Semugabo, Kittengo, Kitayimbwa, Kalungi and Maena (2013)
2. **Title of study:** Knowledge, attitudes and practices of Ugandan men regarding prostate cancer.
3. **Objective(s):** To assess the current knowledge, attitudes and practices about prostate cancer screening in Uganda.
4. **Setting:** University campus and other unknown setting**.**
5. **Country of study:** Uganda
6. **Participants**: 545 Ugandan men aged 18 years and above.
7. **Sampling:** Random
8. **Design:** Structured questionnaires and focus group interviews
9. **Analysis:** Thematic analysis and SPSS
10. **Results:**
    - Lack of knowledge of prostate cancer, risks and screening
    - Advice from doctors/health workers
    - Level of education

- Age factor(older men screened because of higher risk of age)
- Attitudes to screening

Quality assessment

Nakandi et al (2013)

1. **Was a full description of the study given?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

2. **Was the sampling appropriate for the study?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

3. **Was the sample size adequate?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. **Was a full description of the procedure of data collection given**?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

5. **Was a clear description of the research settings given?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

6. **Was informed consent given to participants?**

Yes 1 Not recorded 0

Given score= 1

7. **Were the eligibility criteria specified?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 3

8. **Was the sample representative of the target population?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

9. **Were the outcome measures used relevant to the research question?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. Was the type of analysis appropriate for the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

12. **Were strengths and limitations of the study discussed?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

Total Score = 28

Form 8

1. **Authors:** Ng, Schoenfeld, Hennis, Leske and Menesure (2012)
2. **Title:** Factors influencing prostate cancer healthcare practices in Barbados, West Indies.
3. **Objective(s):**
    - To identify individual, socio-cultural and system-level variables that promote or impede pathways to prostate cancer screening and care among the country's residents.
    - To assess the knowledge and practices of African Barbadian men regarding prostate cancer screening.
4. **Setting:** Polyclinic
5. **Country of study:** Barbados
6. **Participants**: 33 community members (6 Black survivors of prostate cancer, 7 wives of prostate cancer survivors, 5 men without prostate cancer, 5 healthcare providers, 5 religious leaders and 5 other community members) 18 years and above, mean age is 57.4 years
7. **Sampling:** Random
8. **Design:** Semi-structured interviews, community-based participatory research**.**
9. **Analysis:** Thematic analysis
10. **Results:**
    - Threat to masculinity
    - Threat to sexuality

- Values of Privacy and self-sufficiency
- Fear of prostate cancer
- Limited knowledge of prostate cancer risks
- Putting family needs and work first
- Barriers to care
- Information dissemination
- Discontinuity of care

Quality assessment 9

Ng et al (2012)

1. Was a full description of the study given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

2. Was the sampling appropriate for the study?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

3. Was the sample size adequate?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. Was a full description of the procedure of data collection given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

5. Was a clear description of the research settings given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

6. Was informed consent given to participants?

Yes 1 Not recorded 0

Given score= 1

7. Were the eligibility criteria specified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 2

8. Was the sample representative of the target population?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

9. Were the outcome measures used relevant to the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. Was the type of analysis appropriate for the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

12. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

Total Score = 23

Form 9

1. **Authors:** Ocho and Green (2013)
2. **Title:** Perceptions of prostate cancer screening services among men in Trinidad and Tobago.
3. **Objective(s):** To explain men's views of prostate cancer screening in order to identify potential implications for policy and practice to improve screening uptake.
4. **Setting:** Unknown
5. **Country of study:** Trinidad and Tobago
6. **Participants**: 75 men aged 19 – 60 years
7. **Sampling:** Purposive
8. **Design:** Semi-structured interviews
9. **Analysis:** Thematic
10. **Results:**
    - Discomfort of screening
    - Invasion of privacy/embarrassment
    - Threat to masculinity (cultural beliefs)
    - Threat to sexual identity
    - Fear of being examined by homosexual men

- Fear of discrimination on grounds of sexuality-homosexuals
- Screening procedures with less discomfort
- Family history of prostate cancer
- Female examiners (reduces threat to masculine identity)

Quality assessment

Ocho et al (2013)

1. Was a full description of the study given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

2. Was the sampling appropriate for the study?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

3. Was the sample size adequate?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. Was a full description of the procedure of data collection given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

5. Was a clear description of the research settings given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

6. Was informed consent given to participants?

Yes 1 Not recorded 0

Given score= 0

7. Were the eligibility criteria specified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 3

8. Was the sample representative of the target population?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

9. Were the outcome measures used relevant to the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. Was the type of analysis appropriate for the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

12. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

Total Score = 22

Form 10

1. **Authors:** Odedina, Campbell and LaRose- Pier (2008a)
2. **Title of study:** Personal factors affecting African-American men's prostate cancer screening behaviour.
3. Objective(s): To explore the behavioural, psychological and social factors that directly determine prostate cancer screening in African American men.
4. **Setting:** Surveys posted to participants' home addresses
5. **Country of study:** USA
6. **Participants**: 298 African American men 40years and above
7. **Sampling:** Unknown
8. **Design:** Longitudinal study
9. **Analysis:** Multiple linear regression and logistic regression
10. **Results:**

    - Attitudes towards prostate cancer
    - Social influence
    - Perceived behavioural control

- Self-efficacy
- Instrumental beliefs
- Behavioural intention

Quality assessment

Odedina et al (2008a)

1. Was a full description of the study given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

2. Was the sampling appropriate for the study?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

3. Was the sample size adequate?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. Was a full description of the procedure of data collection given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

5. Was a clear description of the research settings given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

6. Was informed consent given to participants?

Yes 1 No 0

Given score= 1

7. Were the eligibility criteria specified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 2

8. Was the sample representative of the target population?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

9. Were the outcome measures used relevant to the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. Was the type of analysis appropriate for the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

12. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

Total Score = 28

Form 11

1. **Authors:** Odedina, Yu, Akinremi, Reams, Freedman and Kumar (2008b)
2. **Title:** Prostate cancer cognitive-behavioural factors in a West African population.
3. **Objective(s):** To investigate prostate cancer screening and associated cognitive-behavioural factors in Nigerian men.
4. **Setting:** Unknown
5. **Country of study:** Nigeria and USA
6. **Participants**: 249 Nigerian men (indigenous Nigerian men and immigrant Nigerian men residing in the USA) aged 39 to 79 years.
7. **Sampling:** Convenience sampling
8. **Design:** Structured questionnaires on the African American prostate cancer screening behaviour scale.
9. **Analysis:** Descriptive statistics, two-sample *t*-test, Cronbach's alpha.
10. **Results:**
    - Favourable attitudes towards prostate cancer screening
    - Perceived behavioural control
    - Perceived severity
    - Knowledge of prostate cancer
    - Screening intention

Quality assessment

Odedina et al (2008b)

1. Was a full description of the study given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

2. Was the sampling appropriate for the study?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

3. Was the sample size adequate?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. Was a full description of the procedure of data collection given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

5. Was a clear description of the research settings given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

6. Was informed consent given to participants?

Yes 1 Not recorded 0

Given score= 1

7. Were the eligibility criteria specified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 3

8. Was the sample representative of the target population?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

9. Were the outcome measures used relevant to the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. Was the type of analysis appropriate for the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

12. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2
Total Score = 23

Form 12

1. **Author(s):** Odedina, Scrivens, Emanuel, LaRose-Pierre, Brown and Nash (2004)
2. **Title:** A focus group study of factors influencing African-American men's prostate cancer screening behaviour
3. **Objective(s):** To identify predisposing factors and programme intervention factors delineated by African American men as influencing their prostate cancer screening behaviour.
4. **Setting:** Unknown
5. **Country of study:** USA
6. **Participants**: 49 African American men aged 40 years and above
7. **Sampling:** Convenience
8. **Design:** Focus groups
9. **Analysis:** Comprehensive ethnological analysis
10. **Results:**
    - Perception of risks
    - Negative beliefs about prostate cancer screening
    - Lack of knowledge of prostate cancer and screening
    - Discomfort of the Digital Rectal Examination
    - Prostate cancer messages concepts, souse and channels
    - Social influence
    - Positive health activities
    - Resources and opportunities that facilitate screening
    - Experience of illness

Quality assessment form

Odedina et al (2004)

1. Was a full description of the study given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

2. Was the sampling appropriate for the study?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

3. Was the sample size adequate?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. Was a full description of the procedure of data collection given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

5. Was a clear description of the research settings given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

6. Was informed consent given to participants?

Yes 1 Not recorded 0

Given score= 1

7. Were the eligibility criteria specified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 2

8. Was the sample representative of the target population?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

9. Were the outcome measures used relevant to the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given =3

10. Was the type of analysis appropriate for the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

12. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

Total Score = 22

Form 13

1. **Author(s):** Parchment (2004)

2. **Study title:** Prostate cancer screening in African American and Caribbean males: Detriment in delay
3. **Objective(s):**
    - To investigate the health beliefs about prostate health in a sample of African American and Caribbean men.
    - To determine if an educational programme would lead to an increase in prostate screening.
4. **Setting:** Community clinic

5. **Country of study:** USA

6. **Participants**: 100 African American and Caribbean men aged 37-89years.

7. **Sampling:** Convenience

8. **Design:** Survey, intervention and focus group discussion.

9. **Type of intervention: Seminar (lecture and prostate cancer video)**

10. **Intervention facilitator**: Physician

11. **No. of participant groups**: One group of 45 African American and Caribbean men.

12. **Follow up time(s):** One follow up time six months later

13. **Intervention outcome(s):** Increase in screening

14. **Analysis:** Thematic

15. **Results:**
    - Discomfort of digital rectal examination
    - Fear of impotence or incontinence
    - Insurance
    - Knowledge of prostate cancer and screening
    - Information from healthcare provider
    - Symptoms
    - Encouragement from spouses

Quality assessment

Parchment (2004)

1. **Was a full description of the study given?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

2. **Was the sampling appropriate for the study?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

2. **Was the sample size adequate?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

3. **Was a full description of the procedure of data collection given**?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

4. **Was a clear description of the research settings given?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

5. **Was informed consent given to participants?**

Yes 1 No 0

Given score= 1

6. **Were the eligibility criteria specified?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 0

7. Was the sample representative of the target population?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

8. Were the outcome measures used relevant to the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

9. Was the type of analysis appropriate for the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

10. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

11. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

Total Score = 18

Form 14

1. Authors: Patel, Kenerson, Wang, Brown, Pinkerton, Burress, Cooper, Canto, Ukoli and Hargreaves (2010)

12. Study title: Factors influencing prostate cancer screening in low-income African Americans in Tennessee.

13. Objective(s):

- To examine the sociodemographic factors that influence decisions to get screened in low-income African American men.
- To examine the differences in obstacles to screening by geographic region and among men that were screened versus those that were not screened.

1. Setting: Not specified

2. Country of study: USA

3. **Participants**: 293 African American men 45 years and over

4. **Sampling:** Purposive

5. **Design:** Surveys

6. **Analysis:** Binary logistic regression

7. **Results:**

- Transportation issues
- Difficulty getting time off work
- Trouble remembering to schedule screening
- Lack of adequate information about prostate cancer and screening
- Health insurance
- Pain and discomfort of screening
- Cost of screening
- Fear of prostate cancer

Quality Assessment

Patel et al (2010)

1. **Was a full description of the study given?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

2. **Was the sampling appropriate for the study?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

3. **Was the sample size adequate?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. **Was a full description of the procedure of data collection given**?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

5. **Was a clear description of the research settings given?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

6. Was informed consent given to participants?

Yes 1 No 0

Given score= 1

7. Were the eligibility criteria specified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 3

8. Was the sample representative of the target population?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

9. Were the outcome measures used relevant to the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

10. Was the type of analysis appropriate for the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

12. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

Total Score = 28

Form 15

2. **Authors:** Ross, Uhler and Williams (2005)

3. **Title of study:** Awareness and the use of prostate-specific antigen test among African-American men.

4. **Objective(s):**

- To examine knowledge about PSA test and the use of the test among black men.
- To examine prevalence of being aware of the PSA test and using the test.
- To examine factors related to both awareness of the test and use of the test among African American men.

5. **Setting:** Not specified

6. **Country of study:** USA

7. **Participants**: 736 black men aged 45years and over

8. **Sampling:** Probability sampling

9. **Design:** Structure interviews

10. **Analysis:** Statistical analysis – SUDAAN

11. **Results:**

- Age (being 50years and over)
- Level of education
- Geographical location
- Income status
- Marital status
- Health insurance and insurance type
- Current physical health
- Family history of prostate cancer

Quality assessment

Ross et al (2005)

1. **Was a full description of the study given?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

2. **Was the sampling appropriate for the study?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

3. **Was the sample size adequate?**

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. **Was a full description of the procedure of data collection given**?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

5. Was a clear description of the research settings given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

6. Was informed consent given to participants?

Yes 1 Not recorded 0

Given score= 0

7. Were the eligibility criteria specified?
Not at all 0 Very slightly 1 Moderately 2 Complete 3
Given score= 3

8. Was the sample representative of the target population?
Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

9. Were the outcome measures used relevant to the research question?
Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. Was the type of analysis appropriate for the research question?
Not at all 0 Very slightly 1 Moderately 2 Complete 3
Score given = 3

12. Was the choice of analysis justified?
Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

13. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3
Total Score = 29

Form 16

1. **Authors:** Woods, Montgomery, Herring, Gardner and Stokols (2006)

2. **Title of study:** Social ecological predictors of prostate-specific antigen blood test and digital rectal examination in black American men.
3. **Objective(s):** To explore social ecological factors that are predictive of black men's access to and participation in PSA blood testing and DRE.
4. **Setting:** Medical centres and other convenient locations suggested by the participants
5. **Country of study:** USA
6. **Participants:** 276 black men with a mean age of 53years
7. **Sampling:** Convenience purposive sampling
8. **Method(s):** Quantitative
9. **Design:** Cross-sectional
10. **Analysis:** Multiple statistical analysis (descriptive, bivariate and factor analyses)
11. **Results:**
    - Fear of prostate cancer
    - Threat to sexual function
    - Pain and discomfort of screening
    - Discomfort of discussing prostate cancer screening with significant others
    - Knowledge of prostate cancer and screening
    - Health insurance
    - Awareness of the existence of a screening facility
    - Public health messages
    - Physician communication style
    - Denial of self-risk

Quality assessment

Woods et al (2006)

1. Was a full description of the study given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

2. Was the sampling appropriate for the study?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

3. Was the sample size adequate?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. Was a full description of the procedure of data collection given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

5. Was a clear description of the research settings given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

6. Was informed consent given to participants?

Yes 1 Not recorded 0

Given score= 1

7. Were the eligibility criteria specified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 3

8. Was the sample representative of the target population?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

9. Were the outcome measures used relevant to the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. Was the type of analysis appropriate for the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

12. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2
Total Score = 31

Form 17

1. Authors: Woods, Montgomery, Belliard, Ramirez-Johnson and Wilson (2004a)

2. Study title: Culture, black men and prostate cancer: What is reality?

3. Objective(s):

To explore how culture and communication with healthcare providers influence black men's knowledge, health beliefs and practices regarding prostate cancer screening.

4. **Setting:** Clinic waiting room

5. **Country of study**: USA

6. **Participants**: 277 Black men 40 years and above

7. **Sampling:** Purposive convenience

8. **Design:** Longitudinal cohort study- interviews and focus groups

9. **Analysis:** Grounded theory and descriptive frequencies.

10. Results:

- Lack of knowledge of prostate cancer and screening
- Communication issues with healthcare providers (verbal and non-verbal)
- Social support
- Mistrust of healthcare providers and quality of care given to black men
- Threat to sexual identity
- Threat to sexual function

Quality Assessment

Woods et al (2004a)

1. Was a full description of the study given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

2. Was the sampling appropriate for the study?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

3. Was the sample size adequate?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. Was a full description of the procedure of data collection given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

5. Was a clear description of the research settings given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

6. Was informed consent given to participants?

Yes 1 No 0

Given score= 1

7. Were the eligibility criteria specified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 3

8. Was the sample representative of the target population?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

9. Were the outcome measures used relevant to the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. Was the type of analysis appropriate for the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

12. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1
Total

Form 18

11. **Authors:** Woods, Montgomery and Herring (2004b)

12. **Title:** Recruiting Black/African men for research on prostate cancer prevention

13. **Objective(s):**
    - To explore how culture and communication with healthcare providers influence knowledge, health beliefs and practices with regards to prostate cancer prevention.
    - To identify successful recruitment strategies for studies in prevention behaviours

14. **Setting:** Unknown

15. **Country of study**: USA

16. **Participants**: 277 Black American men 40 years and above

7. **Sampling:** Purposive, community outreach

8. **Design:** Focus groups

9. **Analysis:** Grounded theory

10. **Results:**
    - Lack of knowledge of prostate cancer and screening
    - Discomfort/embarrassment in discussing prostate cancer
    - Preventive behaviours
    - Health insurance
    - Transportation to test centres
    - Quality of care
    - Mistrust of the healthcare system
    - Lack of culture-sensitive health information
    - Doctor-patient communication

Quality assessment

Woods et al (2004b)

1. Was a full description of the study given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

2. Was the sampling appropriate for the study?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

3. Was the sample size adequate?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

4. Was a full description of the procedure of data collection given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 2

5. Was a clear description of the research settings given?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

6. Was informed consent given to participants?

Yes 1 No 0

Given score= 1

7. Were the eligibility criteria specified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Given score= 2

8. Was the sample representative of the target population?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

9. Were the outcome measures used relevant to the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

10. Was the type of analysis appropriate for the research question?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 3

11. Was the choice of analysis justified?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 1

12. Were strengths and limitations of the study discussed?

Not at all 0 Very slightly 1 Moderately 2 Complete 3

Score given = 0

Total Score =24

Appendix 12: Professional skills reflective report

Introduction

This report is a description and reflection of my professional practice and development as a trainee health psychologist over a period of nearly three years whilst working as a befriending service coordinator of a dementia charity, the Alzheimer's and Dementia Support Services (ADSS) and also as health trainer for the National Health Service (NHS). It also gives an account of how I have developed professionally as a trainee health psychologist through meeting the competencies of the professional skills learning outcomes of the British Psychological Society (BPS) stage two guidelines (BPS, 2009). In addition, it illustrates how I have developed a range of skills in behaviour change interventions, teaching and training, consultancy, research, how I provided psychological guidance and advice to others and how I implemented and maintained systems for legal, ethical and professional standards in applied psychology.

Background

Before I started the health psychology doctorate programme, I was working in Boots pharmacy as a medicines counter advisor. I realised that I could not gain the necessary skills to meet the generic competencies of the doctorate programme so I volunteered for the ADSS. I was already volunteering for the ADSS but in a hospital ward as a dementia buddy so I contacted the volunteer coordinator to find out if I could take up more duties at the ADSS respite centre (day centre). The manager at the respite centre agreed to this and asked me set up a befriending service for the ADSS. As the coordinator of the befriending service, I was responsible for developing policies and procedures of this service. Later on I was asked to develop recruitment criteria and then recruit volunteers and train and manage them. I also helped other staff members in promoting the services of the ADSS in the community, conducted client assessments and engaged in activities with the clients in the day centre. This lasted a period of six months. At this point I was given a job offer from NHS as a health trainer. I therefore left the volunteer job to start the NHS job.

In my role as a health trainer, I work in the LiveWell service, where I provide advice, support and motivation to individuals to help them make positive changes to their health such as weight management, giving up smoking, reducing alcohol intake, stress management, healthy eating and increasing physical activity, using theory-based behaviour change counselling techniques such as motivational interviewing (MI), described by Rollnick and Miller (1995) as “a directive, client-centred counselling style that enhances motivation for change by helping clients clarify and resolve ambivalence”. Client assessments are conducted in a GP practice setting using the health trainers’ contact meeting form as a tool and the NHS Health Trainer Handbook (Michie et al, 2008) as a guide. Other roles include acting as a link between health professionals and the community, organising and running campaigns and outreaches, liaising with community organisations within the boroughs of Sutton and Merton with the aim of promoting the LiveWell service to help improve population health.

1.1a. Practice within the legal and ethical boundaries of the profession

I have always followed the ethical and professional conduct of the British Psychological Society (BPS) and the Health and Care Professions Council (HPC). I usually adhere to the ethical principles of respect, competence, responsibility and integrity. When I see clients at the LiveWell clinic, I ensure that their personal data is stored and accessed in accordance with the data protection regulations. Everything I discuss with my clients are strictly confidential and I usually make sure I log out of the system used for storing client data after accessing it. During outreach events, completed forms are put in a bag, to hide clients' details. Cupboards in the offices where client files are stored are also locked at the end of the day and the key stored in a safe place. Volunteer application forms for the ADSS were also securely stored. When I started work in both positions I completed all the mandatory training related to my job (such as data protection policy and lone working policy) and usually make sure I update myself with this training whenever the update is due. To be able to conduct my research in accordance with the ethical guidelines of UWE, I successfully obtained ethical approval from the UWE ethics committee. My understanding of the need for confidentiality when handling participants' data has made me ensure that I obtain consent from participants before they take part in the research. I usually respect the individual differences, views and autonomy of my clients. This has been enhanced by my communication skills of being empathetic and non-judgemental, as I always try to see things from their view point.

1.1b. Practice as an autonomous professional

When I volunteered for the ADSS, I was responsible for coordinating the befriending service. I therefore researched the ADSS website and their policies and procedures and other dementia charities'' websites for information on designing the content of the services' policies and procedures. Though I knew it was my sole responsibility to set up this service I still felt it was important to involve stakeholders such as the chief executive (CE) of ADSS to cross check my work upon completion of each section of the project to get her second opinion; and the Kent Voluntary Service manager, for advice on strategic settings for advertising the service. What I learnt from working on the ADSS project is to be more assertive when working with clients and stakeholders. I realised that I did not decide with the CE at the beginning regarding what were not included in my responsibilities. At the beginning, what I understood was that I was only going to develop the policies and procedures, however, when that was done, the CE asked me to also develop the recruitment process and training materials. This was not discussed at the beginning but I felt I could not refuse at that stage. This stressed me a lot as it made the whole consultancy process very long and stressful. I therefore need to be more assertive and be able to say no whenever I am given responsibilities I feel I cannot handle.

When I conduct behaviour change interventions in the LiveWell clinic, I take responsibility of the clinic. I am aware of the available local services and usually refer clients to these services when necessary, however, I usually ask my manager for advise when I realise that I do not have all the information required by my clients. I also keep a log of my work to enable me reflect on and evaluate my work to see which areas need improvements. I regularly obtain supervision on my work from the LiveWell health trainers' coordinator and supervision on my research from my research supervisor. This enables me discuss issues and concerns so that we can find solutions for them. Feedback received both from work and from the groups which I delivered the teaching and training has helped me to reflect upon and build on my professional practice. I always try to get all my work done before I take a break to relax. This has had adverse effect on my health as it usually stresses me up. Speaking with my fellow doctorate trainees has however been really helpful as I have learnt from them to take breaks when I feel stressed.

1.1c. Demonstrate the need to engage in continuing professional development.

From the time I started the programme, I have continued to develop as a health psychologist though attending the UWE health psychology doctorate workshops on teaching and training, consultancy skills for health psychologists, behaviour change interventions, systematic reviews, professional skills and research. I have also attended other training courses and workshops, some of which were delivered by UWE and others by other organisations such as the BPS. I have also signed up for the BPS Division of Health Psychology (DHP) monthly newsletter and also regularly access articles and resources relevant to the doctorate programme. One of the benefits of attending the doctorate programme workshops in UWE is that I was able to share experiences with my colleagues. I usually use positive feedback as reinforcement and negative feedback as learning points to enhance my subsequent work. I always make sure to regularly update my learning log to ensure that I regularly practice reflection. All these have enabled me to reflect on my practice and make the necessary changes for improvement. This has helped me improve upon my professional development, enhanced my knowledge and develop a range of professional skills.

1.2a Communicate effectively

Through working with a range of individuals and groups, I have acquired effective communication skills such as effective listening, being empathetic and non-judgemental. I usually build a good rapport with clients from the start of our contact and have realised that through this technique I am able to build trust with the patients. I also realise that I have been able to build good working relationships with clients using MI counselling skills. I ensure that I give clients the information and support needed to make the best choices but usually respect all their decisions even if I do not agree with them. Using MI techniques ensures that I am always mindful of the fact that I am just a facilitator of the clients' behaviour change and therefore, I usually give them the autonomy to make their own decisions regarding their behaviour change. I have realised that when clients feel they are able to make their own decisions without receiving orders to do so they become so comfortable with me to the extent that some of them still want to come and talk to me even when the period of our meetings are over. I have always reminded them that the LiveWell behaviour change programmes is a 12 weeks programme and so I have to sign them off after this period but then they can sign up again if they are still interested in the programme. When working with colleagues, managers and stakeholders, I make sure I respect their views even if they are different from mine. I always ensure I try to see things from their points of view without being judgemental. Upon reflection, I have seen that working collaboratively with colleagues and other professional enabled me draw from their expertise and effectively communicating with team members has led to good team work and team spirit.

1.2b Provide advice and guidance based on concepts and evidence derived from health psychology

Working in the behaviour change clinic (LiveWell clinic) has enabled me to provide advice, support and motivation to people who want to change their health behaviours. I received training on using MI as a counselling approach and on using the health trainer handbook as a guide. This enables me to guide clients to find the motivation to change, identify their health priorities, set health goals and work towards achieving them. I also often use behaviour change models such as the social cognitive theory (Bandura, 1986), which I find useful as it allows me to explore with the clients the personal, behavioural and environmental factors that affecting their health behaviours. The use of the stages of change model (DiClemente and Prochaska, 1982) also ensures that I develop the intervention around the stages that the clients are in. The NHS health trainer handbook and client contact meeting form have been designed using MI components. This therefore helped enhance my MI skills such as supporting the patient's self-efficacy, rolling expressing empathy and developing discrepancy. Working in this clinical setting has enhanced my ability in formulating and evaluating behaviour change interventions and also enhanced my communication skills.

1.2c Build alliances and engage in collaborative working

I have always established collaborative working relationships with co-workers, stakeholders and clients and have always worked as part of a team both in the posts I held in the ADSS and NHS. I have always engaged stakeholders and service users in planning and evaluating the services I provide. For instance, I involved the CE of ADSS in the planning through to the implementation of the befriending project and afterwards, obtained feedback from her on my performance on setting up the project. It was rewarding to receive positive feedback from her and I used this as a reinforcement. Using the MI skills also ensures that I work collaboratively with clients to make joint decisions in planning their interventions. Getting feedback from my clients at the end of the intervention also enables me to reflect on my professional relationship with them and the way I offer guidance to them, which usually leads to improvements in my practice.

Working collaboratively with these groups of people has been enhanced by my knowledge and use of effective communication skills such a listening and speaking and being empathetic. Also being non-judgemental in my practice means that I'm able to tolerate other people's views, be they team members, managers or stakeholders. Working collaboratively with team members has increased my knowledge on every aspect of the jobs I did as I have been able to draw on the experience and knowledge of team members, get expert advice and support from my managers and stakeholders and also get constructive criticism from them.

1.2d. Lead groups or teams effectively

I was able to obtain leadership skills through the consultancy work I carried out for the ADSS. As the service coordinator, I was the main point of contact in relation to any information needed about the service. When I finished setting up the service, I had to seek the help of colleagues in advertising and circulating information about the service in the community. I believe that my teaching and training skills have improved greatly following attendance at the teaching and training workshops through the doctorate programme at UWE and the "train the trainer" workshop. I found these workshops useful as they helped me develop skills such as practicing the lessons I intend to deliver to gain the confidence before I deliver it. I was able to plan and deliver lessons to various groups such as my fellow doctorate students, my fellow health trainers and MSc health psychology students. Managing the various groups has really given me an open mind about what to expect from adult groups. Since all group members were adults, I expected that everyone would be cooperative. However, whiles I was delivering the lecture to the masters' students, some of them were having discussions, which meant that I repeatedly had to remind them to pay attention. I realise that I need to be more firm and exercise control over the class when delivering a lecture as I feel I was not able to do that effectively. Notwithstanding this, having undertaken the teaching and training roles, I have been able to build confidence in that area of practice. Obtaining feedback from each of the groups that I delivered the lessons to was very helpful as it enabled me to incorporate and adapt some changes which improved the lessons delivered to the subsequent groups.

Conclusion

The doctorate programme and the NHS and ADSS job roles have helped me develop as a health psychologist. There were challenging instances such as conducting the systematic review. It was my first systematic review and I found it stressful in stages such as the search strategy, searching the databases and choosing the appropriate quality assessment tools. On reflection I feel I have achieved a lot within these few years. My training has been enhanced by a motivation to engage in continuous professional development. Therefore, I am constantly looking for ways to improve what I do, using errors as development opportunities. This has been achieved by attending seminars and training courses, subscribing to relevant publications such as the BPS DHP, accessing relevant articles and journals, keeping a log of my training and proactively updating myself with current research. My training has also been enhanced by professionalism, as I am drawing on best practice to work both independently and collaboratively with other professionals and groups to provide expert care and practice.

Working in the LiveWell clinic has helped me to develop and maintain a patient-practitioner relationship and therefore promote behaviour change through this relationship. It also helped me to enhance my clinical, communication, observational and counselling skills. Planning and delivering lessons to various groups have also helped increase my confidence in this area of practice. Before I enrolled in the doctorate programme, I had no confidence to teach and was so nervous about teaching. However, after attending the teaching and training seminars and training courses, and planning and delivering lessons to the various groups, I have been able to build my confidence in this area and can deliver lessons or training sessions to different groups. I have also been able to obtain consultancy skills through the development, implementation and evaluation of the ADSS befriending service. Conducting the systematic review and carrying out my current research has greatly improved my research skills too. Also, keeping a log of my work enabled me to reflect on each activity and reassess it to see what went well, what did not go well and what needed to be improved upon in order to ensure that my subsequent working activities are more effective than the previous ones.

All this has enabled me to reflect on my professional practice and develop as a practitioner, which consequently helped me to improve upon my professional development. In the two positions I held during the doctorate programme, I worked within multi-disciplinary teams which included dieticians, nutritionists, GPs, pharmacists, nurses, healthcare assistants, physiotherapists and mental health workers, which enabled me to benefit from their expertise. Having gained this experience, I feel I can confidently work on my own as a psychologist when I complete the doctorate programme and I look forward to applying my skills in other areas of practice.

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