

The 'fear factor': Nigerian women and
practitioners' views on the factors affecting
attendance in mammography screening.

A Thesis

Submitted in Partial Fulfilment of the Requirement for the
Degree of

Doctor of Philosophy in Medical Imaging

of

UNIVERSITY OF SALFORD

by

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2018

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List of Abbreviations

LSMH- Lagos state Ministry of Health

NHS National Health Service (UK)

NHSBSP- National Health Service Breast screening Programme

UK- United Kingdom

USA- United States of America

WHO- World Health Organisation

Glossary

The definition of terms used in this thesis.

Terms	Definitions
Qualitative descriptive approach	This is a methodological approach that presents findings as close to the data collected from the participants (Sandelowski, 2010). This approach aims to witness participants world in their own terms, but minimises preconceptions (Lincoln, 1985).
Emic perspective	This is the perspective of an individual that is considered a member of a group being researched (that is an insider's view) (Holloway & Wheeler, 2013).
Epistemology	This is the study of what counts as valid knowledge and how we produce the knowledge (Denzin & Lincoln, 2018).
Etic perspective	The perspective of an individual that is not a member of a group being researched (that is an outsider's view) (Holloway & Wheeler, 2013).
Mammography Practitioners	These radiographers have the special training in carrying out mammography examinations (NHS Breast Screening, 2016).
Mammography screening	X-ray examination of the breast for asymptomatic women used to detect early breast cancer (World Health Organisation, 2017).
Mammography screening units	This refers the mammography equipment used for producing a mammogram.
Member checking	This is done to avoid misrepresenting the views of study participants by checking transcribed data and encouraging them to comment on the authenticity of what had been transcribed (Braun & Clarke, 2013).
Ontology	Ontology is described as the study of the nature of being; what is real and exists around us, and is seen as the relationship between the world and human interpretation and practice (Holloway & Wheeler, 2013)

Participation	The act of having a mammogram by eligible women.
Peer debriefing	It is a technique used to improve the credibility of a study by inviting peer to examine the analysis and interpretation of findings of a study (Lincoln, 1985; TheNguyn, 2008).
Power	The ability to influence the course of an information gather at an event. Therefore, as qualitative research approach aim to clearly empower it participants by ensuring that their opinions are captured. There is need to ensure there is a balance in power distribution between the researcher and participants; and participant to participant in other to capture relevant views (Karnieli-Miller et al., 2009).
The women	This refers to female individuals that participated in the study that were within the eligible age for mammography screening in Nigeria.

Acknowledgement

Firstly, I would like to thank God Almighty for the opportunity He gave me to do this study. Also, I would like to appreciate my supervisors, Professor Julie Nightingale and Dr. Fred Murphy for their time and support although my PhD. They both did more than just guide and provide support for the study, they looked out for my wellbeing whilst I was conducting the research. Not forgetting Professor Peter Hogg, for his immense support and encouragement. There is never a time we met on the corridor or at his office that he did not ask about my wellbeing and the stage I am in my research.

I appreciate the entire Radiology department staff at the Lagos State University Teaching Hospital, Ikeja and Lagos state General Hospital, Marina for their support and participation in this study. Particularly, Mrs Kemi Ojo who accompanied me to the focus group meeting to educate the women about the importance of having a mammogram and helped with note taking during the meeting. And I say thank you to all the women that participated in this study, I understand most of you had other commitments, but you spared some of your valuable time to participate in the study. Thank you for your time and contributions may God bless you richly.

Finally, I would like to thank my wife for her patience and support. I love you so much. I would like to thank my parent and siblings for their support and encouragement whilst I was studying. May God bless you. Amen.

Abstract

Breast cancer is one of the leading causes of death amongst women. According to the World Health Organisation (WHO), a significant increase in the incidence of breast cancer is expected in developing countries (such as Nigeria) by 2030. Mammography screening can significantly reduce the mortality and morbidity resulting from breast cancer. In Nigeria, however, 70% of the breast cancer cases are reported at its later stages, and evidence concludes that the participation level of eligible women in the mammography-screening programme is low. This study is the first to explore the factors affecting women's attendance in mammography screening in the Lagos state via a qualitative approach.

A qualitative descriptive approach is used to explore the views of susceptible women living in Lagos state. Seven focus group discussions (n= 65) and face-to-face interviews with five mammography practitioners in Lagos state were conducted. The study was guided by the theory of care seeking behaviour, and participants were questioned through semi-structured interviews and focus group guides. A conventional content analysis method was used to analyse the information gathered from the participants.

Results have shown that lack of awareness among women influences their knowledge of benefits and risks, thus exposing them to several forms of fear and cultural issues (such as, trust in wonder drugs, believe in God, and the culture of non-disclosure of problems) which may directly affect their participation in mammography screenings. In addition, professionalism of mammography staff and government's role in providing an effective mammography screening service were external factors found to influence women's attendance.

To conclude, the need for targeted education within the society is essential, as the participants identified that education might improve awareness, reduce fear and improve women's attendance.

Keywords

Mammography, Attendance, Breast cancer, Health promotion.

Chapter 1: Introduction

Breast cancer has been reported to be one of the leading causes of mortality among women worldwide; 508,000 women died as a result of breast cancer in 2011 (World Health Organisation, 2014). Coleman et al. (2008) and Fregene and Newman (2005) reported that the incidence of breast cancer amongst women in Western countries (including the United States of America, the United Kingdom, Canada and Australia) was significantly greater than that for women in African countries; however the proportion of women that died as a result of the disease was higher amongst women in the African countries. This difference in mortality could be as a result of poor awareness of women about breast cancer, poor diagnostic facilities, poor treatment facilities, and high cost of the disease management (Fregene & Newman, 2005). In addition, in Nigeria evidence has shown that most breast cancer cases are detected in women at the later stages when curative treatment might not be effective (Osaro, 2016). The World Health Organisation (WHO) suggests that there will be a 70% increase in the incidence of breast cancer by 2030 in developing countries such as Nigeria (Boyle & Levin, 2008). Consequently, appropriate measures should be put in place to improve breast cancer detection and treatment.

According to Jedy-Agba et al. (2012b), breast cancer was the most common cancer among women in Nigeria, with an incidence rate of 54.3 cases per 100,000. Comparing previous records of breast cancer incidence rates amongst Nigerian women there was a significant increase of 200% since the earliest record from 1960-69 which was 13.7 cases per 100,000. The authors made an assumption that this increase could be as a result of increasing change in dietary and physical activity patterns, and alcohol use, as they did not have evidence to prove the causation factors (Jedy-Agba et al., 2012b).

However, breast screening may be a factor responsible for this apparent increase in breast cancer detection in Nigeria (Bleyer & Welch, 2012), with some communities (for example Lagos State Government) reporting the installation of more screening facilities for the early detection of breast cancer (Lagos State Ministry of Health [LSMH], 2010). However, this free screening programme report shows that relatively few women have been attending the programme.

The research undertaken as part of this PhD thesis sets out to investigate some of the reasons that might be responsible for the late presentation of women and low uptake of screening by exploring the factors affecting women's participation in mammography-screening programme in Lagos state, Nigeria.

With Nigeria being a developing country with a population base of 160 million people, the health challenges of the country as reported by the Federal ministry of Health (2010) of Nigeria are:

- i. the increase in maternal mortality rate
- ii. the increase in neonatal mortality rate
- iii. the increase in mortality rate of children under 5 years old, and
- iv. the increase in incidence of HIV/AIDS.

However, nothing was mentioned about the increasing incidence of breast cancer within the population, which could also have been considered as a major health challenge, as this disease has significantly increased the mortality rate of women.

According to Hanna and Kangolle (2010), the problem of controlling the communicable diseases responsible for some of the challenges listed earlier might be overcome in the

nearest future, but breast cancer morbidity and mortality might be a significant public health problem. Therefore, future health policies should consider ways of reducing the effect of the increasing incidence of breast cancer within the population by considering it as a health challenge in the country.

The stage at which breast cancer is detected determines prognosis (Society of Oncology and Cancer Research of Nigeria 2014). Therefore, early detection is important for reducing the mortality rate of women (Okobia et al., 2006).

Mammography screening is the most effective method for the early detection of breast cancers among asymptomatic women (WHO, 2013). However, mammography screening has several disadvantages such as radiation risk, false positive results, and over diagnosis (Heywang-Köbrunner et al., 2011). Weighing the benefits and risks of screening, an organised mammography breast screening programme is said to reduce the mortality rate of women as a result of breast cancer by 20% in the screening group compared to the non-screening group (WHO, 2013). Furthermore, this reduction in the mortality rate was associated with an increase in early diagnosis of breast cancer as a result of the increase in public awareness, advances in breast cancer treatment and women's access to breast cancer care (Ragaz, 2011a, 2011b). The next chapter will critically evaluate the mammography screening programme in Nigeria in comparison with other countries as this programme has to be of high standard to be able to effectively reduce the mortality rate of breast cancer in the population.

Chapter 2: Literature review- Mammography Screening Programme in Nigeria in Comparison with four Countries

2.1. Introduction

This chapter evaluates the mammography screening programme in Nigeria, with critical comparison to four developed countries (United States of America, Canada, United Kingdom, and Australia). However, examining the mammography screening in Nigeria against other developing countries might not clearly expose the limitations in these programmes. Although articles that had explored the women's behaviour in mammography screening programme in developing countries such as Iran and Jordan were reviewed in chapter three. The programmes in developed countries might serve as best practice on what an ideal mammography screening programme should entail. This should give an insight as to how the current programme is organised and utilised in Nigeria, and also how it might be improved.

The screening programme in Nigeria is largely unstructured regarding the mode of invitation, frequency of screening, and the age of the participants. For instance, only one Nigerian state out of the thirty-six reported organising a structured mammography screening programme (Lagos State Government Ministry of Health, 2017) [LSMH]. Other non- government organisations and multinational cooperation organisations have also been involved in providing mammographic breast screening in Nigeria but it is haphazard. As there are several important elements involved in the developed countries' screening programmes (Australia, Canada, United Kingdom, United States of America [USA]), the programmes will be discussed using the following factors- mode of invitation, frequency of screening, age of the participants, image projections, imaging staff, quality assurance programme, and availability (see Table 2. 1).

Table 2. 1. Table showing the comparison of the mammography screening programmes in Nigeria, Australia, Canada, UK, and USA

Category	Nigeria	Australia	Canada	United Kingdom	United States of America
Mode of Invitation	Public awareness	Invitation letter	Public awareness	Invitation letter	Public awareness
Frequency	Biennial	Biennial	Biennial	Triennial	Annual
Age of participants	40-70 years	50-74 years	50-69 years	50-70 years	40-70 years
Image projection	2 views	2 views	2 views	2 views	2 views
Imaging staff	Trained Radiographer	Trained Radiographer	Trained Radiographer	Trained Radiographer	Trained Radiographer
Quality assurance	None	Frequently reported	Frequently reported	Frequently reported	Frequently reported
Cost	Mixed	Free	Free	Free (cost covered by the NHS)	Self-funded
Availability	Data not available	63 units per million	40 units per million	21 units per million	89 units per million

2.2. Mode of Invitation

The only available screening programme found in Nigeria promotes public awareness campaigns to invite women to participate in its free screening programme (Lagos State Government Ministry of Health, 2017). However, evidence shows that the majority of eligible women within the population have not participated regularly in mammography screening, with only 12,692 women participating in the mammography screening since 2006, when it began. Some other factors might be responsible for the low participation of women at the Lagos state mammography screening programme which are discussed in the later section of this chapter.

The USA and Canada also use public awareness campaigns, and the reason for their success could be because of the strength of their media (American Cancer Society, 2014; Canadian Cancer Society, 2017). This is not the case in Nigeria, as the poor in the society have little or no access to information through print media (e.g. newspapers, magazines), television, radio, or internet (Oyediran et al., 2011). The USA uses a similar approach for inviting women for its mammography screening; however, the majority of its population has access to information through television, radio and internet.

According to Azubuike and Okwuokei (2013), and Okobia et al. (2006), a moderate proportion of women (43- 56%) in Nigeria have a good knowledge of the early detection strategies of breast cancer (e.g. breast self-examination, clinical breast examination, and mammography). More than half of the study participants had practiced at least one of the early detection strategies (Azubuike & Okwuokei, 2013).

The women with tertiary education and those that had previously been diagnosed with breast cancers had better knowledge of breast cancer, and they tend to practice early

detection strategies (Azubuike & Okwuokei, 2013). Okobia et al. (2006) concluded that Nigerian women with a higher level of education were 3.6 times more likely to practice regular breast self-examination compared with those who had a lower level of education (below high school qualification).

The results of Azubuike and Okwuokei (2013) shows that there is an increased knowledge of women about breast cancer risk factors, and breast cancer signs and symptoms compared to previous literature on a similar topic (Irirhe et al., 2009; Okobia et al., 2006; Salaudeen et al., 2009), with about 50% of the study participants identifying up to three risk factors, and about 65% of the participants identifying up to two signs and symptoms of breast cancer. Azubuike and Okwuokei (2013) suggest that the reason for this increase is as a result of increase in public awareness programmes organised for women in the communities.

There was a direct relationship between educational achievement levels and the practice of early breast cancer detection strategies. Also, there was a direct relationship between knowledge of breast cancer risk factors and practice of early breast cancer detection strategies (Azubuike & Okwuokei, 2013). Therefore, it is important that Nigerian women are educated about the key aspects of breast cancer and how to detect or reduce the risk factors.

In summation, there is an imbalance in the knowledge and practice of regular breast screening between groups of women with different education levels in Nigeria. However, for a screening programme to be effective in Nigeria, education must be considered a priority to increase public awareness and improve mammography screening uptake, so that the desired benefit of screening can be achieved.

The approach used by the United Kingdom and Australia (a letter of invitation to attend) could be adopted by the LSMH screening programme, as this has the ability to reach more of the women of interest in the population (Australian Government Department of Health, 2016; Cancer Council Australia, 2016; NHS Breast Screening, 2016), compared to the use of television, radio and internet.

Bonfill et al. (2001) conducted a systematic review to evaluate different mammography invitation strategies and their effectiveness. They concluded that interventions such as invitation letter, making phone calls, mailing educational materials, and organising training activities with reminders for the women were effective at increasing the attendance rate of women invited to mammography screening programmes. Furthermore, the combination of effective interventions such as a letter invitation and phone calls have greater effect on the attendance rate among women within the lower socioeconomic groups. It is therefore possible that interventions such as these might increase the attendance rate for the LSMH screening programme.

2.3. Frequency of Screening

In many of the screening programmes around the world, women are encouraged to participate in breast screening once every two years. However, the screening programme in the UK encourages women to participate in breast screening once every three years. The reason for every three years is to reduce the radiation dose women are exposed to during screening, and therefore the possibility of developing radiation induced cancer (Yaffe & Mainprize, 2011). The Breast Screening Frequency Trial Group (2002) provided evidence that the effectiveness of a screening programme is not about the frequency of screening but the effectiveness of the process to detect breast cancer

when it is present. The screening programme in Nigeria has recently been encouraging asymptomatic women to screen biennially. Prior to 2014, women were encouraged to participate in annual mammography screening, and there was no justification for this frequency. This indicates that the radiation dose Nigerian women were exposed to during screening was significantly increased, and that might increase the women's risk of radiation induced cancer. The cost of screening was also increased with the yearly screening programme, and this was not appropriate practice in a developing country like Nigeria, as it needs to receive financial support from health organisations outside the country. Only the screening programme in the United States of America encourages women to participate annually, as it increases the chances of breast cancer early detection, because that seems to be the duration of time it takes for breast cancer to be detectable by mammography before symptoms develops (Oeffinger et al., 2015). An experimental research study that was used to justify their choice shows that women within the age of 40-49 years, with two years screening interval are more likely to have late stage breast cancer at diagnosis compared to those with annual screening interval (White et al., 2004). Although, in the next section evidence indicates that mammography screening might not be effective in the early detection of breast cancer amongst women below the age of 50.

2.4. Age of Participants

The screening programme in Nigeria reported recruiting women from 40-70 years. The justification for this is that a high percentage of breast cancer cases are seen in the younger age group in Nigeria compared to the developed world (Jedy-Agba et al., 2012b). Similarly, the USA also encourages women within 40-70 years to participate in their mammography screening programme (Oeffinger et al., 2015). This might be due to the fact that there has been an increased incidence of breast cancer in younger women in the USA (American Cancer Society, 2014).

Evidence shows that mammography screening is of optimal benefit to women from 47 years to 73 years, as periodic screening within this age range reduces the women's chances of mortality as a result of breast cancer (Moser et al., 2011). More breast cancers were found in women within this age group, and the breast tissues are better visualised on mammograms, as it changes from being glandular to fatty tissue as women age (World Health Organisation, 2017). Currently, the United Kingdom invites women from 50-70 years of age to attend the programme; but they are in the process of extending screening to women between 47 and 73 years, due to the potential benefits of screening at these ages (NHS Breast Screening, 2016). The Australian screening programme invites women within 50-74 years to participate in their mammography screening programmes (Australian Government Department of Health, 2016), while Canada invites women within the age 50-69 years (Canadian Cancer Society, 2017). What is noticeable in these screening programmes is that in all countries mentioned, except in Nigeria and the USA, women below the age of 47 years are not encouraged to participate in regular breast screening. This is due to the potential increase in the radiation dose they are exposed to, which may increase the

chances of ionizing radiation-triggered breast cancer in their population. Furthermore, the incidence of breast cancer below the age of 50 years is significantly lower compared to the incidence above the age of 50 years (Kerlikowske, 2012). However, clinicians are encouraged to recommend regular breast screening for women who are at high risk of breast cancer (e.g. women with- BRCA I or II mutations, previous exposure to excess radiation dose, familial history of breast cancer) from 40 years, and are encouraged to use ultrasound and magnetic resonance imaging for breast examination if available, as these do not pose any known harmful effects to patients (NHS Breast Screening, 2016).

2.5. Image projections

The mammography screening programme in Nigeria uses two projections for each breast (cranio- caudal and medio-lateral oblique views). Similarly, the four other mammography screening programmes also reported using similar projections. According to Van Breest Smallenburg et al. (2012), in a study that evaluated inter-reader reliability in detecting breast cancer using one (medio-lateral oblique projection) and two projections mammograms - they found out that the two projections mammograms have a higher ability to detect breast cancer. Also, two projections mammograms are more cost effective than the single projection mammogram, as a significant number of single projection mammograms were inconclusive thus requiring additional mammographic examinations. This re-enforces the need for two projections mammography; Nigeria is therefore in line with current evidence for the image projections obtained.

2.6. Imaging Staff

The use of properly trained staff in mammography screening programmes helps reduce the repeat rate, which reduces the ionizing radiation dose the screening participants are exposed to (NHS Breast Screening, 2016). Within the Nigerian breast screening programme, radiographers with additional mammogram-specific training are employed; this is similar to the four developed countries. However, the UK also uses trained assistant practitioners in its screening programme, working under the supervision of a registered radiographer. These radiographers are educated to communicate effectively with the women before, during and after the mammography examination, as this has been shown to improve women's satisfaction with the screening process (Bairati et al., 2014). Properly trained radiographers would have the ability to reassure the women, as they may be experiencing psychological distress (NHS Breast Screening, 2016). This might improve the women's attitude towards rescreening in the future. In addition, well-trained radiographers would be able to use evidence to improve their practice. For example, the use of practice-based evidence to minimize the pain and discomfort experienced by women during mammography screening, as this would improve the women's satisfaction with the service (Robinson et al., 2013).

2.7. Quality Assurance

Regular quality assurance is necessary to safeguard high mammography screening standards. The effectiveness of the mammography equipment, accuracy of the image reader in detecting or excluding breast cancer, the image reject or repeat rate analysis,

and the patients' satisfaction with the service provided, need to be evaluated at regular intervals and compared to an approved standard (NHS Breast Screening, 2016). In the case where audit standards are not met, interventions should be put in place to improve the mammography service (Australian Government Department of Health, 2016). No quality assurance programme exists for the Nigerian breast screening programme. However, the four other countries report carrying out regular quality assurance audits on their screening programmes. Due to the benefits of having regular quality assurance assessments carried out, it would suggest that Nigeria should adopt an effective quality assurance programme to assess the service against the set standards in order that action can be taken when the standards are not met.

2.8. Cost

In Nigeria, 61% of the population could barely afford the essentials of living, and are living on less than one U.S Dollar per day (absolute poverty) (British Broadcasting Corporation, 2012). However, a mammography examination in Nigeria costs approximately seventy dollars (\$70), except in Lagos state. It is therefore not logical for these women with low incomes to show interest in mammography screening, even when they are aware of the benefits, assuming they have to pay for it. Interestingly, only one state out of the thirty-six in Nigeria, organise a free mammography screening programme for women (Lagos State Government Ministry of Health, 2017). There is therefore an evident need for more government and private sector input into this, as cost could be a major limiting factor towards the early detection of breast cancer in the country. In three of the four developed countries (U.K, Canada and Australia) the mammography screening services are provided free to women, which helps to

enhance the participation rate; and this directly reduces the mortality rate of women as a result of breast cancer within these countries. In USA, patients are required to pay for their mammography screening (American Cancer Society, 2014), but the poverty rate of this country is far different from what exists in Nigeria. However, in the USA they do not have a tax for health as they do in the other three countries. The only difference is where the money is taken from people and also how. In the USA it is optional; in the other three countries it is mandatory and it is legislated for through a taxation system.

2.9. Availability

In the screening programme organised by the LSMH, four mammography units were reported to have been provided (Lagos State Government Ministry of Health, 2017). However, the ratio of screening age women (40- 70years) was not provided by the LSMH, and therefore it cannot be said that the ratio of available units is sufficient. Insufficient mammography screening units might result in increased waiting times for screening. It can be assumed that lack of imaging facilities and long waiting times may have contributed to the low participation of the women within the population towards mammography screening.

In the screening programmes organised by the UK, Canada, Australia and USA, the ratio of mammography units to the number of women of interest within the population are, 21, 40, 63, and 89 units per million women respectively (Autier & Ouakrim, 2008). Therefore, for the screening programme in Lagos state to be effective in the early detection of breast cancer within its population, the number of women

within the screening age in the population must be calculated and adequate number of mammography screening units should be provided to cover the women of interest within the population.

2.10. Summary

In summation, the mammography screening programme in Nigeria and specifically Lagos State (the only state out of the 36 in Nigeria that reported organising a free mammography screening programme) when compared to the screening programme organised in the four comparator countries appear to be at variance with method of invitation, the age of the participants, quality assurance programme, and availability of the mammography units. However, similarity exists with the frequency of screening, the image projections, and imaging staff it uses for the screening programme and the other countries. Nigeria has an extremely low participation rate amongst women for breast screening, and this low rate could be related to cost, availability and mode of invitation used in its screening programme. The biggest change would be to reduce or remove patient costs by deducting the health care charges from the individuals' incomes- this is likely to be the biggest barrier. The mode of invitation must reflect the population to which it applies, for example access to information, media, and recognising a range of literacy levels. The next chapter will examine the factors that might be responsible for low attendance of women in mammography screening programmes, as this can provide solutions on ways to improve the quality of the Nigerian screening programme.

Chapter 3: Literature review- Mammography screening attendance: facilitators and barriers

3.1. Introduction

For a screening programme to be effective in reducing the mortality rate of women as a result of breast cancer, it has to record both a high participation rate and a high detection rate of breast lesions (Tabar et al., 2003). That is, if half of the women in a population decides not to participate in an organised mammography-screening programme, it might be possible that a significant proportion of the women that had not participated in the programme might develop and die as a result of the breast cancer. This makes the mammography-screening programme ineffective in reducing the percentage mortality rate of women as a result of the disease. However, even developed nations such as the United Kingdom (UK) struggle to encourage women's attendance at their mammography-screening programmes. The Health and Social Care Information Centre (2015) shows that even with the UK Government's effort to ensure that at least 70% of eligible women participate regularly in the mammography-screening programme, this target has not been achieved amongst women living in London, with the black population being under-represented (Renshaw et al., 2010). The issue of some minority groups being under-represented in mammography-screening programmes has also been reported in several other studies conducted in the United States of America [USA] (Alexandraki & Mooradian, 2010), though the screening programmes in these countries cannot be directly compared to each other because of the varied characteristics of these programmes as discussed in the preceding chapter. An example of an important characteristic is the cost of having a mammogram: in the UK, this service is free; by contrast, it is self-funded by

participants in the USA. Therefore, this might be an obvious factor deterring women from participating in the mammography-screening programme in the USA.

No previous evidence was found on factors associated with women's participation or non-participation in mammography screening programme in Nigeria. However, there are several studies on this topic conducted outside Nigeria, and some of them are from developing countries where either there is no structured screening programme or the programme is starting to develop. Some of these articles formulated theories that could be used to understand the factors affecting participation in mammography screening programme. An example of these theories are theory of reasoned action, health belief theory, trans-theoretical model, social cognitive theory (Glanz et al., 2008), and theory of care seeking behaviour (Lauver, 1992). A critical review of these health theories (see section 3.2) to identify relative strengths and limitations is presented in the next chapter.

3.2. Critical evaluation of health behavioural theories

A theory is a set of statements or principles devised to explain a group of facts or phenomena. Many scientific theories have been repeatedly tested and can be used to make predictions about natural phenomena. Constructs are components of a theory; they help define the structure of a theory. Therefore, theories require mathematical or systematic relationships between a set of constructs (explanatory variables) to be able to explain its assumptions.

This section will discuss a range of theories related to women's health behaviour towards mammography-screening. Understanding the relative merits and limitations of these theories might inform future mammography participation research design,

and application of strategies supported by these theories within mammography-screening programmes might also improve women's participation (Brewer & Rimer, 2008).

Health behaviour theories have been developed to predict reasons why people choose to or not to participate in health promotion programmes. However, only a few of these theories have relevance to mammography screening because of their construct validity (Glanz et al., 2008; Lauver et al., 1997; Lauver et al., 2003a) as many of them were developed for different settings and purposes. Literature about health behavioural research (Painters et al., 2008) shows that the health belief model, trans-theoretical model, theory of planned behaviour, and social cognitive theory are the most frequently used theories. However, the poor literature search in that research resulted in the exclusion of relevant articles and one theory; consequently, the theory of care seeking behaviour was excluded in that work. The theory of care seeking behaviour was developed specifically to explore the factors affecting women's participation in mammography screening programmes (Glanz et al., 2008; Lauver, 1992; Lor et al., 2013). The health behaviour theories can be classed into two groups; the first group focuses on how individual factors predict a person's health behaviour; the second group focuses on how society influences a person's health behaviour. While the social cognitive theory focuses on how the society, social interactions and the media influence an individual's participation in a health promotion programme, this thesis will critically explore the four other theories that focus on individual factors to predict or explain women's health behaviour towards mammography screening.

These health behavioural theories are compared and contrasted in Table 3.1 and are discussed in more detail in the next section.

3.2.1. Main feature of the theories

The oldest of the four theories is the **health belief model**. It was developed by social psychologists Hochbaum, Rosenstock, and Kogels in the 1950s (Rosenstock, 1966). It was developed to explain and predict the health behaviour of individuals by focusing on the beliefs and attitude of the individuals (Glanz et al., 2008). These researchers set out to investigate the factors responsible for the failure of a free tuberculosis screening programme in the USA (Glanz et al., 2002). Since then, this model has been used to explain short and long-term health behaviours, including mammography screening programme attendance (Guvenc et al., 2011). The model assumes that women will participate in mammography screening if:

- i. She has a positive expectation that by taking part in the mammography screening programme she can avoid or reduce her chance of dying as a result of breast cancer. For instance, Hatcher-Keller et al. (2014), Lee and Vang (2010) and Ahmadian et al. (2010) reported in their studies that most women that believe that mammography screening can reduce the mortality rate of women as a result of breast cancer because of its ability to detect early breast cancer, attended the mammography screening programme. In contrast, women who reported lack of belief in the benefit of having a mammogram for early detection of breast cancer ignored invitations to attend mammography screening (Ahmadian & Samah, 2013; Bener et al., 2002; Hisham & Yip, 2004; Im et al., 2004; Nissan et al., 2004).

Logically, this factor emphasises the need for education of women on the benefits of having a mammogram, as incorrect or incomplete knowledge of the

benefits of the programme might affect women's participation in mammography screening.

- ii. She believes that she can participate confidently in the mammography screening programme. That is, self-efficacy; it refers to a woman's belief in her own ability to successfully perform a health behaviour. This construct was added to the health belief model in 1988, after several studies showed that self-efficacy and 'cue to action' directly influenced health behaviour (Rosenstock et al., 1988). This construct was developed from the Bandura's self-efficacy theory (Bandura, 1978). It explains a woman's confidence to adopt a healthy behaviour without relapsing even when faced with high-risk situations (Prochaska, 2013). These high-risk situations could be considered as the environmental factors that might hinder women from having a mammogram such as availability of mammography screening units, and the cost of having a mammogram in countries where the women have to pay. Although, in a study that examined Muslim immigrant women's behaviour towards mammography screening in the United States (Hasnain et al., 2014a); their findings show that self-efficacy was not a predictor of mammography screening attendance amongst women but is a significant factor in distinguishing between women who have had a mammogram and who have never had one. However, the previous mammography procedure experience of the women might have great influence on the women's self-efficacy. Therefore, the regular audit of a mammography screening service might help improve women's experience.

The second theory is the **trans-theoretical model**; it was developed by James Prochaska in 1977, as a result of the comparative analysis of several theories on

behavioural change and psychotherapy because of the existence of numerous theories exploring the factors affecting individuals' participation in health screening programmes (Prochaska, 2013). This uses the principles and processes of change within major theories of health intervention by integrating the stages of change within them (Prochaska et al., 1992). The trans-theoretical model has four core constructs, which are the stages of change, process of change, decisional balance, and self-efficacy. The model assumes that the stages of change exhibited by women is influenced by her decision balance, that is her examination of the pros and cons associated with having a mammogram and her ability to adopt the health behaviour (self-efficacy). For instance, Chamot et al. (2001) gave evidence that the stages of mammography screening adoption shown by the Swiss women in their study depends on the decision balance, the women's knowledge of the appropriate screening recommendation, being married and the level of income. In addition, Wu and West (2007) reported that as the stage of mammography screening adoption proceeds from earlier to the later stages, the ratio of balance between the pros and cons becomes more favourable. Therefore, individuals responsible for mammography screening are required to develop interventions that are stage matched, to encourage women to adopt a regular mammography screening behaviour, as there are different belief (pros and cons) associated to each stage.

This model is mostly used in association with the health belief model in examining the stage of readiness of women to having a mammogram (Fair et al., 2012; Hasnain et al., 2014a; Hatcher-Keller et al., 2014).

The third theory is the **theory of planned behaviour**; it also attempts to predict the health behaviour of women by focusing on the women's belief and attitude. It was

developed by social psychologists Ajzen and Fishbein in 1980 and was originally known as the theory of reasoned action (Ajzen & Madden, 1986). They believed that all human behaviours are voluntarily controlled. However, further evidence shows that not all behaviour can be voluntarily controlled, therefore a construct was added that predicts individual health behaviour, which is, the perceived behavioural control. This led to renaming the theory as the theory of planned behaviour, as this theory aims to predict deliberate behaviours (Ajzen, 2011). The constructs central to this are attitude, social norms, perceived behavioural control and intention. It assumes that the intention to perform the behaviour determines a woman's adoption of the health behaviour. For instance, women's actual participation in a mammography-screening programme is determined by their intention to have the mammogram (intention leads to behaviour). However, several studies have shown that a woman's intention to participate in a mammography screening programme does not always lead to them actually participating (Walker et al., 2012). The theory explains that intention is determined by three constructs, which are attitude, subjective norms, and perceived behavioural control.

Similarly, the final theory is the **theory of care seeking behaviour**. It was developed to explain the reasons why people do or do not participate in health promotional programmes such as mammography screening programmes (Lor et al., 2013). It was developed in 1992 from Triandis theory of behaviour (Lauver, 1992), but has been modified to suit cancer-screening behaviour. A construct from the original Triandis theory, physiological arousal, is not included as a predicting factor of behaviour because logically, when associated with health threats (example cancer), it results in depression and anxiety and these can be considered as negative *affects* (Lauver et al.,

1997). The constructs in this theory are: clinical factors, socio-demographical factors, affects, beliefs, norms, habits, and external resources. The theory shows that clinical and socio-demographical factors influence the care seeking behaviour of screening participants through psychosocial constructs such as affects, beliefs, norms, and habits. The theory of care seeking behaviour has been used in exploring women's health behaviour in different settings and ethnic background such as low-income Caucasian and African American women (Lauver et al., 1997).

Similarity exists between several of the constructs within the theories outlined above. For example *perceived threat with benefit* in the health belief model refers to the same thing as *decisional balance* in trans-theoretical model, *affect and belief* in the theory of care seeking behaviour and *attitude* in the theory of planned behaviour. These constructs refer to the process of comparing the potential benefit to the potential risk (Prochaska, 2013; Walker et al., 2012). These constructs have two components: the beliefs about the effects or outcomes of the behaviour, and the corresponding evaluation of these effects. A woman could believe that having a mammogram regularly would reduce her chances of dying as a result of breast cancer, or would lead to her developing breast cancer as a result of exposing her breast to ionising radiation. Her evaluation of these positive and negative outcomes would influence her decision to have a mammogram. The woman is more likely to have a mammogram if she has a stronger belief in the positive outcome compared to the negative outcome.

Logically, this factor emphasises the need for the proper education of women on the benefits and risks of having a mammogram, as incorrect or incomplete knowledge of the benefits of the programme might affect women's participation in mammography screening. African women who believe they are less susceptible to developing breast

cancer as a result of the lower incidence of breast cancer amongst them compared to white women (Fregene & Newman, 2005), would need to understand the benefit and risk of having a mammogram for their ethnic group.

Self-efficacy is another construct that is common amongst the theories. It is represented as *self-efficacy* in the health belief model, and trans-theoretical model, but it is known as *perceived behavioural control* in the theory of planned behaviour and as *external factor* in the theory of care seeking behaviour. This construct can be adjusted by the care provided to enhance women's participation in the mammography-screening programme. Examples of ways this construct can affect women's participation in a mammography screening programme as reported by the literature are: affordability, geographic access, acceptance of mammography screening within a community (Lor et al., 2013). In countries with a high level of poverty, organising a free mammography-screening programme might be a very important facilitator to encourage women to participate in the regular breast screening. In rural areas, geographic accessibility to the mammography screening units to the women by providing mobile mammography van, might be an important facilitator also, as women might not be willing to travel far to have a mammogram (as the cost and time of travel might be prohibitive). Klug et al. (2005) mentioned that women's experience of previous mammography examination (that is satisfaction or dissatisfaction) might influence their decision on whether or not to participate in the mammography screening programme. However, it is useful to note that over half of the women in the Klug study were below 50 years old, which is considered as the lowest age that can be invited to have a mammogram in Germany where the study was conducted. Whelehan et al. (2017) reported procedural that pain and coping with it were the prominent

barrier associated with mammography screening. Interestingly, Brnic et al. (2017) gave evidence that patient satisfaction with mammography experience might not be a central factor affecting women's adherence to regular mammography screening and the women believe the pain experienced during the procedure is endurable; therefore, other components of the programme should be examined. While the societies that reported providing mammography screening for women mentioned that they use trained mammography practitioners, it might be useful to further train the practitioners on how to deal with the psychological needs (the beliefs and resulting fear) of the women.

Finally, the construct *subjective norm* in the theory of planned behaviour is similar to the construct known as *norm* in the theory of care seeking behaviour. This consists of three elements; social norm, personal norm, and interpersonal agreement (Lor et al., 2013). Social norm refers to the custom and tradition that represents a person's knowledge of what others do or what others think of participating in mammography screening programmes. Personal norm refers to the person's knowledge of what she thinks of participating in the mammography screening programme, and interpersonal agreement is the interactions between people on why or why not to participate in mammography screening programmes. A woman's belief about how people around them would like them to behave is known as the *normative belief*. The construct assumes that women are more likely to have a mammogram if they believe it is socially acceptable to do so. Therefore, the perception of mammography in the media is important.

Surprisingly, in some cultural settings, women believe that having a mammogram indicates that the woman has breast cancer (Baron-Epel et al., 2004). Studies show

that cultural influence plays a huge role in affecting participation in mammography screening programmes. For example, Tolma et al. (2014), a study conducted amongst non-Hispanic and Indian American women reported that intense cultural affiliation of the women might influence their perceived barrier towards mammography screening which then heightens their fear towards breast cancer, thus, reducing their willingness to have a mammogram. However, the relationship between the cultural affiliation and mammography screening behaviour of the women could not be explained in the study as it used closed ended questionnaires in its data collection.

However, in qualitative studies conducted amongst Jordanian and another amongst Somalian women residing in the USA, it was reported that they perceived that breast cancer is a shameful illness and therefore women would prefer to die without being diagnosed with the disease (Al-Amoudi et al., 2015; Al Dasoqi et al., 2013). Another study conducted on Arab- Israeli women highlighted their cultural beliefs, that young women should not think about mammography screening which could be seen as 'self-indulgent' because having children, and being totally committed to family, are attributed as the role of women in their society (Baron-Epel et al., 2004). This challenge could be as a result of the lack of education of these women on the benefits of participating in a mammography-screening programme. However, women within this culture might not have a mammogram because of the social norm that exists within their population.

In contrast, Kaltsa et al. (2013) a study conducted in Greece, gave evidence that social norms might not be as useful as personal and interpersonal norms in influencing women's decision to have a mammogram, as the women's friends and family in their study were more influential in encouraging them to have a mammogram.

Acknowledging that the cultural setting in these studies are different, it might be useful to recommend that the educational interventions in these societies should be channelled to encourage women to discuss having a mammogram with their immediate networks.

3.2.2. Appropriateness of the theories for mammography screening

The presence of a construct known as the *cue to action* in the health belief model is an important construct as it gives the researcher an opportunity to explore the effectiveness of the method of invitation available in the mammography-screening programme. The cue to action refers to the stimulus needed to trigger the acceptance of the health behaviour (Glanz et al., 2008). The stimulus could be either internal (for example: appearance of breast cancer symptoms in symptomatic patients) or external (for example: illness of family member or friend, newspaper article, mass media campaign, invitation letter, etc. in asymptomatic women). However, *stages of change* and *processes of change* in the trans-theoretical model might not be effective in exploring the factors affecting women's participation in a mammography screening programme but could be useful in evaluating the effectiveness of an intervention such as the methods of inviting women into the mammography screening programme. Furthermore, the studies that have evaluated the relationship between the process of change and stages of change have not been consistent with their findings, which give readers weak confidence in the model (Bridle et al., 2005; Glanz et al., 2008).

Detailed review of the theory of care seeking behaviour identifies that it uses broader constructs relevant to mammography screening behaviour compared to the other health behaviour theories. It considers a woman's habit towards similar health screening programmes which might affect their health behaviour towards

mammography screening (Lauver, 1992); that is, it considers the woman's adherence to regular mammography screening. Furthermore, the theory is more sensitive to participants of different socio-economic status, which would help the researchers understand the effect of the socio-economic status of the participants on their mammography screening behaviour. In a recent study (Lor et al., 2013) that used the theory to explore the factors affecting a community of women in California (Hmong community) with low socioeconomic status and low participation in mammography screening programme. While the author did not present the socio-demographic background of the participants that had been recruited in the study, the findings show that the constructs fits well with the views of the women in the study. While the well-established theories have a strong track record of application to mammography screening, the theory of care seeking behaviour, while not yet widely implemented, offers a novel approach to investigate factors affecting participation in the mammography-screening programme, particularly in contexts where there is inherent low participation and/or low socioeconomic status such as within the African sub-continent.

Table 3. 1. Comparison of the health behavioural theories that explore women’s behaviour towards mammography screening

	Health belief model	Theory of planned behaviour	Trans theoretical model	Theory of care seeking behaviour
Main features	<ul style="list-style-type: none"> Developed by Hochbaum, Rosenstock, and Kogels in the 1950s. Constructs are: <ul style="list-style-type: none"> Perceived susceptibility Perceived severity Perceived barrier Perceived benefit Self-efficacy Cue to action 	<ul style="list-style-type: none"> Developed by Ajzen and Fishbein in 1980. Constructs are: <ul style="list-style-type: none"> Attitude Subjective norm Perceived behavioural control Intentions 	<ul style="list-style-type: none"> Developed by James Prochaska in 1977. Constructs are; <ul style="list-style-type: none"> Stages of change Processes of change Decisional balance Self-efficacy 	<ul style="list-style-type: none"> Developed by Lauver in 1992. Constructs are: <ul style="list-style-type: none"> Affect Belief Habit Norms Clinical and socioeconomic factors External factors
Advantage	It has a construct that explores the trigger to health behaviour, which is the cue to action.	The addition of perceived behavioural control as a construct that helps predicts a woman’s adoption of a health behaviour.	It explores women’s health behaviour through the stages of change to a healthier behaviour.	It includes broader constructs such as habit, clinical and socioeconomic factor, and external factors.
Limitations	<ul style="list-style-type: none"> It does not explore the effect of socio economic factor on behaviour. It does not have a construct to explore the effect of habit on behaviour. 	<ul style="list-style-type: none"> Intention does not always lead to a person performing health behaviour. It also does not explore the effect of socio economic factor on behaviour. 	<ul style="list-style-type: none"> Inconsistent findings noticed amongst studies that evaluated the relationship between the processes and stages of change. 	<ul style="list-style-type: none"> The low use of theory in behavioural studies, to explore women’s health behaviour towards mammography screening
Application in mammography screening programme literature	Women with multiple sclerosis in the USA (Paraska, 2012), Taiwanese women (Wang et al., 2014), Iranian women (Noroozi & Tahmasebi, 2011), Korean women living in USA (Lee et al., 2009)	American Indian women (Tolma et al., 2014), Australian women (Browne & Chan, 2012), Women living in the Quebec geographical region of Canada (Godin et al., 2001), Cypriot women (Tolma et al., 2006)	Asian, Filipino and Indian American women (Wu & West, 2007), Swiss women (Chamot et al., 2001), Women in the USA (Hatcher-Keller et al., 2014), Muslim women living in USA (Hasnain et al., 2014b), African-American women (Fair et al., 2012), Greek women (Kaltsa et al., 2013)	Hmong women in the USA (Lor et al., 2013), Women in the USA(Lauver et al., 1997; Lauver et al., 2003a; Lauver et al., 2003b),

3.3. Summary

In summation, the theories and models examined all appear to have been widely used in understanding women's behaviour towards mammography screening in many different settings. However, researchers need to understand the limitations of these theories before utilising them in their investigations, as this drawback could limit the scope of the findings of these studies. This is especially important in environments where the effect of the limitations – those factors not accounted for – could be significant in reducing women's participation in mammography-screening programmes.

Women's habit towards adherence to regular participation in mammography-screening and their socioeconomic characteristics can significantly affect behaviour towards mammography screening. Shows that the theory of care seeking behaviour was considered most appropriate because it has broader concepts relevant to mammography screening behaviour compared to the other health behaviour theories. It includes a variable that can act as a barrier or facilitator to the psychosocial factors and which could influence participants' behaviour towards mammography screening. This variable is known as the external factor. Furthermore, the theory is more sensitive to participants of different socio-economic status, as this would help the researchers understand the effect of different socio-economic status of the participants on their mammography screening behaviour.

In addition, as no study was found to have explored the factors affecting women's attendance in mammography screening programme in Nigeria, this study aimed to fill the gap in knowledge. Thus, this study might suggest recommendations on measures that could be used to improve attendance. Furthermore, due to the strengths of the

theory of care seeking behaviour, for the purpose of my thesis it has been adopted to explore the topic.

3.4. Research aims and research approach

The aim of this study is to identify and explore the factors affecting women's attendance in mammography screening in Lagos state, guided by the theory of care seeking behaviour. In addition, the research objectives for this study are as follow:

- a. to identify and then to explore the psychosocial variables and external resources (see section 4.2.5. for description) related to mammography screening behaviour for asymptomatic women in Lagos state, Nigeria
- b. to develop recommendations on how to improve women's attendance in mammography screening in Lagos state, Nigeria.

A qualitative research approach would be the most appropriate for these research questions because no previous studies have been carried out in Nigeria to describe the factors affecting women's participation in the Lagos state mammography screening programme. Maltby et al. (2015) shows that a qualitative research approach is preferable to quantitative when little or nothing is known about a subject, as it provides the opportunity for the research to discover participants' opinions and their reference terms rather than using predetermined terms by the researcher; new terms that might never have been imagined at the start of the study could be generated, but these things would have been lost using quantitative research because of its rigid options or responses. In addition, the qualitative research approach uses a flexible research process to accommodate unanticipated ideas to suit the aims of the research.

In chapter four: section 4.3, further justifications for the choice of methods are discussed in detail.

Chapter 4: Methodology

4.1. Introduction

The initial part of this chapter discusses the research design of the study and evaluates the suitability for different qualitative methodologies to explore factors affecting women participation in the Lagos State Mammography Screening Programme. There is a wide range of methodological approaches to choose from - grounded theory, ethnomethodology, phenomenology, feminist approach and qualitative descriptive approach to name a few. In addition, the theory of care seeking behaviour is also discussed in detail, as the theory was chosen in the previous chapter to understand the factors that affect the participation of women in mammography screening programmes. This theory has been used to 'frame' the research question, but this may sit within the wider 'umbrella' of a named methodological approach- e.g. Phenomenology. The aim of this study and other conditions were used as a guide to choose the approach that best fits the study.

Furthermore, the methods that have been used to collect and analyse the data are discussed with respect to the methodology chosen. It is examined whether an interview, focus group discussion or participant observation method of gathering data would be most suitable to effectively explore the reasons affecting participation of women in the Lagos State Mammography Screening Programme. The strengths and limitations of the chosen methods for data collection and analysis are also discussed. Inevitable constraints like cost, time and practicality of the chosen method also affects the data collected. After ascertaining the most suitable methodology for the study, the epistemological or theoretical stance of the study is discussed to understand whether

the study has utilised a realist or relativist approach or is it attempting to describe the social world around us.

This is followed by a discussion on ethical decisions in the study. It is ensured that the participants of the study are empowered and there is a power balance between the participants and the researcher during data collection by the process of reflection.

Also, it is confirmed that the principles of ethics are adhered throughout the study to minimise harm to the participants. The chapter concludes with a discussion on the methodological limitations encountered in the study to improve its integrity, meaning and value.

4.2. Research Philosophy

There are two research paradigms in health research - qualitative and quantitative.

Qualitative research originates from sociological research, where it has been used to understand, explore, and describe topics on human behaviour, perception, or views

(Maltby et al., 2015), but in some fields it is not widely utilised. The quantitative

approach, on the other hand, has been extensively used for health research to

examine the relationship between disease, its effect on population, and effectiveness

of treatment methods. As a result of this, there is increased scepticism of a qualitative

research approaches in health related research (Mays & Pope, 1996). Perhaps a

consequence of this has resulted in fewer qualitative research articles published in

well-established health journals such as the British Medical Journal, Journal of the

American Medical Association, and the New England Journal of Medicine (Greenhalgh

et al., 2016); and fewer researchers are being given grants to conduct research using a

qualitative research approach. This depicts the qualitative research approach as the

weakest form of evidence in clinical practice (Cochrane classification of evidence)

(Melnyk & Fineout-Overholt, 2015). The health researchers ignore the fact that not all health problems can be studied with the quantitative research approach, and some can only be considered by exploring participants' views on the issue using qualitative research methodology. With this argument in mind, qualitative research approach is chosen to explore the factors affecting the participation of women in mammography screening in Lagos state. The reasons for this are further discussed below:

- Firstly, in a qualitative research approach, data is represented through words to gain an in-depth understanding of an experience or perception (Pope & Mays, 2006). These words are believed to be rich in meaning and concern a particular topic. In this case, to understand how and why some factors may affect women's participation in mammography screening programmes. Meanwhile, in quantitative research, the data is represented through numbers and may provide limited information on how the women perceive the mammography screening programme (Maltby et al., 2015). Therefore, explanations on the factors responsible for low attendance rate cannot easily be acquired from the data and would leave the researcher with many unanswered questions on the topic. However, using the qualitative research method to collect data from the study participants, through probing questions in interviews and focus group discussions, enables the researcher to acquire additional information on the participants' views (Finlay & Ballinger, 2006) and offer a better understanding of the information provided by the participants.
- Secondly, the qualitative research approach is an inductive process, as theories are generated from the data, as opposed to a quantitative research approach that uses a deductive approach, which aims to test a hypothesis (Denzin &

Lincoln, 2011). No study has been conducted in Nigeria on the factors responsible for the low participation of women in mammography screening programme, which makes it impossible to use tested theories or evidence, and utilise a closed ended questionnaire - a quantitative research method of data collection (Maltby et al., 2015). However, using a semi structured or unstructured interview guide in qualitative research methods may provide useful information on the women in Nigeria that was not anticipated at the beginning of the research. This makes the inductive process more appropriate. Though the questions in the interview guide are informed by existing theories and evidence on the topic, the qualitative approach gives the participants the freedom to express themselves, outside the scope of the existing theory.

- Finally, a quantitative research approach uses a rigid method of sampling, data collection and analysis, predetermined at the beginning of the study (Corbin & Strauss, 2015). However, in a qualitative research the method used is dynamic, as unanticipated events that occur during the data collection process may require the researcher to take a different approach. For instance, a study that aims to explore the view of consultant radiographers on their roles, initially collects data from the participants by the use of open-ended questionnaires (Harris & Paterson, 2016). If a further need is identified to explore the facilitators and barriers related to research participation, other methods of data collection are also required. This is a desirable trait, as part of the study may need to adapt because of some unforeseen circumstances during the planning stage.

Ontology is described as the study of the nature of being; what is real and exists around us, and is seen as the relationship between the world and human

interpretation and practice (Holloway & Wheeler, 2013). It is the study of how we see the world around us. Some researchers (realists) believe that there can only be one true outcome from research and it can be accessed through appropriate application of research techniques (Braun & Clarke, 2013). Therefore, the finding of this type of research is reproducible, highly controlled with truth being set or sought so that other researchers can replicate the work and achieve the same outcome given that other factors remain constant. On the other hand, some other researchers (the relativists) argue that multiple realities or outcomes exist on a research subject and what is real and true differs across time and context (Braun & Clarke, 2013). The ontological stance of this study best fits the relativists group, as it aims to explore the varied views of women on the factors responsible for the low participation at the Lagos State Mammography Screening Programme and hence the views differ from one another. The findings of this study are not reproducible by another researcher at a different time, as the views of the concerned women may change with time. However, the research explores a phenomenon at that particular point in time for that particular sample and this may well be unique- the outcome cannot therefore be generalised to the wider population. The advantage of this approach is that it gives us an in-depth understanding as to why women decide to participate or not participate in mammography screening programme. For instance, Zidar et al. (2015) used a realist approach to investigate the factors affecting women's participation in the Swedish mammography screening programme. They reported that the distance the women travel to the mammography screening unit might be responsible for the non-attendance of older women in the mammography screening programme; but could not explain how and why these factors influence the behaviour of women towards mammography screening. However, in this case, applying the relativism approach may

provide an in-depth analysis on how and why certain factors might positively and/or negatively affect women's participation in the mammography screening programme.

As the views of the participants differ, the realist approach will probably not provide the best option, as it suggests that only one true outcome can emerge from a question (Green & Thorogood, 2014). In addition, using the realists approach means that the researcher is imposing his/her own view established through knowledge acquired from previous literature, consequently an important culture specific view might be missed in the process (Finlay & Ballinger, 2006).

Another ontological stance is that the critical realist assumes that the information provided by the participants in the study reflects their subjective perception and the researcher's own interpretation plays a crucial role in the outcome of the research (Finlay & Ballinger, 2006). However, as this research aims to give its participants voice, and the researcher is an outsider to mammography experience, offering an outsiders perspective to the research (etic view), the relativist position is identified as an appropriate ontological position. Even though the researcher aims to report the findings of the study as the true opinion of the women, there is still some degree of subjective influence. Therefore, a critical reflection by the researcher on the role they played in the research and how it might affect the data and analysis of the data collected should be conducted, as it will help the reader to understand the context better (Finlay, 2008).

The study of what counts as valid knowledge is known as epistemology (Holloway & Wheeler, 2013). The relativist assumes that knowledge differs from different viewpoints and an absolute or singular truth concerning a subject is impossible.

Therefore, unlike the quantitative methodology, where all research is supported by the

positivist philosophy, research that uses a qualitative methodology can offer several underpinning philosophies (Maltby et al., 2015), depending on whether knowledge is discovered or created through the process of research. Some of these philosophical positions include positivism, post-positivism, constructionism, or contextualism.

The constructionist argues that there is no one true nature of the world; but what is known of ourselves, the objects in the world and the world around us is developed from our social and cultural context (Holloway & Wheeler, 2013). As these contexts change, the knowledge we have about the world around us also changes, and therefore, the truth changes too. Also, the constructionist encourages closeness between the researcher and the participants of the study, by attempting to immerse themselves in the participants' social world. It is believed that the participants' account of the world is better explored by understanding its context. However, this closeness is termed as 'prejudice' and is discouraged by the positivist and post-positivism epistemologies, as here the researcher aims to discover a singular or absolute truth and thus avoids all form of subjective influence on the knowledge production process (Bourgeault et al., 2010). Furthermore, the assumptions in constructionism differ from contextualism, as the latter believes that knowledge emerges from the contexts and the researcher's position on the topic (Braun & Clarke, 2013). Meanwhile, in this study, the researcher cannot be a co-constructor of ideas because of his inability to undergo this test; therefore, he has little influence on the data. However, the diverse views of the participants on the topic is captured and considered true at that particular point of time.

'Qualitative research methods refer to the specific research techniques used to gather data about the social world' (Pope et al., 2002). The choice of research method is

informed by research strategy, research design, theoretical perspective, or set explanatory concepts. During the course of this study the author considered several methodological approaches before deciding the one suitable to guide the study. This appears to be a difficult process as approaches share similarities and boundaries that exist between them are blurred. The theoretical perspectives that are considered include grounded theory, phenomenology, ethnomethodology, feminist approach, and qualitative descriptive approach.

4.2.1. Grounded theory

In 1965, two sociologists- Anselm Strauss and Barney Glaser worked on patients' awareness of dying; thus developed the grounded theory approach (Glaser & Strauss, 1967). This approach might be beneficial to this study as it allows the researchers examine women's behaviour towards mammography screening from different angles; thus providing an in-depth explanation (Corbin & Strauss, 2015). In addition, according to Holloway and Wheeler (2013), the grounded theory approach is an inductive process that might be appropriate to use when there is lack of evidence or theory or where existing theory is unable to solve problems or to modify existing theory.

Therefore, as there is lack of evidence on women's behaviour towards mammography screening in Nigeria and existing literature were conducted in different countries with unrelated cultural belief from the women in Nigeria, this approach might be relevant to use.

This approach uses a systematic inductive process in developing theories, that is, at the beginning of a grounded theory study little is known about the subject, but extensive literature review is conducted after the researcher has developed themes from the data collected (Corbin & Strauss, 2015). However, this characteristic is not suitable for

this study as the research aimed to use existing literature on mammography screening behaviour (the theory of care-seeking behaviour) to guide the study; therefore an approach that would permit the use of this existing theory to guide the study might be appropriate. In addition, there are several practical limitations to the use of this approach in this study. Firstly, the process of the approach prescribes that the process of data collection and analysis is continuous until when new data does not change the emerging theory (McCallin, 2009). However, because of the limited period of the study (three years), the time frame for data collection and analysis could not be predicted before the study began. Furthermore, due to the limited funding available to conduct the research, as the fund available might not be enough to cover the cost of transportation of the researcher to visit participants at different times after every analysis. Consequently, this approach was considered inadequate for this study; hence, the phenomenology approach is examined below.

4.2.2. Phenomenology

Phenomenology was developed by philosophers Georg Wilhelm Friedrich Hegel, Edmund Husserl, and Martin Heidegger (Holloway & Wheeler, 2013). These philosophers emphasised that to understand the world, the views of individuals who have experienced the phenomenon must be captured (Green & Thorogood, 2014). Furthermore, this approach does not aim to reach an objective truth on individuals' views on the phenomenon. However, it does give priority to the opinion of each individual concerning the topic of the research. This study aims to speak in the voice of these women, as they are best suited to express their views on the occurrence. However, it is unclear if the participants are not attending the screening programme because of a bad mammography experience or whether they are unaware about

existence of such a programme. Not knowing about the screening programme means that they are not in a position to explain how the mammography screening experience has affected their participation in the programme; thus, this methodological approach might not be suitable.

In addition, Husserl's position assumes that an essential feature of this approach is the process of *bracketing*- this is the process by which the researcher puts aside their views, experience, or prejudices related to the study as to purely describing the participants' views in their true form (Al-Busaidi, 2008). On the other hand, Heidegger's position believes that the researcher and the participants are co-contributors to the information gathered from the research and the researcher's view improves the interpretative nature of the study (Tufford & Newman, 2012). Therefore, Husserl's assumption is a desirable feature in this study as the researcher's view is not similar to the participants. The assumption centres on reproducing faithfully the meaning, using direct quotes and giving rich descriptions of the context to show that the researcher is not significantly altering the participants' voice. However, this position does not support the use of existing theories to guide the study, but this study aims to explore women's view on the factors affecting participation in the Lagos state mammography screening programme guided by the theory of care seeking behaviour. Thus, the essence of bracketing is partially irrelevant; therefore, this approach is rejected for this study.

4.2.3. Ethnomethodology

This approach was developed in the 1920s and 1930s by social anthropologists, Malinowski (1922), Boas (1928), and Mead (1935). They believed that cultural values and norms can be understood by studying an individual's behaviour in context of culture (Hogan et al., 2011). This means that the researcher needs to spend time in the participants' cultural settings to understand how things are done before collecting data. This introduction to the new culture helps the researcher develop some knowledge about the community and enables him to give a *thick description* of the participants' accounts. However, this is not achievable in this research, as it would take a long time for the researcher to immerse himself into the cultural setting of women over the age of 40 years living in Lagos state, Nigeria to be able to gain an understanding of their behaviour towards mammography screening.

Holloway and Wheeler (2013) suggest that this approach could be useful in exploring health promotional issues because of its ability to provide social context and evaluate the social conditions in which these individuals live. However, the data collection method of this methodology is mainly by participant observation, which is problematic according to the nature of this study, as the behaviour of women towards mammography screening would have to be monitored for a duration of over two years (breast cancer screening frequency in Nigeria) and this may involve interacting with them on a daily basis. This is not possible within the cost and time specified for this study.

In addition, a qualitative research approach using a participant observation method emphasises the need for the researcher to be well trained in conducting them (Angrosino, 2007); however, in this study, the researcher does not possess this type of

skill-set. Also, there would be significant ethical barriers to overcome in observing these participants. Furthermore, if the women were observed during the procedure, it would not provide information on the women's thoughts, feelings, and expectations as outlined in the research aim. Hence, another approach that focuses more on empowering women might be more appropriate for this study.

4.2.4. Feminist Approach

This methodological approach was developed in the late 1960's during the second wave of feminist activism. It emphasises the relationship between power and knowledge; as the process of authentication of knowledge claims is associated to social structures of domination (Green & Thorogood, 2014). It is assumed that the knowledge that is predominately produced by men, about a world that is focused on men's views and experiences, cannot be classed as true knowledge. A central component of this approach is that the women are seen as the oppressed group influenced by the economic, political, and media systems and to a large extent by men (Holloway & Wheeler, 2013). Therefore, this might be a more appropriate approach if the women's participation was mostly as a result of power tension between men and women in the society. Some of the findings this study might suggest there is evidence of the male-female power struggle – the women noted that they were concerned about dignity / undressing in front of men, and suggested that a lady who had a diagnosis of breast cancer might have to 'hide away'. Also, articles about Iranian or Jordanian women who were strongly influenced by men in their culture against having screening – knowing their place in society (Al Dasoqi et al., 2013; Khazae-Pool et al., 2014). However, in this study the women's lack of participation is mostly because of awareness and poor healthcare facility in the society, a feminist approach may not be

opposite as the same issue may affect the male group in some other health screening scenario. Thus, another seemingly suitable method - the qualitative descriptive method is explored.

4.2.5. Qualitative descriptive approach

The aim of this research is to comprehensively describe women's views on mammography screening with minimal subjective influence by the researcher.

Sandelowski (2010) describes qualitative research as a methodology of choice when straight description of subject is desired, as it is less interpretative than the other methodological approaches. For example, the phenomenological approach inclines researchers to use terms within the real world, and grounded theories incline researchers to use elements in a conditional matrix to guide data interpretation (Corbin & Strauss, 2015). Sandelowski (2000) mentions that studies that aim to find out the reasons why people do or do not participate in health screening programme, are examples of studies that might require straight description of the subject.

Furthermore, Lor et al. (2013) is a study that was conducted amongst Hmong women living in the USA, on the factors affecting women's participation in mammography screening programme. The author used a descriptive qualitative approach to explore these challenges and explains that the justification for doing this is that the nature of the study's aim is descriptive.

The figure 4.1. below shows the visual elements that would normally be seen in the methodological approach. This elements includes, methods of data collection, sample selection and method of data analysis (Kim et al., 2017). The justifications for the methods chosen will be discussed in detail in subsequent sections.

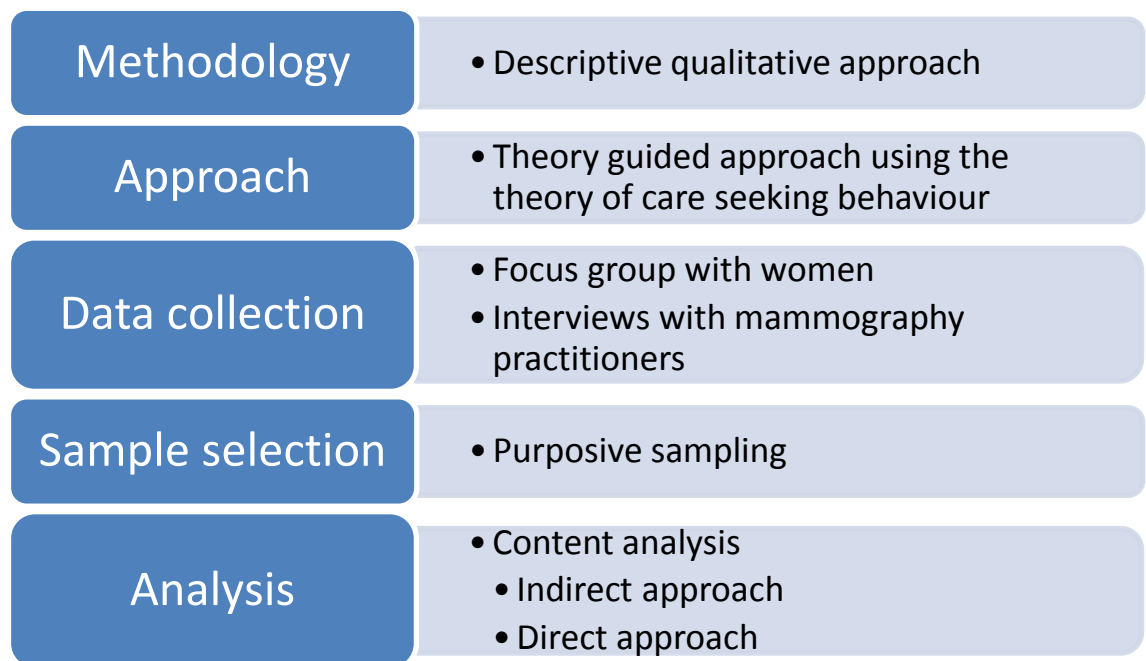


Figure 4. 1. Flow diagram to show how the qualitative descriptive approach influenced the study.

In addition, the method of data analysis of choice in this approach is the qualitative content analysis (Sandelowski, 2000). This data analysis method uses verbal and visual data in a dynamic form with the aim of summarizing the informational content of the data. Also, this analysis system permits the use of a pre-existing coding system to guide data analysis, as it would be modified in the course of analysis to fit the information gained from the participants' accounts. Thus, this approach might be suitable for this research as the novice researcher would use existing health behavioural theory as a pre-existing coding system to guide the data collection and analysis process.

4.2.6. The theory guided approach using the Theory of Care Seeking

Behaviour

The theory of care seeking behaviour is considered to be the most appropriate theory to use to investigate factors affecting participation in the mammography screening programme because it uses broader concepts relevant to mammography screening behaviour compared to the other health behaviour theories (it is further addressed in the literature review chapter 3). It includes a construct that can act as a barrier or facilitator to the psychosocial factors, which could influence participants' behaviour towards mammography screening. This construct is known as the external factor.

Furthermore, the theory is more sensitive to participants of different socio-economic status, which would help the researchers understand the effect of the socio-economic status of the participants on their mammography screening behaviour. This was discussed in detail in the previous chapter

The constructs in this theory, as seen in Figure 4. 2 below, are: clinical factors, socio-demographical factors, affects, beliefs, norms, habits, and external resources. The theory shows that clinical and socio-demographical factors indirectly influence the care seeking behaviour of screening participants through psycho-social constructs such as affects, beliefs, norms, and habits.

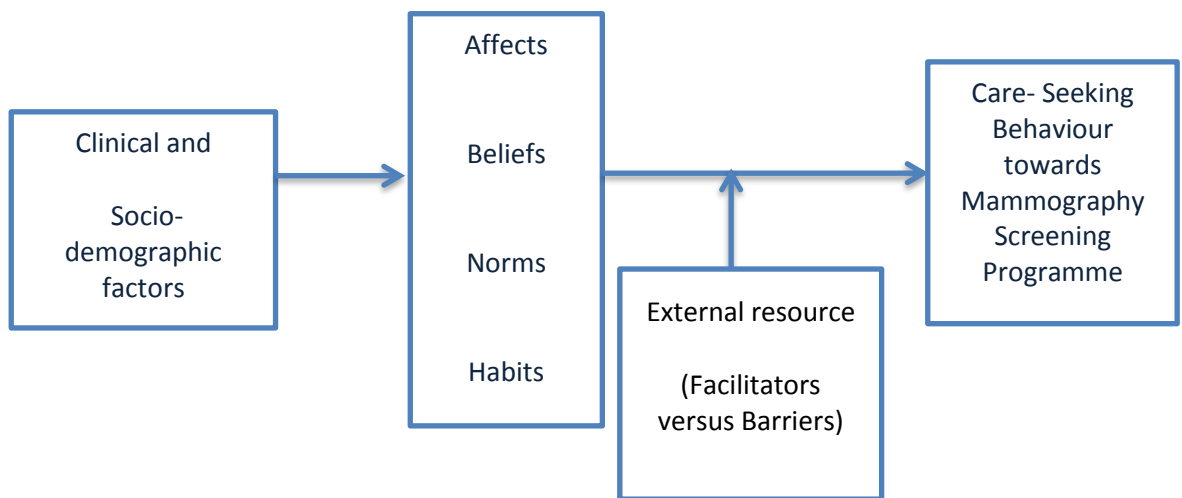


Figure 4. 2. Flow Chart showing the theory of care seeking behaviour towards a mammography screening programme (Lauver, 1992).

Clinical factors: This refers to the presence and type of breast cancer symptoms and history of cancer related problems. Consedine et al. shows that this has a direct effect on the care seeking behaviour of participants (Consedine et al., 2004). However, this can be applied only to symptomatic women, as mammography screening aims to invite women without breast related clinical indications. Furthermore, women who have ‘faked’ having breast cancer as a result of a psychological disorder or behavioural conditions (Munchausen syndrome) are still considered as asymptomatic women. Therefore, the women’s clinical factors might not directly affect the care seeking behaviour of the participants. Furthermore, family history or the experience of friends and neighbours with breast cancer might influence women’s care seeking behaviour (Lauver et al., 1997).

Socio-demographical factors: These are characteristics such as age, education, and level of income. Lauver gave evidence that the age and the level of education of women are not directly related to the care seeking behaviour of women (Lauver,

1992). However, Lauver derived her findings from studies carried out in the USA, and this finding might not be applicable to developing nations, as evidence has shown that women in Nigeria with higher levels of education and income are three times more likely to practice breast cancer screening compared to women with lower levels of education and income (Okobia et al., 2006).

Affects: This is the feeling linked to women's behaviour towards mammography screening, for example, embarrassment and anxiety about a serious diagnosis, and women's experiences during screening (Lor et al., 2013). This factor has been shown to have a direct impact on women's behaviour towards mammography screening, as anxiety could motivate women to participate in mammography (Lee & Vang, 2010), and also could discourage women in some other cases (Al Dasoqi et al., 2013; Baron-Epel et al., 2004).

Beliefs: These are what the women perceive as the effect of the outcome of participating in mammography screening, and the importance of the effect of the outcome. A range of studies have reported that women believe that a breast cancer diagnosis is a form of disability, which would lead to death. This disability would lead to friends and family members neglecting and abandoning them (Al Dasoqi et al., 2013; Baron-Epel et al., 2004; Bener et al., 2002; Kwar, 2013; Khazaee-Pool et al., 2014). However, all these studies were conducted on Middle Eastern women (Arabian, Jordanian, Iranian and Palestinian women), and this belief might be as a result of cultural influences.

Furthermore, some other Arab women believe that mammography screening is associated with the possibility of having breast cancer, and breast cancer is also perceived as God's test of faith and they would put their trust in their God rather than

in the health services, and therefore not attend (Baron-Epel et al., 2004). However, these ideas about the effect of breast cancer could be associated with the women's poor knowledge of breast cancer diagnosis and treatment.

Norms: This consists of three elements; they are social norm, personal norm, and interpersonal agreement (Lor et al., 2013). Social norm refers to the custom and tradition that represents a person's knowledge of what others do or what others think of participating in mammography screening programmes. Personal norm refers to the person's knowledge of what she thinks of participating in the mammography screening programme, and interpersonal agreement is the interactions between people on why to participate in mammography screening programmes or not. Studies show that cultural influence plays a huge role in affecting participation in mammography screening programmes. For example, in a study conducted amongst Jordanian and another amongst Somalian women residing in the United States of America, it was reported that they perceived that breast cancer is a shameful illness and therefore women would prefer to die without being diagnosed with the disease (Al-Amoudi et al., 2015; Al Dasoqi et al., 2013). Another study conducted on Arab- Israeli women reported that young women should not think about mammography screening as having children, and being totally committed to family, are attributed as the role of women in the society (Baron-Epel et al., 2004).

Habits: This refers to how women act in situations similar to mammography screening. Lauver et al. reported that more of the women noticed to have had a positive attitude and adherence to other regular health screening might participate in the mammography screening programme compared to the group of women with a less responsive attitude to regular health screening (Lauver et al., 1997). However, the cost

of participating in regular health screening might be a problem in societies where the healthcare system is funded by the women, rather than through taxation. Therefore, there is a need for government and policy makers to pay more attention to the specific needs of their population as to whether they should subsidise, or remove, the cost of health screening in their countries.

External resources: These are factors that are outside the women's control. The inclusion of this factor in the theory helps to clearly explore the other reasons that might serve as barriers or facilitators towards mammography screening (Lauver et al., 1997). This factor can be adjusted by the care provided to enhance women's participation in the mammography screening programme. Examples of these factors as reported by the literature are: affordability, geographic access, women's acceptance of screening (Lor et al., 2013). In countries with a high level of poverty, organising a free mammography screening programme might be a very important facilitator to encourage women to participate in the regular breast screening. Geographic accessibility to the mammography screening units might be an important facilitator also, as women might not be willing to travel far to have a mammogram (as the cost and time of travel might be too much). Klug et al. mentioned that women's knowledge of the benefits and risks of mammography screening, and experience of previous mammography examination (that is satisfaction or dissatisfaction) might influence their decision on whether to participate or not in the mammography screening programme, and this can improve mammography screening programme acceptance amongst women within a society (Klug et al., 2005).

4.3. The research method

4.3.1. Data collection

The mammography practitioners' and women's views on the reasons why they participate or do not participate in mammography breast screening were gathered using two data collection methods – interviews (practitioners) and focus group discussions (women)- in figure 4.1. This is to improve the study's credibility using triangulation method, by gaining a holistic view of the challenges towards mammography screening attendance. As a result, both methods are evaluated to understand the similarities and differences in the data collected (Cohen & Crabtree, 2008), and also inherent weaknesses resulting from choosing a specific data collection method are reduced (Murphy & Yelder, 2010). These methods of data collection (focus group discussion and interview) are further explored below.

4.3.1.1. *The focus group discussion*

Social interaction amongst the participants of a group discussion is an essential feature of a focus group discussion method of data collection. In this, participants get to share their views, thereby showing arguments and agreements over subjects of the discussion (Pope & Mays, 2006). In this study, focus group discussion is used to collect data from women within Lagos state. This is a good option as the research aims to explore how social as well as individual factors affect women's participation in the programme; and social interaction cannot be seen with just the face-to-face interview method (Holloway & Wheeler, 2013).

Focus groups are the method of choice for data collection when exploring under-researched issues. It offers a wide range of views, perceptions, or understanding of the topic (Braun & Clarke, 2013). As no research has been conducted in Nigeria to explore

the views of women on the factors affecting their participation in the mammography-screening programme, this method of data collection is deemed to fit the purpose of this research.

Furthermore, the researcher has little influence on the debate as the focus group discussion provides participants an open supportive environment to discuss sensitive topics such as breast screening in detail, and the women are able to talk to each other instead of the researcher (Holloway & Wheeler, 2013). However, there is a possibility that the focus group discussions provide more irrelevant information as compared to the face-to-face interview and require a properly trained moderator to effectively guide these discussions. Hence, the researcher focusses on effectively moderating and managing the focus group discussion by initially conducting a pilot focus group discussion, and attending training programmes in the area.

The research moderator being male may create some power issues, as some women may be uncomfortable in discussing a sensitive topic like mammography with him. However, this challenge is minimal in a focus group meeting as compared to a face-to-face interview with the women. Therefore, the use of reflection on the process of data collection and how the researcher's view may influence the information provided by the participants is relevant, and can affect the context in which the findings of the research can be viewed (Murphy & Yelder, 2010).

This research is conducted with seven focus group discussions at different locations in Lagos state. Multiple focus groups at varying locations were selected to enable exploration of the potential effects of geographical and socio-demographic differences on women's views of participation in the Lagos state screening programme. Each meeting was scheduled to last for 45 minutes and contains eight to ten women. Pope

and Mays (2006) explain that focus group discussions with lesser participants might not generate adequate information on the topic of interest and if it has more participants, it may not provide all the participants a chance to contribute on the topic. The group discussions are conducted by two researchers - one, the moderator, and the other, the mammography practitioner who observed the discussions and did not participate in the discussion until the end. She noted the women's verbal responses to the questions during the discussion.

4.3.1.2. Pilot focus group discussion guide

The focus group guide (in appendix A) is developed from the constructs of the theory of care seeking behaviour- in figure 4.2 (Lauver, 1992), which is discussed in the previous section. The questions are formed by the researcher and three other experienced peers, who have conducted several qualitative studies. The content and structure of the guide was then tested on some Nigerian women living in the United Kingdom by the means of a focus group discussion, as evidence suggests that it might be an effective process to evaluate the validity of the guide (Silverman, 2013). This pilot focus group was conducted after ethics approval has been gained from the University of Salford Research and Ethics Committee and the religious organisation where the women were recruited (see details of this in section 4.4.1). After analysing the data on NVIVO (justifications for the use of this software is discussed in the later part of this chapter), using the constructs of the theory of care seeking behaviour, the researcher discovered that issues discussed at the meeting fits with the constructs. Therefore, this might indicate that the questions in the focus group guide are valid (in figure 4.3). In the figure, the constructs of the theory of care seeking behaviour are seen in column one (name- affect, belief, habit, norms, and external factors), and participants referred to these constructs many times as captured in column three

(references). Furthermore, after a thorough reflection of the focus group meeting had been conducted (in the next section) adjustments were made in the final version of the focus group guide (appendix B).

Figure 4. 3: Diagram of the pilot focus group themes after analysis (NVivo version 7).

Name	Sources	References	Created On	Created By	Modified On	Modified By
Themes	0	0	07/11/2015 20:53	OL	07/11/2015 20:53	OL
Affect	1	25	07/11/2015 20:56	OL	11/11/2015 09:57	OL
Anxiety	1	19	07/11/2015 23:55	OL	11/11/2015 09:57	OL
Embarrassment	1	4	07/11/2015 23:56	OL	08/11/2015 00:39	OL
Excitement	1	3	08/11/2015 00:17	OL	08/11/2015 00:29	OL
Ignorance	1	3	08/11/2015 20:20	OL	08/11/2015 20:29	OL
Pain and discomfort	1	6	07/11/2015 23:55	OL	08/11/2015 01:00	OL
Belief	1	13	07/11/2015 20:56	OL	11/11/2015 09:57	OL
Benefit Versus Risk	1	3	08/11/2015 00:05	OL	08/11/2015 01:18	OL
Benefits	1	7	08/11/2015 00:04	OL	08/11/2015 01:08	OL
Death and breast cancer det	1	8	08/11/2015 01:04	OL	11/11/2015 09:57	OL
Risk	1	5	08/11/2015 00:04	OL	08/11/2015 01:14	OL
External factors	1	29	07/11/2015 20:57	OL	08/11/2015 21:27	OL
Accessibility and Availability	1	8	08/11/2015 19:20	OL	08/11/2015 20:35	OL
Cost	1	4	08/11/2015 19:23	OL	08/11/2015 20:27	OL
Cue to action	1	15	08/11/2015 01:40	OL	22/06/2016 13:19	OL
Staff communication skill	1	12	08/11/2015 01:41	OL	22/06/2016 14:17	OL
Habit	1	4	07/11/2015 20:57	OL	08/11/2015 21:27	OL
Norms	1	34	07/11/2015 20:56	OL	08/11/2015 21:26	OL
Individual Norm	1	6	08/11/2015 19:55	OL	08/11/2015 21:26	OL
Interpersonal Norms	1	3	08/11/2015 19:55	OL	08/11/2015 20:47	OL
Social norm	1	15	08/11/2015 19:55	OL	08/11/2015 20:41	OL

4.3.1.3. Reflection on the pilot focus group meeting

This section will utilise the first person where relevant, as this is appropriate in reflective practice. Below is an account of the events that occurred at the pilot focus group discussion, the feelings or thoughts associated with it, and evaluation and analysis of the experience. My feelings and thoughts, along with what I think the study

participants' feelings and thoughts were, will be discussed simultaneously with the events. The process will be discussed under four categories- the invitation process, pre-meeting, during meeting, and post meeting for effective discussion.

The invitation process

Participants were recruited in similar studies that aimed to explore the factors affecting women's participation in mammography screening programmes from social gatherings (Baron-Epel et al., 2004; Kwar, 2013; Lor et al., 2013) and these studies had a good participation rate. However, there were no discussions on women that might have chosen not to participate and why they had decided to do so. Therefore, for our pilot focus group discussion we decided to recruit Nigerian women from a church in Manchester, because this was a place they would gather for social as well as religious events. However, knowing that the majority of the women in the church I attended in Manchester are Nigerian and that many are within the eligible age for mammography screening, I suggested to my supervisors that we should invite these women. Then, I met with the church's administrators, as they were the gate keepers to this group of women, and I discussed the research aims and the characteristics of the participants that would be suitable for the study (women that fit with the inclusion and exclusion criteria in table 4.1 and 4.2). Barbour (2005) explained doing this is important as it might optimise diversity in the participants recruited for the study. The church's administrator then introduced me to the women on a WhatsApp group chat created for the purpose of the research by the church women's leader. That gave me confidence that they were willing to participate in the study because they created the WhatsApp group themselves, and after I had shared the aim of the study with the

group some of the women indicated that they were going to attend the meeting. I was excited because at the beginning of the research, I was worried that the women might not agree to participate in the research because I am a male researcher investigating a sensitive issue, and as they already knew me as a member of the church, it would give the impression that I could breach their confidentiality by sharing their information with people outside the meeting. However, this did not seem to be a problem for these women, probably because they were educated and had a clear understanding of what research is all about, or they might have participated in some other research in the past, which might have made them aware of the importance of participating in research studies. I gave the women an opportunity to choose the date and time that was convenient for them to have the group meeting (Green & Thorogood, 2014). This turned out to be useful as most of the women attended the meeting. Although some of the women were late to the meeting, the majority of them came in on time. However, one of the women reported that she almost forgot to attend the meeting because she had some other engagements. In a randomized control trial that evaluated the response rate of postal survey with three reminders and telephone interviews amongst general practitioners in the United Kingdom (Hocking et al., 2006), they found out that the postal survey with several reminders were about 20 percent more effective than the response rate of the group that participated in the telephone interviews. Future meetings might employ the use of a reminder message, sent a couple of hours before the scheduled meeting. Furthermore, conducting the focus group discussion at the church might have helped encourage the women to attend the group discussion as BrendaHappell (2007) believed that conducting a focus group discussion in an environment that seems familiar to the participants can enhance attendance.

Pre-meeting

I arrived at the venue at 3:30 pm to prepare the room for the meeting. My supervisor and a colleague (who had volunteered to perform the role of a Note taker) were at the venue at 4:00 pm, to plan the meeting before the participants arrived. The women were invited into the room as they arrived and were offered refreshments.

The meeting was scheduled for 4:30 pm, by which time seven women were already seated, but I felt some people were late because about 11 women had shown interest in participating in the study on the WhatsApp group chat. However, I was not deterred because I felt seven participants should be a good number to participate in a focus group discussion. A participant joined the meeting at 4:40 pm, just about the time the meeting commenced. Another participant joined the meeting while we had started discussing the issues. Her presence distracted me, and I didn't know whether to ask her to introduce herself and summarise what we had been discussing before she sat down or just carry on with the discussion. However, I stopped to introduce the topic we were discussing and asked her to introduce herself, when I noticed that some of the participants were distracted by her entrance. In total, we had nine women in attendance and they were seated around a table as shown in the diagram below (in figure 4.4). This seating arrangement was useful in eliciting discussion amongst the women as everyone could see and hear one another (Wong, 2008a). Although, it would have been better if we were seated in a circle, as the sitting arrangement with me at the head of the table in the figure below made it look like there was power imbalance between me and the women. However, sitting in circle at that location was not practical as the table in the room was rectangular and fixed to the floor.

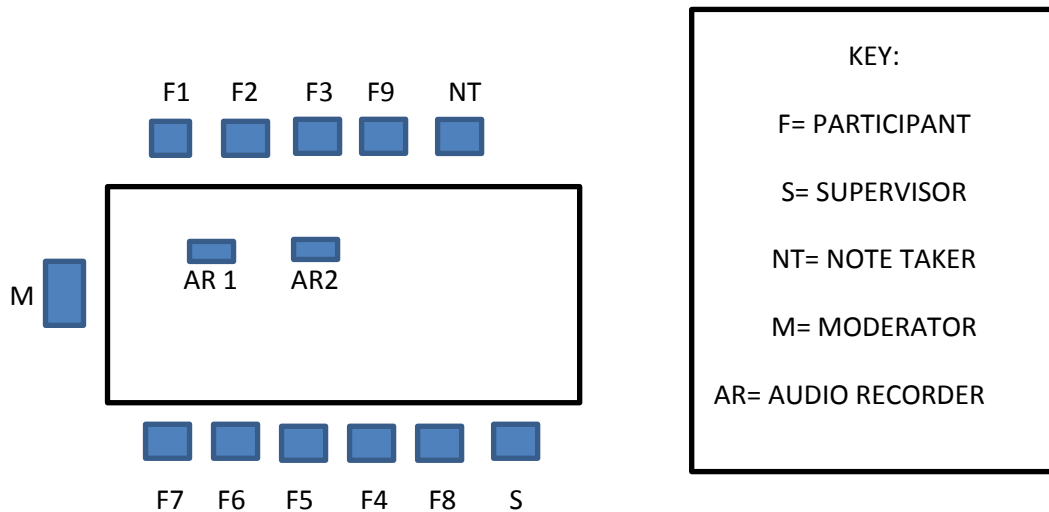


Figure 4. 4. The diagram shows how the participants in the meeting were seated.

During the meeting

The participant information form and consent forms were distributed among the women. I had forgotten to write my name on the consent forms and the women had problems remembering my name, so they were confused and were asking each other for my name; when I noticed, I asked them to leave the space blank to be completed later. Furthermore, only seven consent forms were collected from the participants, because I had forgotten to give the forms to the last two women who had joined the meeting when the discussion had started. I was worried because I felt I did not plan the process of sharing consent forms properly. These women were contacted to complete the consent form, which they did and submitted at a later date. The meeting commenced with a brief introduction by my supervisor, my colleague, and me. I then discussed the aims of my research and the role the women would need to play during the meeting. They were reassured that their participation would be kept confidential and anonymous. The guidelines for the meeting were then read to the women, and they were asked if they were willing to continue in the study; they indicated their

willingness by saying yes. While I was reading the guidelines, a participant's phone rang. It was exactly when I was advising the women to put their mobile phones on silent mode during the meeting, and I felt she might have thought that I was referring to her particularly, so I had to apologise immediately for the wrong timing because I knew that the women might decide to withdraw from participating in the study if they thought I had disrespected her. Sharing the consent forms after I had discussed the aims of the research, the role the women were going to be playing during the meeting and the guidelines might have been better as it is possible that some participants might not understand or bother reading the participant information forms (Flory & Emanuel, 2004). Moreover, this might allow more time for participants joining the meeting late to get the opportunity to read and sign the consent form before the discussion began.

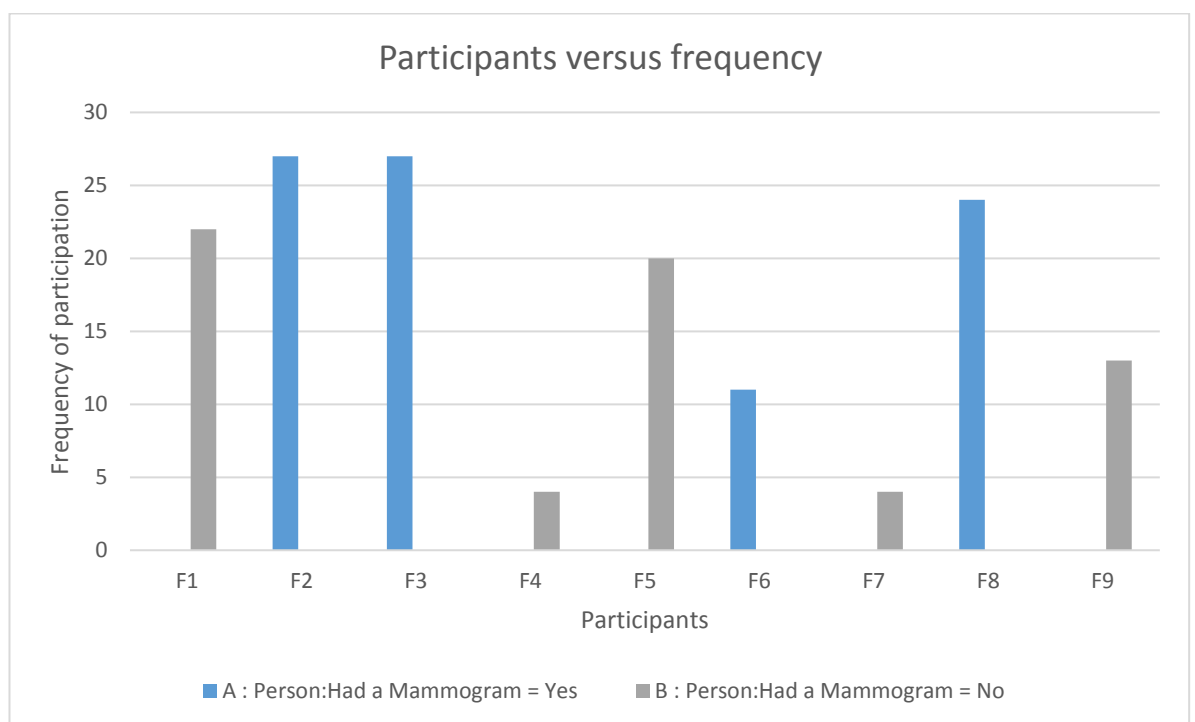


Figure 4. 5. A bar chart on the relationship between participants' frequency of participation and whether or not they have had a mammogram.

The discussion was interesting as the women spoke freely and clearly expressed their thoughts. Figure 4.5. shows the frequency of participation of the women at the meeting with respect to whether they have or have not had a mammogram.

Participants F2 and F3 had the highest level of participation—they both responded 27 times during the group discussion and they happened to have had a mammogram done before. However, participants F4 and F7 had the least level of participation, as both participants contributed to the discussion only four times, but they reported that they have not had a mammogram done before. The women who had had a mammogram contributed more to the discussion compared to the women who had never had a mammogram. Furthermore, three of the five women who had not had a mammogram (F1, F5, and F9) made contributions that were beyond the average frequency of participation, which might indicate that even though they had not had a mammogram, they could have relevant contributions to the topic. Participant 7 left during the group discussion because we had exceeded the time and she had to leave for work. We went beyond the agreed time because the meeting started late and two participants had joined whilst the meeting was in progress and had to introduce themselves and we had to reintroduce the aims and objectives of the research to them. In future meetings (in the main study), I will take this into account and stick to the time agreed before the meeting, to gain all the participants' views on all the questions. Furthermore, we might not have captured participant 4's views on the topic because she was reluctant to speak in Pidgin English, as Monica (2012) reported that the most commonly spoken language amongst Nigerians, especially people living in Lagos State, Nigeria is the Nigerian Pidgin English. However, the Nigerian Pidgin English is a form of English language full of grammatical errors and cultural context. Therefore, it will be relevant for future group discussions to encourage women to

express themselves in this language. All of the women from age 50 and above (F2, F6, and F9) within the group indicated that they have had a mammogram, and all of the women below 47 years, during the discussion when asked for the reason why they have decided not to have a mammogram reported that they have not been invited for the programme. Amongst the two women aged 47 to 49 only one had a mammogram, and this was because the other lady had not been invited to have a mammogram. The reason for this is that the mammography screening programme in the United Kingdom is conducting a pilot study with women within this age group but the screening programme was designed to invite women aged 50 to 70 years (National Health Service Breast Screening Programme, 2015).

The meeting ended at 5:55 pm with a summary of the findings of our discussion, and the participants were appreciated for attending the meeting.

Post-meeting

The women stated that they were happy to have participated and had learnt more about breast cancer screening during the course of our meeting. My supervisor and colleague were pleased with the women's participation and their understanding of the topic. They both gave feedback on the content and process of the focus group discussion, but my note taker informed me after the meeting that she had not taken any note of the participants' contributions. I was troubled by this because I thought transcribing the group discussion audio recording would have been easier by filling the gaps in the notes taken. I knew the alternative was going to be a difficult process as I would have to identify each individual's contributions by recognising their voices in the audio recording. However, I could not blame her because I felt I might have been responsible for the mistake as I did not check that she understood her role before the

meeting. This could be because she could not understand me clearly because of my accent. In future group discussions, I would train the note takers on the role they are expected to play during meetings so as to avoid reoccurrence of this mistake.

According to Onwuegbuzie et al. (2009) having a note taker writing the contributions of the participants during the discussion and then filling the gaps with the transcript, will help in the accurate identification of each participant's contributions. The layout of the meeting room was then rearranged. I was glad that the meeting went well, except for some minor events for which we appeared to have not been prepared for before the meeting.

After reviewing the transcript and the comments by my supervisor on the content and the structure of the focus group guide, it appeared that most of the questions were understandable and clear to the women and the order of the questions was good.

Question C2, D2 and D6 are the only questions that have been revised amongst the questions asked in the focus group guide to make it more understandable (see appendix B). Moreover, we noticed that some of the women who had not had a mammogram were worried at the end of the focus group discussion, which could either be a positive effect as it could encourage them to have a mammogram when invited, or a negative effect as they could be unnecessarily worried. I had not planned on how to address this difficult question before the meeting, and I was confused when one of the participants commented that she might have breast cancer because of the lump she had felt in her breast a while ago. However, we were able to advise her and some of the women that in case they have any questions related to their breasts they should speak with their doctors, as they will recommend the appropriate tests that could be done for early diagnosis of any breast pathology. In view of this, future group discussions would extend an invitation to a mammography practitioner to discuss the

benefits and risks of having a mammogram with the women and answer any questions that they might have concerning their breasts. This would help to reduce any anxiety arising from participation in the research and will also serve a public health function in providing information on this important health topic.

4.3.1.3.1. Conclusion and action plan

Looking back at this experience I have developed a skill in conducting a focus group discussion without requiring the intervention of my supervisor and colleague. This is important as the main data collection in Nigeria would be conducted by me and a mammography practitioner, who might know little or nothing on how to conduct these types of discussions. Furthermore, the questions asked during the group discussion were appropriate as they yielded responses that showed that the women understood them, as shown in figure 4.3. Finally, future group discussions would consider sending reminders to participants hours before the meeting, share consent forms after I have discussed the purpose of the study with the women, avoid new participants from joining the discussion after the consent form had been signed by the women to avoid distractions and reduce the duration of the meeting, train the note takers on the role they would be required to play during the group discussion, and address the challenge of anxiety by inviting a mammography practitioner to chat with the women after the group discussion. Section 8.4 will reflect on the how some of the action points listed below influenced the main data collection.

Action plan

- Continue to recruit women from religious gatherings because of the good attendance rate.
 - Use reminder messages
 - Stopping to introduce the topic to the new participants.
 - No participant will be admitted after the main discussion begins.
 - Ensure that the consent forms are signed by the women before participating in the meeting
 - Encourage women to express themselves in Pidgin English when necessary.
 - Ensure that the discussion ends in an hour.
 - Invite a mammography practitioner to help give a talk at the end of the discussion on mammography screening.
 - Give advice to the note taker about what is required.
-

4.3.1.4. *The interview*

This is the most common method for data collection in the qualitative research paradigm (Braun & Clarke, 2013). It is a widely used method for getting an insight into participants' experience or perspective with relation to the subject being studied (Silverman, 2013). It gives a better understanding on individuals' views and experiences on factors affecting the participation in the mammography screening programme. This is beneficial for the aim of the research to explore these factors from the perspective of different mammography staff.

According to Braun and Clarke (2013), the interview method of data collection can be used in research where participants have some sort of personal stake, as they are more likely to provide detailed information on their experience or perception of the

topic. Hence, the use of this method for data collection in this study is effective as mammography staff are important stakeholders in mammography screening.

Using the interview method of data collection increases the researcher's control over the data and enhances the chances of producing valuable information; as there would be lesser chances of participants discussing irrelevant topics (Holloway & Wheeler, 2013). However, this presents a major limitation, as there is a power imbalance between the participants and the researcher, which might lead to the participants not fully participating. Therefore, to reduce this challenge, the researcher needs to politely guide the participants when they are about to shift focus and talk about irrelevant topics in the interview.

Furthermore, Novick (2008) suggests that a face to face interview is an ideal way to collect interview information from participants, as it helps in generating rich data by reporting participants gestures and expressions, while answering the questions. However, noting participants' gestures and expressions might not be a suitable element in this study as it involves a subjective interpretation of this element by the researcher. While the other forms of interviews (email, telephone, and online interviews) are less expensive and time consuming as compared to the face-face interview (Holloway & Wheeler, 2013), they might not be the most appropriate interview method to gain an in depth information on the factors affecting participation in the mammography screening programme in Lagos state from the mammography staff.

In this study, a semi- structured interview guide (in appendix C and D) developed with the theory of care seeking behaviour (in figure 4.2.) was used to direct the interview questions, because this gives the researcher an opportunity to probe and ask

unplanned questions to clarify responses that appear unclear (Silverman, 2013).

Mammography staff were interviewed for an average of 45 minutes by the researcher and the discussions were recorded on an audio tape recorder.

4.3.2. Sample selection

In a quantitative research approach, the researcher aims to select a sample that can represent the whole population through a mathematical or systematic process because of the high cost and time it will require to recruit the whole population (Maltby et al., 2015). The result of this research can sometimes be generalised to the whole population. However, in qualitative research the researcher collects data from a small sample of individuals within the population to gain an in depth knowledge on the perception or views or behaviour of these individuals on the topic of interest.

However, the appropriate sample size in this approach is one that adequately answers the research questions (Marshall, 1996). The sample size can be determined by the methodological approach of the research, as grounded theory research would need to report data saturation before stopping data collection; and the nature of the research question (Braun & Clarke, 2013). Data saturation is the point whereby information gathered from new participants does not produce any new information, where the participants continue to repeat the information that other participants have mentioned earlier during data collection (Corbin & Strauss, 2015).

For instance in studies that aim to answer simple questions or less detailed studies the number of participants might be below ten, meanwhile for complex questions a large sample size might be appropriate (Marshall, 1996). However, because this study aims to describe women's views concerning mammography screening attendance seven

focus groups discussions and five interviews was assumed to be appropriate to understand the topic. Also, cost and time constraints were factors that were considered when deciding on the number of interviews and focus group discussions to conduct (Silverman, 2013). In the case of a qualitative research approach, the result cannot be generalised on the whole population but it captures a phenomenon or an essence at a particular point in time (Maltby et al., 2015). However, the result might be transferable to a group of people with similar characteristics as the individuals recruited for the study.

In contrast to a quantitative research approach that utilises random sampling technique to recruit participants into their study in order to generalise findings to the population, this sampling technique is not effective in understanding complex issues regarding human's behaviour for several reasons (Holloway & Galvin, 2017). Firstly, because of the sample size of participants recruited in qualitative research studies, if a representative sample is desirable the sampling error would be so much that bias would be inevitable in the research (Maltby et al., 2015). Therefore, the larger the sample size, the lower the sampling error; that is, there is high possibility that the researcher has not recruited the individuals within the population that would make the findings generalizable.

Secondly, due to the flexible nature of qualitative research the characteristics of the participants to be recruited into the study might not be known at the beginning of the research (Corbin & Strauss, 2015). However, the random sampling technique requires that the characteristic of the population to be studied is known at the beginning, as this is used to develop a sampling frame for the research (Maltby et al., 2015).

Thirdly, in qualitative research it is believed that people's observation, understanding, and interpretation of their own or others people's behaviour is different; that is, it is believed that a participant's view on a topic might be richer than another (Creswell, 2007). Therefore, picking participants randomly to answer a research question is similar to an analogy of a researcher that aims to know the reasons why electrical systems break down and then decides to randomly select participants from a community to share their views instead of asking an electrical engineer who might give richer information concerning the topic.

This study recruited women from social and religious gatherings within Lagos state, as that was how similar studies have recruited their study participants and they had an acceptable amount of participants in their studies (Al Dasoqi et al., 2013; Baron-Epel et al., 2004; Lor et al., 2013). In addition, to ensure a holistic capturing of themes and address the inherent cultural factors within Nigerian hospital (Akinola et al., 2011), mammography practitioners were recruited for face-to-face interviews from the onset of the study. A purposive sampling method was used to recruit the participants. It is a common sampling selection method used in qualitative research studies (Braun & Clarke, 2013). According to Sandelowski (2000), it is an appropriate method that fits within the descriptive qualitative methodology, this is important as all the qualitative methodological approaches as a framework to what to use to guide the study. For example, as mentioned earlier the theoretical sampling is a sampling method that is specifically used in the grounded theory research approach.

4.3.2.1. Purposive sampling

Sampling is the process of selecting individuals from a population to acquire knowledge and information concerning a topic relevant to the population; this process

is informed by the research questions and theoretical considerations (Holloway & Wheeler, 2013). The researcher aims to recruit participants that can best answer their research questions, therefore, all qualitative sampling are purposive in nature (Patton, 2002). In convenience sampling even though the participants are close to the researcher they would still have to be able to inform the research question before they are selected to participate in the study. However, there are arguments that this might not always be the case in some qualitative research approaches such as grounded theory, as the characteristics of the participants that would be recruited in the study might not be known at the beginning of the study because of the nature of this approach (Coyne, 1997; Finlay & Ballinger, 2006; Holloway & Wheeler, 2013). In grounded theory research, as the study progresses new theories are developed which would lead the researcher to move sampling in whatever direction the new theories lead (Sbaraini et al., 2011). However, it can be argued that as these theories are developed in grounded theory research, it leads to the researcher asking more questions and then recruiting participants to answer these questions that developed during the course of the research. Therefore, research questions might always be a determinate for the sampling in qualitative research; thus, indicating that all sampling in a qualitative research approach are purposive.

Purposive sampling is the process of selecting participants from a population for the purpose of informing the research question (Silverman, 2013). Therefore, if the study purpose is to describe the factors affecting women's participation in mammography screening programme, as a result the study participants would need to have similar characteristics with the women eligible for screening programme. These characteristics are, women between the age of 40-70 years, asymptomatic women, and women

without history of cancer. The inclusion and exclusion criteria are illustrated in table 4.1. and 4.2. below.

Table 4. 1. The focus group participants' inclusion criteria with reasons

Inclusion criteria	Reasons
Women between the age of 40-70 years	This is the age group of women invited to participate in the Lagos state screening programme (Lagos State Government Ministry of Health, 2017)
Asymptomatic women	This also is one of the conditions for participating in mammography screening in the Lagos state programme (Lagos State Government Ministry of Health, 2017).
Women with or without previous mammography experience	This group of women would be invited because this study aims to describe the factors affecting women that had participated and those that had not participated in mammography screening as this will provide evidence on how to improve the mammography screening for these women. Research evidence has shown that women that are not satisfied with their mammography experience might not adhere to regular screening (Drossaert et al., 2002).
Women with or without history of breast augmentation	Miglioretti et al. (2004) and Handel et al. (1992) give evidence that breast augmentation is not associated with increased risk of breast cancer but it decreases the accuracy of mammography screening in detecting early breast cancer. Therefore, women with breast augmentation could be classed as low risk women.
Women living in Lagos state, Nigeria.	Women outside Lagos state might not be able to give an appropriate account of their views on factors affecting participation in the Lagos state mammography screening programme, because mammography screening outside Lagos state would require that the women pay for the service.

Table 4. 2 The focus group participants' exclusion criteria with reasons

Exclusion criteria	Reasons
Women with family history of breast cancer	They are also known as high breast cancer risk women and they have high possibility of developing breast cancer (American Cancer Society, 2014). Therefore, the age at which they begin mammography screening and frequency of screening is different from the average risk women (Lagos State Government Ministry of Health, 2017). However, their experience of breast cancer might influence their participation in regular mammography screening.
Women with history of cancer	This group of women are also classed as high-risk women because of the possibility of cancer recurrence. As a result of this, they are advised to go for mammography examination more frequently than the average risk women.

4.3.2.2. Snowballing technique

The snowballing sampling technique is a type of purposive sampling technique, where the researcher recruits a participant based on their eligibility to participate in the study, and the participant then recommends other prospective participants that fit with the inclusion and exclusion criteria of the study (Braun & Clarke, 2013). The limitation of this is that people with high social connection are more likely to be recruited than the people that hardly socialise within a population (Holloway & Wheeler, 2013). A research study conducted with women within Lagos Nigeria shows that these women with lower social economic status are three times less likely to have a mammogram compared to women with higher status. It will be more useful to attempt to capture these women's views concerning the mammography screening programme. Therefore, the researcher conducted all of the data collection in areas in Lagos state where there were people with both low and high socioeconomic status. However, due to the limitation of the snowballing technique, women with low socioeconomic status with high social connections within these communities were more likely to have been recruited in the study.

4.3.3. Data analysis

The study's data analysis was supported by a computer assisted, qualitative approach software programme, NVivo™ version 10 (QSR International, 2014). The information was audio recorded at the interviews and focus group meetings, and was transcribed verbatim and uploaded on NVivo. These transcripts were read several times to help the researcher immerse himself into the data. Conventional content analysis of the data was initially conducted (see chapter 5 and 6) before applying the framework to the analysis, as this would reduce the limitation of omitting vital detail that might be in

the data as a result of using the construct in the framework. Categories were developed from the constructs of the theory of care seeking behaviour. Information in the transcripts was copied and pasted into the categories that best described them. The information under the categories was then read carefully to examine if they fit appropriately in the category. In the case, where they were not an apt fit, they were transferred to the suitable category. Furthermore, subcategories were also developed under the categories for better classification. Also, the categories that did not fit within the constructs of the theory of care seeking behaviour were identified and later analysed to determine if they fit as a subcategory of an existing category or if they represented a new category altogether.

Qualitative research data as opposed to quantitative data cannot be analysed using computer software and it is believed that the positivist use this approach to ensure that their result is reproducible (Rodik & Primorac, 2015). Most of the analysis software offer researchers the opportunity to use an analysis tool (known as auto-analysis), to help put together all the participants' responses to a particular question. However, the qualitative researchers usually aim to understand a phenomenon in the view of the participants reactions and vital information might be lost if a computer software is used to analyse the data. Therefore, Lewins (2014) argued that the computer assisted qualitative approach should not be used as an analysis tool but as a software for handling qualitative data. The software will offer the researcher an increased access to data, as compared to the traditional paper-and-pencil format. Furthermore, data analysis carried out with this approach appears to be more organised, and can be easily explored using text search tools, text annotations and marking, and data organisation. However, the main limitation of this approach is that it

requires training to use the software, as it might be difficult to utilise it without proper introduction (Cope, 2014). Therefore, because of the suitable characteristics of this approach, the researcher of this study attended several training sections on using the software for data handling.

According to Lewins (2014) the most relevant software for handling qualitative data are ATLAS.ti5, MAXqda2 and NVivo7, due to their significant development in software functionality. Moreover, Roberts et al. (2013) provided evidence that the NVivo7 was relatively easier to learn by the participants. Hence, it is this study's choice of software for data handling.

A data analysis method that allows in-depth description of women's views, with minimal subjective or interpretative influence of the researcher, is the most appropriate data analysis method for descriptive qualitative studies- figure 4.1.

(Sandelowski, 2010). The data analysis method that best fits this description is the qualitative content analysis (Elo et al., 2014). This involves the researcher reading, and rereading the data several times to become familiar with the information in it, and identify categories from the data. There are various approaches for qualitative content analysis - conventional, directed and summative approach. The appropriateness of an approach to a study is determined by the research aim and the availability of evidence on the topic (Hsieh & Shannon, 2005). Hence, the researcher's choice is the directed content approach to guide the data analysis process, as it fits well with the study's aim.

Unlike the other two approaches that derive their coding categories from the text data, the directed content analysis uses the constructs of a theory or the findings of relevant research on the same topic, to guide the initial codes (Hsieh & Shannon, 2005). Thus, the constructs of the theory of care seeking behaviour in figure 4.2. would

be used as the primary categories and other categories generated from the data would be classed as subcategories. The participants' views would then be discussed in greater depth in subcategories, within each category (Forman & Damschroder, 2008).

An inherent limitation to the use of the directed content analysis method is that the researcher approaches the data with strong bias informed by the knowledge gained from the existing literature (Hsieh & Shannon, 2005). Therefore, information that supports the theory is more likely to be seen in the data. However, to achieve an unbiased result, a proper audit trail must be provided with the study (Lincoln, 1985). In addition, to reduce the effect of this limitation on this study's analysis an initial conventional content analysis was conducted before applying the constructs of the theory of care seeking behaviour to guide the analysis. The conventional content analysis allows categories and themes to emerge from the data; thus, avoid the use of preconceived categories (Hsieh & Shannon, 2005).

'Qualitative descriptive studies may begin with a theory of the target phenomenon or a framework for collecting or analysing data, but that does not mean a commitment to stay with this theory or framework (Sandelowski, 2010)'.

Therefore, the use of the constructs in the theory of care seeking to guide the study's data analysis does not mean that it cannot be abandoned if the nature of the information in the data collected, appears to be different. Furthermore, the construct in this theory can be reduced or additional constructs can be added to the theory depending on the information provided by this study's participants regarding their views on the topic.

The methods to this study's data analysis consists of five steps (Hsieh & Shannon, 2005). These steps are explained in the following section.

Step 1- Data collection was with open-ended questions, followed by targeted questions developed from the predetermined categories of the theory of care seeking behaviour (Hsieh & Shannon, 2005). The interviews and focus groups transcripts were then uploaded on NVIVO for analysis (Roberts et al., 2013).

Step 2- Immerse self in the data by reading the transcripts several times. This involves reading the transcripts several times. As the data being analysed is large there is the tendency for the researcher to not capture the pertinent issues in the transcripts; thus, the use of the techniques reported by Strauss and Corbin (1990) might reduce the effect of this bias (explained further in step 3).

Step 3- Develop themes and code parts of the data that explains these themes (Seers, 2012). This study used the techniques suggested by Ryan and Bernard (2003) and Strauss and Corbin (1990), as shown in table 4.3. below, in order to identify relevant themes in the data. This may make the process of developing themes systematic and thorough; therefore, improving the credibility of the study (Ryan & Bernard, 2003).

Table 4. 3. Techniques for identifying themes.

S/N	Techniques	Description
1.	Repetitions	Concepts that appear frequently in the transcripts, are more likely to be a theme (Lincoln, 1985).
2.	Indigenous typologies, metaphors and analogies	Local terms that might seem unfamiliar or are used in the text in unfamiliar ways (Patton, 2002).
3.	Similarities and differences	Constant comparison of concepts in the data with the themes that had been coded in the data to examine similarities and differences.
4.	Transitions	The start of new paragraphs might indicate a change in topic.
5.	Linguistic connectors	Careful examination of words/phrases such as; 'because', 'since' and 'as a result' might provide explanations to concepts in the text.

Step 4- Group similar themes into categories. This process is referred to as hierarchical or tree coding, as the branches of the categories or themes might be based on types, examples, or context (Taylor & Gibbs, 2010). The themes and categories that emerged from the data in this study are explored in depth in chapters five and six.

Step 5- Examine the association between the categories and themes generated from the data and the predetermined categories from the theory (see table in appendix H). The table shows the association between the interview and focus group data and the construct of the theory of care seeking behaviour (Neergaard et al., 2009). However,

themes and categories that could not be associated with the predetermined categories would be given a new category.

4.4. Research ethics

Research ethics is an important aspect in health research because of the possibility of occurrence of harm as an effect of the research on participants (Zaner, 2015).

According to the declaration of Helsinki, researchers should aim to protect participants from harm that can result from participating in their study and this is more important than benefits the research can provide (World Medical Association, 2013). However, this is not always the case as some health research has been shown to have a negative impact on the participants, an example of such is a study funded by the Department of Public Health of the United States of America that aimed to study the natural history of untreated syphilis in 399 African Americans for the duration of 40 years (Centers of Disease Control and Prevention, 2015). Although this research is beneficial, as it improves our knowledge of the disease, it poses severe harm to its participants and they did not consent to leaving their syphilis untreated. Therefore, this particular case emphasizes the need for studies to be evaluated by a third party research ethics committee to review the benefit and risk of the study and ensure that the researcher follows ethical principles to protect the participants. These ethical principles are discussed later in this section.

A review conducted on the effectiveness of research ethics committees in Africa shows that 36% of the countries in Africa had no research ethics committee and most of those that had did not frequently have a meeting and are not properly structured (Kass et al., 2007). This could be as a result of the lack of government funding on ethical

review which might then expose research participants within these countries to the harmful effects that some research poses. However, international institutions like the John Hopkins Medical School have seen the need to train researchers in these countries free of charge so as to improve the quality of research produced in the continent. Therefore, this suggests that the international community has a role to play in helping developing or under-developed countries structure an ethics body that would protect its participants from the harmful effects of these studies, as the lack of education on the importance of ethics review on the prospective participants of a study might be a challenge.

There are limited research guidelines available on the application of ethics in the qualitative health research approach and this could be as a result of the majority of the researchers in health care being involved in quantitative research, and they having the impression that the qualitative research approach does not pose any threat to the participants', unlike the quantitative approach where the experimental process could directly harm its participants' health (Peter, 2015). However, this is a misconception as this research design has the potential of causing anxiety and distress to its participants and the researcher, exploitation of participants, misinterpretation or misrepresentation of participants' views, and lack of anonymity (Richards & Schwartz, 2002).

Qualitative research approach uses various methods to explore participants' views and examples of this are the interview and focus group discussions (Holloway & Wheeler, 2013). Some of these methods use a guide to gain access to participants' perceptions concerning a topic, and to understand this topic they use probing questions. However, due to the nature of this approach participants might reveal sensitive aspects of their

lives that they had not planned to reveal before the study and might end up upsetting them. Furthermore, discussions that emerge from the data collection process might create anxiety amongst the participants of the study (Richards & Schwartz, 2002). For instance, in the pilot focus group discussion women hearing other women complain that lumps or pain in the breast are early signs of breast cancers might begin to worry about the previous lump that they had felt in their breast which might not actually be breast cancer. This anxiety can lead some participants to want to know more about breast cancer and the methods of diagnosis which is a good effect as it might encourage them to participate in screening regularly. However, from an ethics position, interventions must be in place to support women that might experience this kind of fear after participating in the study.

Power imbalance between participant and the researcher is inevitable in the qualitative research approach, as the participant might believe that the researcher has more knowledge on what is right or wrong concerning the topic to be discussed (Orb et al., 2001). Therefore attempts should be made to reduce the effect of this imbalance. This imbalance is greater in research studies where the researcher is a health care professional as participants might feel pressured to take part in the study because they feel it might affect the quality of treatment offered to them. There is the risk of patients discussing healthcare problems that would not have been discussed with other people in such research as they believe these problems are already known by the healthcare professional.

Quoting participants views within the discussion aspect of a report could improve the credibility of a qualitative research study. However, anonymity could be a problem in research where there are few participants recruited with different characteristics and

participants could use the process of elimination to identify other participants' views concerning the topic (Richards & Schwartz, 2002). Proper anonymization methods should be used to protect people from identifying participants' comments when reporting the outcome of the study.

Qualitative research studies are inevitably influenced by the researchers' epistemological stance, social status, and preconceived idea concerning the topic due to the interpretative nature of this approach (Cleary et al., 2014). Therefore, it is possible that the researcher might misinterpret participants' views during data analysis. However, to reduce the effect of this factor on the outcome of the research there is a need for the researcher to reflect on how their professional and personal characteristics may affect the way they interpret the participants' view. Furthermore, involving participants in the process of data analysis would give them the opportunity to fully gain control of the research by expressing their views (Richards & Schwartz, 2002). However, this could be a problem as it involves re-contacting the participants and it might be sensed by them as harassment and also it might be expensive to achieve even with the small sample size used in qualitative research studies. Ethical consideration is a vital issue in qualitative research, as the researcher happens to be the data collection instrument, therefore thorough evaluation of the process of accessing participants, and the effects it has on the participants to avoid causing harm to the researcher and the participants of the study, and improve practice. However, thorough application of the ethical principles (for example: informed consent, voluntary participation, confidentiality, anonymity and risk management) can help prevent or reduce the harm that a study can present. Furthermore, the application of

these principles might improve the credibility of the findings of the research as it improves the *dependability* of the data collection instrument (Orb et al., 2001).

Furthermore, to reduce or avoid the harm that can occur as a result of such a project a thorough assessment of all the aspects of the study should be carried out at the beginning of the study by the researcher (Zaner, 2015). However, due to the flexibility of qualitative research approach which might mean that ethical issues might arise as the study progresses, Miller et al. (2012) suggested that the ethics review of a research should not only be done at the start of a study but should be continually done along with the research by reflecting on the process and content of the data to improve the quality of the data collected from the participants. Therefore, this self-assessment would help the researcher to act in line with the rules of ethics throughout the study. In addition, this study applied for ethics approval from the University of Salford Research and Ethic Committee and Lagos University Teaching Hospital, so as to gain a third party opinion on the ethical appropriateness of the study.

4.4.1. The Research Ethics Applications

The University of Salford Research Ethic Committee is an independent body that examines the research studies conducted within the University of Salford and ensure it is consistent with the university's basic ethical principles, so as to promote a high quality study whilst protecting the university, the researcher and the study participants (University of Salford Ethical Approval Panel for Research, 2015). The University of Salford's basic ethical principles are to respect the autonomy of human participants, avoiding or reduce harm to the researcher and the research participants, and acting justly towards the participants that contribute to the research (ref HSCR 15/85; see approval letter in appendix F). In addition, the religious organisation where the women

were recruited from was approached for ethics approval, and a copy of the letter of support that was issued by the organisation can be found in appendix J.

After gaining the University of Salford Research Ethics Committee approval, the Lagos State University Teaching Hospital Chief Medical Director was approached to gain approval so that the research could be conducted within the hospital because a part of the study involved interviewing mammography practitioners which were staff of the hospital. The director advised that the researcher apply for research ethics application in federal tertiary healthcare centre, Lagos University Teaching Hospital. An ethics application was then submitted with the required supporting document to this committee and an approval letter was sent back to the researcher (ref ADM/DCST/HREC/APP/636; see appendix G for the approval letter).

4.4.2. Voluntary participation

Ensuring that the participants in the study take part voluntarily is an essential aspect in ethics, therefore the most important aspect of this is ensuring that adequate information is given to the participants concerning the study, participants are given time to decide on whether to participate or not to, and to ask questions concerning the study. The University of Salford research ethic guidance suggests that participants should be given a minimum of 24 hours to make a decision on whether to participate. However, it is not always practical to do so, as prospective participants might be lost within the 24 hours decision period due to other commitments. However, the duration that would be suitable in each study would depend on the sensitivity of the topic the study aims to explore. That is, in a less sensitive study, that presents little or no harm to the participants the duration for decision-making might be shorter than studies that

might be more sensitive or harmful to participants. Therefore, due to the less sensitive nature of this study, a short duration was allotted for participants to make an informed decision on whether to participate in the study. Also, putting into consideration that most of the participants the researcher approached at the religious gathering might not be available to meet at a later date because of other commitments or cost of travel, the focus groups and interviews were conducted an hour after participants information forms were given to them.

Gatekeepers are individuals that the researcher uses to gain access to the participants for the purpose of the study (Miller et al., 2012). From an ethical perspective, the researcher has to continually reflect on the influence of these individuals over the study participants. This is very important as they could be seen as coercing participants to participate in the study because of the power they have over this group. Indeed this was a potential problem that occurred during the data collection process of this study as women were seen to be influenced by the religious leaders who appeared to have higher socio-economic status compared to the other women, as many women showed interest in participating in the study. It appeared that it was difficult for them to indicate that they do not want to participate, and this might also lead to the participants not being able to discuss personal experiences that they feel it might be religiously unacceptable to these gate keepers. Therefore, a decision was made to avoid recruiting participants from the religious gathering; women were then recruited from social gathering. According to Richards and Schwartz (2002), it is the responsibility of the researcher to reflect continually on how the route with which participants are selected and the motive around participants' decision to participate or not in the research might affect the data collected.

4.4.3. Informed consent

Written informed consent should be the minimum requirement for health studies researchers because of our duty of care to the participants, and it protects both the participants and the researcher from arguments regarding exploitation (Peter, 2015).

However, some researchers believe that this might not be relevant in the qualitative research approach as it might scare participants away from participating in the study especially when sensitive issues are being addressed, as the participants might believe this may be used to breach their anonymity in the study (Richards & Schwartz, 2002).

For example a study that aimed to explore the sexual behaviour of young adults in a community might find it difficult to recruit participants into their study as providing written consent might scare participants off the study. Felix et al. (2015) conducted a randomized controlled trial that evaluated the impact of obtaining informed consent from participants on a sensitive health behaviour that participants are requested to report on. They found out that there was no relationship between the completion of informed consent form and self-reporting behaviour with regards to alcohol use.

However, the mean age of the participants in the study was 23 years and there is the possibility that the outcome of the study might be different if they had recruited older participants as they were more likely to be embarrassed by them being identified with their alcohol use because they might have some sense of responsibility. However, this is not a major challenge in this study, as it aimed to explore the reasons why women chose to or not to participate in the Lagos state mammography screening programme by discussing these issues in focus groups.

Informed consent should be gained after the participants have been informed about the purpose and scope of the study, types of the questions that would be asked during

the interview, the ways the result would be used, the method of anonymity, and the extent with which participants would be involved in the study- discuss whether they will be involved in the analysis (appendix E- the consent forms used in this study). However, because of the flexible nature of qualitative research study the aims of the research is guided by the information provided by the participants and this leads to the argument on what exactly do participants consent to at the beginning of a study?

Knapp et al. (2011) stated that the use of a tested participant information form on potential trial participants in a pilot study might help improve the validity of consent obtained from study participants, as concerns arise over the fitness of these consent form for purpose. Another study (Antoniou et al., 2011) employed another approach to evaluate the amount of information that would be considered as appropriate information on a study by providing its participants with three different amounts of information on the research topic. They found out that most of the participants found the participant information form with the least information more beneficial than the other ones (Antoniou et al., 2011). With the researchers not being able to know the exact course of qualitative study at the beginning of the study, it might be useful to consider updating their study's participant information form as the study progresses if changes are noticed in the data provided by the participants. According to Orb et al. (2001), completing an ethics form at the beginning of a study or obtaining ethics approval does not mean that ethical issues can be forgotten. However, ethics should be ongoing in qualitative health research and as studies progress there is the need for the researcher to regularly reflect on the process of the data collection as this might improve the ethical and methodological strength of the study. However, this might not be practical in most qualitative research studies where data analysis is conducted after

the data collection. Therefore, because of the short time frame allotted to data collection in this study (6 months), the researcher had to analyse the data collected from the participants after the whole data collection process. This does not offer the participants any chance of knowing how their views have affected the research aim. However, the author's intention of providing necessary information concerning the study on a blog for the participants to read after the study can help eliminate this limitation.

4.4.4. Confidentiality

Confidentiality is the process of safely keeping the information provided by the participants from people that should not have access to them (Long, 2007). Therefore, it is the responsibility of the researcher to inform the participants of whom the information they give at the interview or focus group discussion would be revealed to and to what extent would the information be used for in the study. A study that cannot address this issue might lead to the participants not being willing to participate in the study or participants not willing to give an in-depth explanation of their views on the topic. In the study's participants information form, and the interview and focus group discussion guide, the author explained how the information provided would be used and explained to the participants that the interview and focus group discussion transcripts were uploaded in a secure internet account because it is safer than having to save it in a secure data storage unit as it could be stolen (Holloway & Wheeler, 2013). The data was shared with the researcher's supervisors as they used it to ensure that the methodological and ethical considerations are continually reassessed during the course of the study.

Furthermore, to ensure that what was discussed in the focus groups was not shared with anyone outside the group was essential as participants might not see it as a problem and vital or personal information shared within the group might be discussed with other people outside the group. This could cause embarrassment and distress to the participants who had given the information. However, it was indicated on the focus group consent form that participants should not discuss any information shared in the group discussion outside the meeting. Therefore, this might have encouraged the women to discuss their views on the topic without being afraid of who might be listening.

4.4.5. Anonymity

Anonymity is the process of concealing the participants' identity. This process is a means of reducing or avoiding a potential risk that qualitative research approach presents which is the identification of participants in published paper by themselves or others (Richards & Schwartz, 2002). However, this is a challenge with the study's interview participants as they were mammography practitioners and there were very few of them. Therefore, there is a possibility of the participants using elimination method to identify other participants' views on the topic. To overcome this challenge, the researcher intends to readjust the consent form stating that it might be possible for other participants to know what their views are because of the small size of the interview group. In addition, a copy of their views that would be in the publication would be shared with them and their consent would be gained before they are published. Finally, in a case where their views might affect their role as a mammography practitioner or their relationship with other members of staff; these views would be shared with them and they would be asked if they would like this to be

in the published work. However, this challenge is not significant in the focus groups as there were many participants in the groups, and seven different focus groups were conducted at different places.

Finally, in both the interview and the focus group transcripts, participants would be represented with pseudonyms (for example, 'participant 1, 2, 3 etc. '), and the focus groups would be represented as 'Focus group 1,2,3 etc. ', to avoid them being identified by other people (Holloway & Wheeler, 2013).

4.4.6. Risk management

Due to the flexible nature of the qualitative research approach, the interviewers are allowed to ask probing questions to gain in-depth understanding of what the participants reveal during the interview and focus group discussion (Miller et al., 2012). However, during the interview or focus group discussion the participants might ask unforeseen questions, to have a better understanding of the question and its context, as they could be anxious or depressed because of the information that they have heard before or during the group discussion (Peter, 2015). To overcome this challenge in the study, an experienced mammography practitioner volunteered to discuss about the mammography-screening programme and answer questions related to the screening programme after the focus group discussions, as she had already been giving talks at non-governmental organisation seminars organised for women on mammography screening programme. In the case where the mammography practitioner could not address the questions asked, the women were referred to their doctors for further clarification. Doing this helped minimise the risk of harm; it also help educated these women on mammography screening and breast cancer- a benefit of participating in the research.

Theft of data collection instruments whilst on the research field could lead to the researcher losing the data collected. Losing the data collection instruments might cost money and time to collect the data from the participants again. Furthermore, participants too might feel that they are being harassed if the researcher contacts them for a re-interview (Richards & Schwartz, 2002). Therefore, the use of Google dropbox to save audio data collected from the interviews and focus group discussion, and insuring all the electronic devices such as laptop, mobile phone and digital audio recorder, so that they can be replaced in the events where they are stolen or damaged.

4.5. Research design

“Qualitative inquiry is inductive, that is, it goes from specific and unique cases to general and hence develops theory or theories” (Holloway & Wheeler, 2013) p. 11. In qualitative research approaches, theories are developed from the data collected as opposed to the deductive nature of quantitative approach, where a hypothesis is developed from the beginning of the research and then tested (Green & Thorogood, 2014). However, the absence of hypothesis at the beginning of the research does not mean that existing theories are not used at all during the research. The prevailing theories and related literature helps in identifying certain outcomes in the data that may have been missed (Painter et al., 2008). However, some qualitative researchers argue that this is not always the case as the initial knowledge of existing theories and related published evidence may inform the researcher’s position and introduce bias in the data collection process and analysis.

As the participants are given a voice through qualitative research, this approach aims to reduce the biased outcomes that can result from interpreting the women's views. However, a novice researcher in qualitative health research can get overwhelmed by the richness of data generated from participants and miss some important information. Therefore, the use of theory and background knowledge is an acceptable approach to guide the study. In the current study, the theory of care seeking behaviour is, hence, utilised as a framework on which to build the project.

Data collection began in September 2014 and it is completed. The initial phase of data collection concentrated on developing knowledge of the existing theories and published evidence on the topic (see in figure 4.6.). The theory of care seeking behaviour (TCSB) was considered at several points in the research process- developing interview and focus group guide; data analysis; and dissemination of findings . The process of understanding the body of evidence was used to guide the analysis and presentation of the data collected. Furthermore, the main data collection from the participants, evolved through three interrelated phases. The first phase was a pilot focus group discussion with Nigerian women currently living in the United Kingdom. This was conducted with preconceived ideas as focus group questions are guided by the theory of care seeking behaviour. This focus group discussion develops the skills for conducting a focus group meeting (Silverman, 2013). It also helps explore women's understanding of the questions and the appropriateness of the order of the questions (Barbour, 2007). Following ethical approval, a convenience sampling of participants was used to recruit participants into the focus group discussion. A semi structured guide was utilised; the conversations are audio recorded and the transcript is made verbatim. The focus group discussion guide is further redefined with the information

generated from the participants (this is discussed in detail in chapter nine through a process of reflection).



Figure 4. 6 *The Research Process.*

The research then focuses on the opinion of mammography screening staff, as it significantly impacts the patient experience and provides a more holistic view and aesthetic understanding of the topic. The purposive sampling method is used to recruit four mammography practitioners and a radiologist for interview at the Lagos State University Teaching Hospital and Lagos State General Hospital. The researcher used a semi-structured guide and the conversation was recorded on a digital audio recorder

(see interview data in chapter five). This leads to the final phase, where women were initially recruited from religious gatherings by using purposive sampling method. However, later on they were recruited from social gatherings by method of snowballing because the former method proved challenging for the data collection process (explored in chapter nine). Seven focus group discussions were conducted with 8- 11 women in each group, and the average time spent at the meetings was 46 minutes (see focus group data in chapter six). The researcher is a diagnostic radiographer and was the moderator for these focus group meetings. A mammography practitioner who had previously been involved in educating women about mammography screening programmes, volunteered to be the note taker at the meetings. The justification for the use of different elements in the research design has been discussed in the previous section of this chapter.

Chapter 5: Interview Data

5.1. Overview of Chapter

This chapter and the next focuses on the analysis of the interview and focus group data gathered from mammography practitioners and women in the state of Lagos. These groups of participants were deemed fit because the study aimed to explore the factors affecting women's participation in the mammography screening programme in Lagos. Five semi-structured interviews were conducted with mammography practitioners in Lagos. These interviews captured the views that exist within the mammography screening service in the state; against this background, two junior practitioners, two senior practitioners and a radiologist (a manager of the mammography unit) were recruited to gain a holistic view on the factors affecting women's attendance in the state's mammography screening programme. To ensure that the views of these participants had been genuinely captured in the transcripts; the transcripts were given to each participant in order for them to confirm that nothing they had discussed was misinterpreted or omitted. Thus, this process of member checking might have improved the credibility of the findings, as the study aimed to present the participants' views as they had been reported; therefore ensuring that the interpretations were genuine representation of the participants views.

Although, a problem to the use of member checking is that participants might not have the time to examining the transcript of their interview (McLeod, 2001). This might have been a challenge participants in this study were faced with, as only one of the five participants returned her transcript within a week, showing satisfaction with its content. However, by explaining the relevance of this process to the other participants

in a reminder email, it might have encouraged the remaining participants to respond; therefore, endorsing the transcripts.

The information gathered from the practitioners was grouped into themes and similar themes were grouped into categories. The categories that emerged from the data included fear, education, attitude, professionalism and government responsibilities. These categories interact with each other to influence women's behaviour towards mammography screening programme (as shown in figure 5.1). This chapter will discuss the themes and categories in greater depth in the subsequent sections.

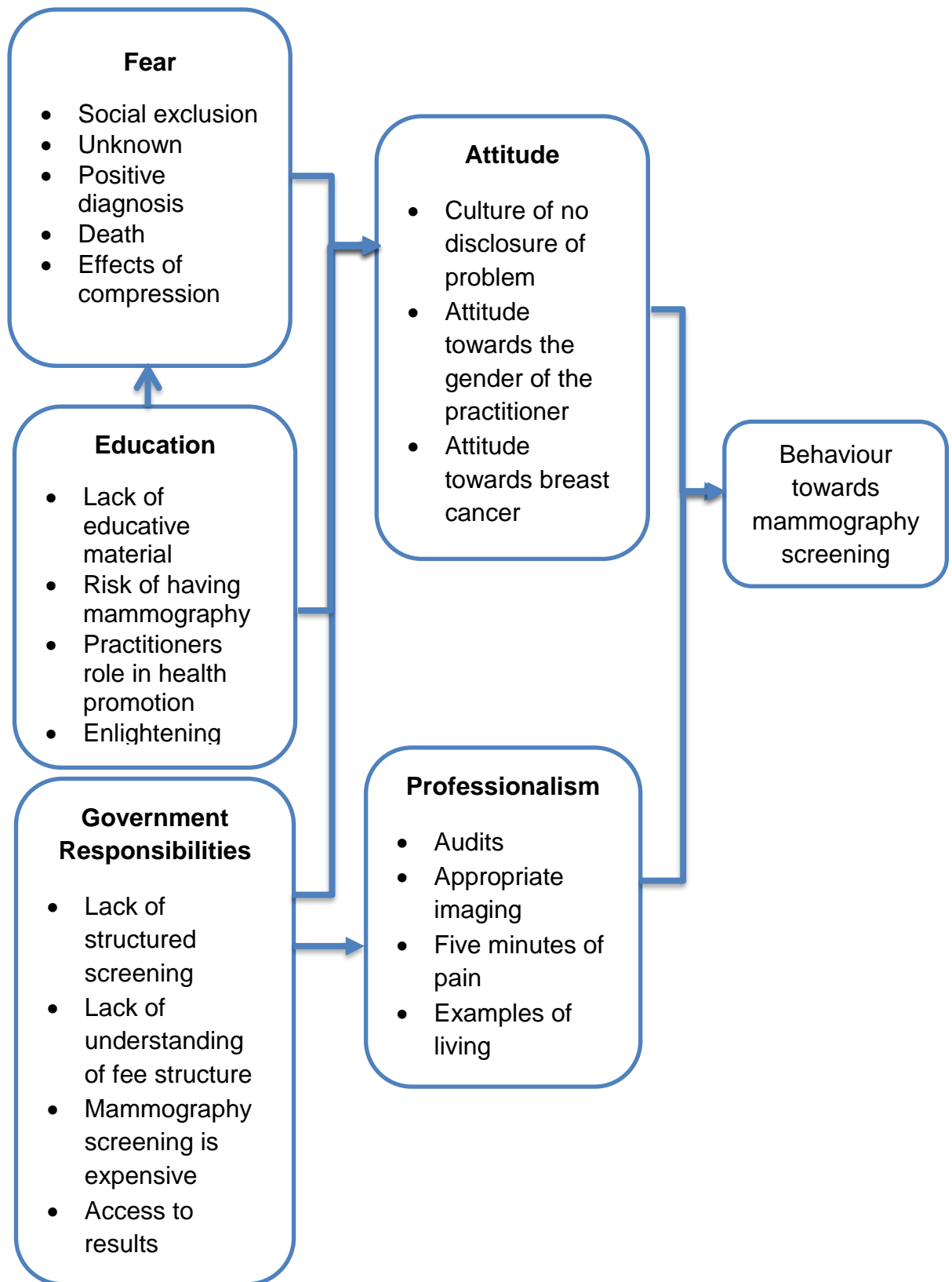


Figure 5. 1 The relationship between the categories that emerged from the interview data analysis.

This study assumes that the women's fear of the effects of impact of breast cancer diagnosis on their life and the people surrounding them, with the education they were imparted on the benefit and risk of having a mammogram, with government's effort to provide a regular screening programme does affect their attitude towards mammography screening programme. In addition, the government's efforts towards providing a structured mammography-screening programme affect the level of professionalism of the mammography practitioners. Thus, these women's attitude towards screening and the level of professionalism displayed by the practitioners might influence the women's behaviour towards mammography screening in Lagos.

5.2. Attitude

This category explored the views of the practitioner regarding women's inclination and feelings towards mammography screening and breast cancer. In figure 5.1., other categories such as fear, education and government responsibilities directly influence women's attitude towards mammography screening. The components of this category are women's attitude towards cancer, attitude towards the gender of the practitioner and the culture of non-disclosure of problems.

5.2.1. Attitude towards cancer

The participants gave an account that women in Lagos are aware of cancer as a medical ailment, but their knowledge about the disease is vague. Therefore, when they see or hear about women suffering from cancer, they get 'petrified'. This might be a result of the lack of awareness of the disease, as they are not educated on what to check for in their breasts; therefore, these women do not check their breast for any signs and symptoms of breast cancer. It is important for these women to know how their breasts look and feel naturally so as to identify any abnormality that might appear in their breasts. Consequently, this results in the late presentation of women at

hospitals in Nigeria; therefore, the cancer might have progressed by this time and at this point, it might get late for a good prognosis.

Furthermore, a practitioner mentioned that the women's knowledge about breast cancer symptoms was sourced from the information they might have heard from family and friends - they assume that all breast lumps are cancerous and will lead to death (this is analysed in greater detail in section 5.3.4). Therefore, the lack of clear understanding that some breast lumps could be benign in nature or, if detected at early stages before its progression into a malignant tumour, could still be treated, exists amongst these women.

'Of course they do know what cancer is, even if they don't really know what cancer is. They know that it is something bad and so they are scared, when they say if you go to the market and you say someone has cancer, they all know that it is something bad, whether educated or not.' (Margaret, line 58).

5.2.2. Culture of non-disclosure of problems

Participants reported that women within the state do not attend mammography screening because they believe that it will definitely reveal an abnormality in their breast and the psychological effect of this discovery might lead to their death.

Furthermore, another reason is that these women are intrinsically shy, that is they do not want to let other people know about their problems. Even when they experience some symptoms of breast cancer, they prefer to keep it to themselves. This shyness could be attributed to the fear of stigmatisation or social exclusion that might be associated with the notion of suffering from breast cancer (an in-depth analysis of this fear is reported in section 5.3.1.). Therefore, an awareness programme might not be enough to help improve participation in the mammography-screening programme.

One participant cited an example of a practitioner whom she believed would have a clear understanding about the benefit of a mammogram, but chose not to undergo the procedure because she was shy of letting people know about her problems when she noticed a lump in her breast. In addition, a practitioner mentioned that the cost of a mammogram might not affect women's attendance in the mammography screening programme, given the fact that some women would choose not to have the procedure even when it is free of charge.

'We used to have one staff who resigned, Person X had a growth on her breast, okay you have a growth on your breast; why don't you want to come in to see doctor? She would say she is shy. Since I work here, how can I come and expose myself; she is taking native medicine. Some people might be shy because they don't want people to know.'
(Angela, line 62).

5.2.3. Attitude towards the gender of the practitioner

Furthermore, the practitioners mentioned that the gender of the individual conducting the mammography examination might also be important, as a male practitioner might discourage women from having the mammogram done. This may happen regardless of when they have made the efforts to attend the programme because of the sensitive nature of this procedure. During the study, they pointed out that they try sincerely to reassure the women that they are not going to be attended to by a male practitioner. They noted that their cultural and religious background influences these women's concerns. Furthermore, relevant information that could be of diagnostic importance which they had not divulged to their doctor might be revealed by these women during

the procedure, as they might feel more comfortable to discuss these issues with a female practitioner.

'At least in Lagos, first of all, they ask who actually is going to do it for them and we tell them that it is a woman who is going to attend to them, and that gives them a little bit of more confidence to come.' (Barbara, line 77).

5.3. Fear

This category was shown to be central towards women's decision to attend or not attend mammography screening in the interviews as the practitioners mentioned that the major reason why women do not attend mammography screening is the fear they experience towards breast cancer and screening. The different types of fear women experienced listed in the interviews are discussed in-depth below.

5.3.1. Fear of social exclusion

When women are diagnosed with breast cancer, they are confronted with the anxiety of being deserted and stigmatised by the people around them. Therefore, when they discover some of the signs and symptoms of breast cancer, or when they are diagnosed with breast cancer, they try not to share their problems with anyone.

However, the lack of awareness about the nature of this disease and available treatments methods amongst the people in Lagos, and not merely eligible women, might influence their attitude towards women suffering from breast cancer.

Furthermore, these women might get concerned about the effects of the treatment of breast cancer. An example of this effect of treatment as mentioned by the practitioners is mastectomy. This effect makes the women fear that they may no longer be sexually attractive to their spouses.

'Well, they think that their problems are personal or people would laugh at them or would say how can you talk to that woman that has cancer; so it is a personal thing to them.' (Margaret, line 144).

1.3.2. Fear of the unknown

The participants mentioned that the fear of the unknown is a vital concern for women within this society, as they might not know what the mammography screening procedure entails. Some have an incorrect understanding of what a mammography screening is all about, as they think that once a doctor recommends mammography for a patient, it indicates that the woman suffers from breast cancer. Thus, they believe this procedure is only for symptomatic patients. This was associated with the women's poor education on the benefits of having a mammogram done by the practitioners. However, a practitioner mentioned that women are more confident about the procedure when their friends or relatives who have had a mammogram done themselves inform them about the experience.

'So most of them did not come initially; some came, the ones that came had to go back to give the others that did not want to come because of the fear of unknown, maybe due to the lack of education about what mammography is all about.' (Joy, line 12).

5.3.2. Fear of positive diagnosis

The fear of having a positive diagnosis when they go for a mammography screening and the impact of this result on their life is another factor, which is associated with the women's attitude of presenting themselves for an examination at a later stage. However, another participant added that women within this society might not want to know whether they have a malignant lump because the psychological impact of knowing that they suffer from this disease will lead them to their death. This fear was

linked to the women's poor knowledge about the relevance of a mammogram test.

Some of the participants also mentioned that the lack of knowledge among women, that not all breast lumps are cancerous, might be a barrier towards limited and delayed attendance in mammography screening.

Furthermore, the participants reported that the worry women experience after having the mammogram done is that of having a positive diagnosis. In addition, a participant mentioned that women who are asked to go for further investigations because of inconclusive results of their initial mammogram might make them more anxious as they feel that they have a higher chance of being diagnosed. This could be attributed to the stigmatisation and social exclusion for women suffering from breast cancer that exist within this culture. Interestingly, the study shows that women are usually not bothered about the machine or other things related to the procedure; their primary concern is the outcome of the investigation. This might be because of the enlightenment given to them by the practitioners before undergoing the mammography procedure (the content of information given to the women would be analysed in section 5.4.3). In addition, a practitioner mentioned that some concerns, which women have prior to undergoing the procedure, such as pain and discomfort, are usually addressed after the procedure, and they are then more worried about the outcome of the mammogram. Women are always anxious to know about their result reports post the procedure, and ask mammography practitioners for their interpretation. The practitioners then are required to explain to the women that they are not capable of explaining the results to the women, and that the radiologist shall explain later. However, all practitioners in the process identified the fact that they played an essential role in allaying the women's fears concerning the possibility of

having a positive diagnosis while stressing upon the importance of early detection and the different treatments they could adopt if they are diagnosed with breast cancer. The practitioners also shared during the study that they encourage women by telling them whether they are likely to have breast cancer by examining their mammogram for pathologies that they could identify as a result of their experience in mammography.

'But most of the time they are scared of discovering a cancer. Not scared of the machine or anything ... but suppose you tell them they have cancer, what happens?'
(Margaret, line 54).

5.3.3. Fear of effects of compression during mammography

During the interview, some of the practitioners mentioned that a few women are anxious about the pain and discomfort experienced during the mammography procedure owing to the compression paddle pressing the breast against the detector plate. This fear of pain is attributed to what they have heard from their friends and family about the procedure; this factor does influence the women's decision to participate in mammography screening. However, they do not think it might be a deterrent for women not to attend mammography screening, as the pain is not severe and pales in comparison to the benefits of having the procedure done. A practitioner mentioned that she once had a client who associated the pain experienced during mammography procedure with the pain experienced during childbirth.

'Another fear is the supposed pain during the procedure because they hear a lot about it. I have conducted the procedure before and it is painful. I actually had a patient who said she was told it is so painful that it feels like childbirth'. (Faith, line 69).

As a result of the compression of breast during the procedure, some women also believe that their breast will lose its shape or form (breast ptosis) after it gets compressed during the mammography procedure, and this is an effect that they do not desire because of the fear that they might not look attractive to their spouses. However, no evidence has revealed that the compression force used during this procedure could actually cause breast ptosis.

'I have had a patient who felt that upon compressing her breast with that compressing plate, her breast is going to sag, and she did not want her breast to sag.' (Joy, line 92).

5.3.4. Fear of death

Some practitioners reported that women believe that getting diagnosed with breast cancer is no less than a death sentence because most women lack understanding of the treatments available for cancer and the effects of mastectomy. This prevalent mindset of equalling breast cancer diagnosis with death inexorably stems from their experience of knowing people who died because of this disease.

'The fear of not wanting to come is because of the fact that it is considered to be a death sentence, and no woman wants to hear about cancer.' (Barbara, line 98).

However, the practitioners mentioned that this fear of death due to what they have heard or seen happen to their friends or family could be beneficial because it makes them want to know more about the disease. By making an attempt to know more about breast cancer, they will be enlightened about the benefits of an early diagnosis of breast cancer. However, this willingness to know more about the disease would only be beneficial for women who can afford healthcare service, as those who cannot afford to pay for a doctors' appointment might no longer be interested in knowing more about the disease.

5.4. Education

This category grouped themes from the interview transcripts that relates to the women's awareness of mammography screening- its benefits and risks. Education is very pertinent in encouraging women to attend mammography screening, as it helps reduce the fear women experience when they think of having mammography. In addition, it helps address some of the concerns and myths concerning mammography screening that exist within this society.

5.4.1. Enlightening women

The practitioners mentioned that they informed women about the benefits of early detection of breast cancer when they arrived at the mammography screening unit. They tell these women that early detection reduces the mortality rate of women, and saves them from the stress associated with suffering from the breast cancer even in cases when it cannot be cured. In addition, they encourage the women that even if they are diagnosed with cancer after the test, there is still hope for cure. In addition, they encourage these women to be aware about how their breast feels at a particular point of their menstrual cycle and that if they feel anything strange in their breast, they should immediately consult their doctors.

'The benefits are like we said, early detection; it will save you from early detection, early death, going through a lot of suffering because cancer is not a nice thing to go through.' (Barbara, line 115).

Furthermore, the practitioners showed that they have good knowledge of the benefits of having a mammogram done as they inform the women that mammography screening has the ability to detect early breast cancer even in the absence or feeling of any lumps. Therefore, these women are encouraged to participate in regular

mammography screening to ensure that they are free of any breast pathology. A participant mentioned that she encourages women to adopt the habit to screen regularly, as consecutive negative results do not mean that they might not develop or discover breast cancer in future.

'It helps them to detect any pathology of the breast even before they see or even before they feel. Then of course it gives them rest of mind if they come for routine medical check up to know that I am fine, so nothing comes to catches you unaware.'

(Faith, line 112).

These programmes are oriented towards inviting women only for a month in a year and nothing might be heard about the programme until about a year after. Therefore, eligible women within the state are not informed about the programme, but the excuse the government officials give is that there is not enough money to fund the programme. However, a practitioner mentioned that this should be a year through programme instead, and information about the programme should be made available on a regular basis on media (e.g. radio and television). Furthermore, they feel that if the publicity is done as frequently as for HIV/AIDS and diabetes within the state, most women might be well informed about the importance of screening. In addition, most participants mentioned that if all physicians in the state educate women above the age of 40 who are reporting to them about their sickness about the importance of mammography screening for the detection of early breast cancer, it might increase the awareness in the state and also increase their attendance in the screening programme. However, a participant also mentioned that the majority of the physicians in the state are not aware of the mammography examination and its importance. Therefore, it is

required that the government properly educates them, so that they are able to improve the general public knowledge on mammography screening.

'No, I don't think there is wide publicity, as it is just concentrated in a specific period and can take years before the advertising is done again, and therefore, after that period, the whole thing simply dies down.' (Angela, line 120).

5.4.2. Practitioners' role in health promotion

All participants mentioned that they are not involved in the recruitment of women for the mammography screening, but doctors from the state health office who might not know much about the benefits of mammography screening are those involved in it. This might be the reason for the low attendance rate of women, as the individuals in charge of the women's recruitment may not be knowledgeable enough to enlighten women on the importance of timely breast screening.

'They should involve the stakeholders, what the state does is that they get people from the secretariat, even doctors from secretariat who are not even... because in one of my papers, I mentioned that a doctor who was interviewed did not know what mammo was; that doctor thought it was a scan.' (Margaret, line 184).

However, the participants mentioned that they try as much as possible within their capacity to gather women within their immediate environ (home and within the hospital), inform them about the benefits of a mammogram and encourage them to attend the mammography screening programme for the purpose of early breast cancer detection. Furthermore, a participant reported that she plays an active part in educating women on breast cancer in small communities within the state through a

non-governmental organisation ('pink impact') along with some of her friends within the medical profession. In addition, a radiologist mentioned that there is no structured breast-screening programme in Lagos and she, as a head of department, has been advocating for one. However, this finding indicates that mammography practitioners are striving for heightened awareness and attendance. In addition, the radiologist is also campaigning for the management or government to provide a structured programme.

'So, I try to make it as a point of duty to talk to women one on one, to invite women and tell them to come for screening and to actually see doctors for their breast, to be breast aware in general.' (Faith, line 98).

5.4.3. Lack of educative materials

Moreover, the study showed that during the screening process, no material of any kind was shared amongst the women that highlighted upon the benefits of a mammogram. In addition, when women who have been reported to be fearful are told about mammography screening, it would help to provide mammography literature to these women. They can read it later when they are curious and want to know more about the importance of the procedure. A study participant, who had previously worked in the private health sector, mentioned that private screening programmes share leaflets which are very informative. These inform women about the signs of breast cancer, benefits of mammography screening programme during the early detection of breast cancer and teach women on how to do self-breast examinations, apart from collaborating with NGOs and organising educational programmes to inform women.

'The state of Lagos [screening programme] does not provide any information leaflets, but at Pink impact [an NGO], after giving a talk, we give them fliers and teach them

how to do their self-breast examination and tell them that in case they see anything suspicious, they should see their doctors for further screening.' (Faith, line 145).

5.4.4. Risk of having a mammogram

Surprisingly, some mammography practitioners did not associate any risk to having a mammogram done, and some mentioned that the radiation dose used in mammography is minimal and does not have any effect on the women's health. In addition, some practitioners mentioned that because of the frequency of the mammography procedure intervals (biennially in Nigeria), these women are at no risk of experiencing any harmful effect of radiation. One participant mentioned that careful positioning of the women for the mammography procedure helps reduce the occurrence of a repeat mammogram. This might be a precaution to reduce the radiation dose during the procedure. Furthermore, a participant mentioned that pregnant women are not encouraged to have a mammogram because of the impact of radiation on the foetus. However, a participant showed a clear understanding of cancer development because of radiation exposure during mammography procedure, but she believed this risk to be not as important as mammography procedure, which has the ability to detect early breast cancer even if they are radiation induced.

'Well, the radiation that we use in the procedure is low radiation, and if there is any pregnancy, we don't encourage them to come because when you look at, it is not a thing that you can keep on doing. It is essential to have a reasonable space before you take the next mammogram, to avoid radiation risk. We give them the analogy of x-rays and generally you don't just come and do x-rays anyhow; x-radiation is dangerous to you and all that, but then again in comparison with what you want to benefit at the end of the day, so we try to make them understand.' (Barbara, line 142).

'Of course, there is a minute risk of x-ray induced cancer, which is very rare. But then that risk is overshadowed by doing it and diagnosing something because if you detect it early, you are able to fight it. There is really no worrisome risk that I see about doing a mammogram.' (Margaret, line 90).

The information provided to these women about the benefits during the advertisement programme might not actually reflect what they know. However, with their views about the risk associated with a mammogram, the study reveals the lack of in-depth knowledge of the practitioners in the risks associated with having a mammogram. Thus, the information provided to the women to help them make an informed choice is not convincing. Furthermore, the practitioners believed that the level of awareness is not broad enough and only covers some women in the state.

'I feel what I experience is that when they come around, they are not well informed; some will say 'is this just mammo I thought that it would be very painful, my friend told me that it would be very painful'. Therefore, it is part of not being aware of the mammo. I think the level of awareness even among the well-educated women is less and they don't still know much about mammo and screening.' (Joy, line 145).

5.4.5. Non- returnees

The practitioners mentioned that some of the women do not return to the mammography unit for their results, as advised by the practitioners after conducting the procedure. Logically, this could be because of the women's poor knowledge of what the mammography-screening programme entails and the possible outcomes.

'They just do it and leave, like I said, some patients do not even come back. And when you find that person who has cancer has not come back for the result, what do you do?' (Margaret, line 173).

'After we have done the mammograms the Radiologist takes over from there, and get the patients mammograms reported, and usually, at least in Lagos, the women get it the same day, they get the results and everything same day.' (Barbara, line 55).

In addition, the participants also mentioned that they use their knowledge and experience in encouraging the women to take the mammogram because they appear very apprehensive when they arrive at the unit for their screening. Thus, this might be the reason as to why some women do not return for their results after getting the procedure done, as they are likely to believe that the report discussed with them by the mammography practitioner after the procedure.

'When the film comes out we view and you tell them that most of them are anxious after taking the exposure, you let them know that you are not meant to interpret;, you kind of make them comfortable, you allay their fear that nothing [no breast pathology is noticed on the mammogram], and the doctor will communicate whatever it is in it to them.' (Joy, line 69).

5.5. Professionalism

This category explored different elements of professionalism that the practitioners mentioned that during the interviews. Data analysis of the interview transcripts reveals that professionalism directly affects women's behaviour towards mammography screening (figure 5.1.). Thus, when a client is satisfied with her mammography

screening experience it is more likely for her to re-attend and share her experience with other women. The elements discussed are audits, appropriate imaging, *'five minutes of pain'*, examples of living and maintaining clients' dignity.

5.5.1. Audits

During the interviews with the practitioners, they said that they conduct several audits on the mammography service. For instance, a practitioner mentioned that an audit of the results provided by radiologists revealed high amounts of positive diagnosis in a particular radiologist's results, which led to the mammograms being given to a different radiologist for the purpose of verification. Thus, this audit proved effective as it was found that the initial results were erroneous. This demonstrates that mammography practitioners have a high level of professionalism, as they were able to recognise this error even when it was outside of their scope of practice and professional remit (reporting), but they did not ignore it and they found a way to safeguard patient safety. In addition, this finding of the study is consistent with one of the reasons given by a practitioner for women not participating in mammography screening. They believe that a disease will definitely be found when they present themselves for the test even if they are normal. However, women with false positive results might not adhere to screening in future because of the psychological or physical effect of this diagnosis.

'Like there was a year we did mammo, and the HOD then had no knowledge about it.

The younger ones said they are all consultant radiologists and should be shown the film. All should see the film whether they know it or not, after all, they are all collecting money. Therefore, after doing mammography, we sent out the film for reporting, which

was seen by everybody. This particular HOD who had no knowledge was writing that everybody had a problem in their breast in the report, so all the patients were worried. They sat with their hands on their heads, ah, where do I go what do I do? What is all this? It was then that we noticed consistency in the result. We then gathered all the films for review and begged the radiologists who had done the course to reassess. We begged them to reassess the films and that was when the whole thing calmed down.' (Angela, line 78).

Furthermore, as per another practitioner who reported the findings of previous audit, women with tertiary education are more aware about the benefits of having a mammogram done as compared to the uneducated ones. Therefore, well-read women seek to have a mammogram as opposed to illiterate women. However, mammography screening does not seem to be well-accepted by women according to the findings of this audit because of their fear of discovering cancer (this has been discussed in section 5.3.2).

5.5.2. Appropriate imaging

The practitioners reported that they do take two projections of each breast during the mammography procedure for screening purposes- these projections are the cranio-caudal and medio-lateral oblique views. The practitioners mentioned the same precautions that they take to avoid repeating a mammogram are by making sure the client's arm and shoulder is rotated away from the field of view and convincing the client to cooperate during the procedure. This is to ensure the radiation dosage is minimal (the effect of radiation dose to the breast is analysed in section 5.4.4).

Furthermore, they reported that producing good quality mammograms is important in providing the clients with appropriate reports. However, they mentioned that clients

are called to re-attend clinic for further examination when the result of the initial mammogram stands inconclusive.

'It is not a thing that we have to keep on subjecting them like here we take both breasts for comparison that is we take four films, that is, we are subjecting them four times, so we cannot afford to be repeating them just anyhow. It is up to us now to make sure that we keep the radiation dosage that they receive to the barest minimum.' (Barbara, line 158).

5.5.3. 'Five minutes of pain'

All of these practitioners mentioned that they enlighten the women that come for mammography screening about the benefits of regular breast screening for early detection of breast cancer. They all agreed that these women are fearful and apprehensive when they first arrive at the screening centre. The reasons as explained by the practitioner that are responsible for these women's fears have been analysed in section 5.3. The procedure is explained to the women, who are then encouraged to endure *'the five minutes pain'* that they might experience because of the compression paddle pressing their breast against the detector plate.

'The pain is just for a while, but the benefit of having your mammography done and knowing your status would be better than not doing it at all and not going through the five minute pain.' (Faith, line 122).

5.5.4. Examples of living

Furthermore, the practitioners mentioned about giving examples of women around them who had suffered from breast cancer and their cure owing to early diagnosis. They reassure the women that there is *'hope'* after the detection of breast cancer if they follow the treatment recommended to them by the oncologists.

'It is just for them to be continually assured that even if they have been diagnosed, at the end of the day, the assurance there is hope that they can get better if they follow whatever the steps their oncologists or doctors have decided to follow.' (Barbara, line 100).

5.5.5. Dignity

As mentioned earlier, the gender of the practitioner might influence the women's decision on taking a mammogram test. They mentioned that most women within the cultural setting find it difficult to expose their breast to male practitioners because of the way they in which they have been brought up. The practitioners stated that a way that they use to reduce the embarrassment experienced by women during the investigation is by encouraging the women to cover their breast with the hospital gowns when it is not examined during the investigation. Therefore, this intervention might give these women some sort of dignity and might directly improve their satisfaction with the service. Thus, they encourage them to re-attend the screening programme and encourage other women to attend owing to their positive experience.

'I don't think so, but you know, in this part of the world, a woman is being taught to always take care of herself, to be conservative. You know, so some are so used to it and they feel, I do not know how to really express it. They feel somehow even with a female practitioner that they don't want to reveal and let the Radiographer do his/ her job and want to still cover the side that you are not doing so that they don't feel totally exposed.' (Joy, line 109)

5.6. Government Responsibilities

This explores issues mentioned related to what the practitioners believe are the responsibilities of the government. All of the themes that constitute this category can bring about organisation in the mammography-screening programme in Lagos state, which will consequently improve women's attendance in screening.

5.6.1. Lack of structured screening programme

The study shows that only a small proportion of women within the state have had a mammogram done for screening purposes. The study participants mentioned that the mammography-screening programme in the state lacks structure and general awareness, especially among women. These women are encouraged to enlist for a mammogram mostly because their friends and family are diagnosed with breast cancer. They fear that they might develop it and are prompted to attend the screening unit. There is a wide misinformation regarding breast cancer amongst women in the state, as these women check for breast cancer symptoms, and if any symptom is found, they report to their doctors who subsequently refer them for mammography examination.

'Among those women who attend the unit for mammography screening, if given a percentage, it is seen that less than 10 percent [of the women within Lagos state attend the programme].' (Margaret, line 35)

All the participants in the study agreed that the women's awareness about the mammography-screening programme in the state might be a significant barrier towards women's attendance. They mentioned that the government uses public media platform such as television, radio and seminars, and direct medium of word-of-mouth to invite women to have a mammogram. However, some participants mentioned that

this information and induction process for the test is not effective because the publicity is sporadic and there seem to be a fanfare (see section 5.4.1.).

'Normally, they put it on air, and we tell the individual if you know anybody.' (Angela, line 13).

5.6.2. Lack of understanding of fee structure

One of the senior practitioners mentioned during the study that there were times when the mammography-screening programme was done free of cost for women within the state. However, she reported that it was only for a month and upon completion of the month, women were asked to pay for their mammography procedure. She added that once they had organised such programme and a large proportion of women within the state had come to the programme. However, the shortage of materials for conducting the mammogram led to an early closure of the unit. Therefore, since the exhaustion of materials provided by the government, women who attended the mammography unit for screening were required to pay. However, junior practitioners could not remember any such similar free mammography procedure. This was despite the government's publicity that it had been organising a yearly screening programme for the women within the state; thus, it can be inferred that there has been no free screening programme in the recent years.

'Hmm, that time when we did the screening it lasted for up to a month, then after that we normally have a routine, weekly people who come in late but do get their breast examination conducted.' (Angela, line 33).

All participants in the study agreed that the lack of proper education of the individuals in government about the importance of regular mammography screening for women in the state might be a reason for the lack of concern shown towards the programme

in the state. In addition, the lack of maintenance and insurance of the mammography equipment after installation at the hospital might also be the reason behind the government abandoning the equipment as soon as they become faulty. Another participant mentioned that individuals in government advertise health service as free, but in reality, these services are not free because the patients need to pay to access any service within the hospital. An example of such service is the mammography screening service in the state hospital.

'Not that there is lack of money; they do have money, but it is like they do not understand or have other priorities they want to spend their money on.' (Angela, line 153).

'I don't really think it is the financial aspect because I think there are always budgetary allocations. I think professionals should really talk up and should enlighten these people to see the effect.' (Faith, line 140).

5.6.3. Mammography screening is expensive

The study revealed the cost of mammogram test to be too expensive and this might be a major deterrent affecting women's attendance at the mammography-screening programme. A participant also compared the cost of having a mammogram done with the cost of some other laboratory screening test and suggested that it was far more expensive. In addition, the cost of transportation to the screening unit might also be high for some women, who provide food for their family using almost the same amount. Therefore, the proximity and accessibility of the screening unit to the women is important to reduce the distance the women travel to take the procedure.

Meanwhile one participant during the study mentioned that some private companies such as banks cover the cost of the procedure and arrange for their staff to have a free

mammogram. According to the study, women with low income or those who are not employed by organisations might not have access to this free mammography service and may be unable to pay for the procedure. However, a separate unit collaborated with a private organisation (a telecommunication company) and has been able to subsidise the cost of a mammogram to about 20% of the cost of having it done at the other government unit through this partnership. However, this initiative does not eliminate the concerns on the availability and accessibility of this screening unit to eligible women within the state. Furthermore, due to the subsidised rate of the mammography procedure at this unit, a large proportion of women within the state have been reported to attend the screening.

'The cost of the examination is very high and a lot of the women can't afford 15,000 in a teaching hospital.' (Faith, line 64).

'Ok, I live in Yaba, there is no facility in Yaba for mammo; I have to come to LASUTH and it is not easy is it to come from Yaba for a woman who does not have enough money. Transportation from Yaba to here would not cost anything less than 500 Naira. She needs this 500 Naira to feed her family, so how does that work out for a mammo and another 500 Naira because she has to go back home. And then she has to come back again for the result - costing her another 500 Naira.' (Margaret, line 148).

5.6.4. Access to results

It takes a week for the mammograms to get reported after the mammography procedure had been conducted. This might be a long time for women to know their results, as the study reveals that they are very anxious before and after the mammogram procedure. This might contribute towards the women's poor mammography screening experience. A poor mammography experience might lead to

the women discussing this with their friends and family and this might directly affect the women's view to participating in the screening programme. However, some mammography practitioners also mentioned that after conducting the mammogram, they used their experience and knowledge to examine it immediately for any abnormality to reduce the women's anxiety level after the procedure. In contrast, a participant also mentioned that some women are not bothered about their results after taking the mammogram test and therefore, might not return for their result. This behavioural pattern among women might become a problem, as the participant mentioned that some of these women were found to have breast cancer. A participant from a different unit mentioned that the women undergoing mammography at their centre get their reports issued immediately after the procedure; this might be the reason that they have a high attendance of women at the unit.

'Normally, [the results of the mammography procedure takes] a week.' (Angela, line 52).

5.6.5. Addressing inequalities

Some participants mentioned during the study that the mammography unit is accessible to the women within the state, with the equipment being installed at state government-managed hospitals located in different parts of the state. Some of the participants mentioned the Lagos state university teaching Hospital, the Lagos State General Hospital Marina, and Orile- Agege General Hospital as centres which have the mammography units. However, most of them shared that they were unsure if the units are still functioning or they have broken down. Often when the equipment would break down, it would not get fixed by the management, which would result in the closure of the service at the unit. However, some of the participants agreed that the

mammography units are not well distributed in the state, as some rural settlements within the state might not have the provision for screening. Therefore, the participants within these places have to travel far for a mammogram, which consequently results in a higher cost. The participants also mentioned that the patients are booked for a later date when they turn up, and they then need to return another day for their mammogram results because of the high workload at the unit. Therefore, this directly means that women will have to travel thrice to the screening unit and the cost of transportation might be a significant barrier to the women's attendance at the mammography screening units.

'Now in the state, it is relatively better because we have so many of the state hospitals that have mammogram machine. Yes, although they break down often and are not repaired but there is a reasonable spread of the machine within the state.' (Margaret, line 126).

'Well, like all x-rays it is always cost and accessibility. They are like, I cannot do this, as they don't have the units where they reside. They are like, I live in Mushin there is no mammography unit there, I live in Badagry, Epe, there is no mammogram you know that sort of thing, like Badagry and Epe. This might be a factor for women residing at that side of state because they are still Lagos state, so areas like that might find the accessibility difficult.' (Barbara, line 192).

Chapter 6: Focus group discussion data

6.1. Overview of Chapter

As mentioned in the previous chapter, both interview and focus group discussion method of data collection were used to acquire the views of the mammography practitioners and women respectively. They were conducted to gain an in-depth understanding of the factors affecting women's attendance in mammography screening in Lagos state, Nigeria as explained in the methodology chapter (chapter 4).

This chapter explores the findings of the seven focus groups conducted amongst eligible women for mammography screening in Lagos state. Hence, the findings reported by the women and the mammography practitioners would then be discussed in light of recent and pertinent evidence in the subsequent chapter.

6.2. Introduction

The study participants were women living within Lagos state, Nigeria and the primary researcher (OL) guided the recruitment of 65 female participants for the study. The researcher identified certain individuals as gatekeepers to the women within the communities and these individuals facilitated the recruitment process. The gatekeepers included individuals who were approached initially to explain the research focus, and were subsequently encouraged to invite other women for the focus group discussions. The research group conducted seven focus group meetings at different locations within the state, in order to gain a broad understanding of the topic. Table 6.1 shows the demographics of the recruited participants; two of the group meetings were conducted in affluent parts of the state. All of the women within the groups were

of the ages the mammography-screening programme would normally target (40 – 70 years). In addition, this study potentially reached communities who may hold different views (Muslims, Christians) and mixed communities centred around a location or activity (community centre). Data collection was discontinued by the researchers at the seventh meeting because the study had reached data saturation, as no new information was emerging from the focus group meetings. The average duration of the meetings was 41 minutes (range 28-60 minutes), and the discussions were audio recorded.

The digital audio recordings were transcribed verbatim. The primary researcher read the transcripts several times to immerse himself in the data in order to meticulously identify the common themes that exist between the groups. Subsequently, the researchers (OL, FM and JN) met to discuss the themes that had emerged from their readings. This detailed process helped improve the credibility of the analysis by the process of peer debriefing. The subsequent sections explore in-depth the themes and categories developed from the focus groups transcripts.

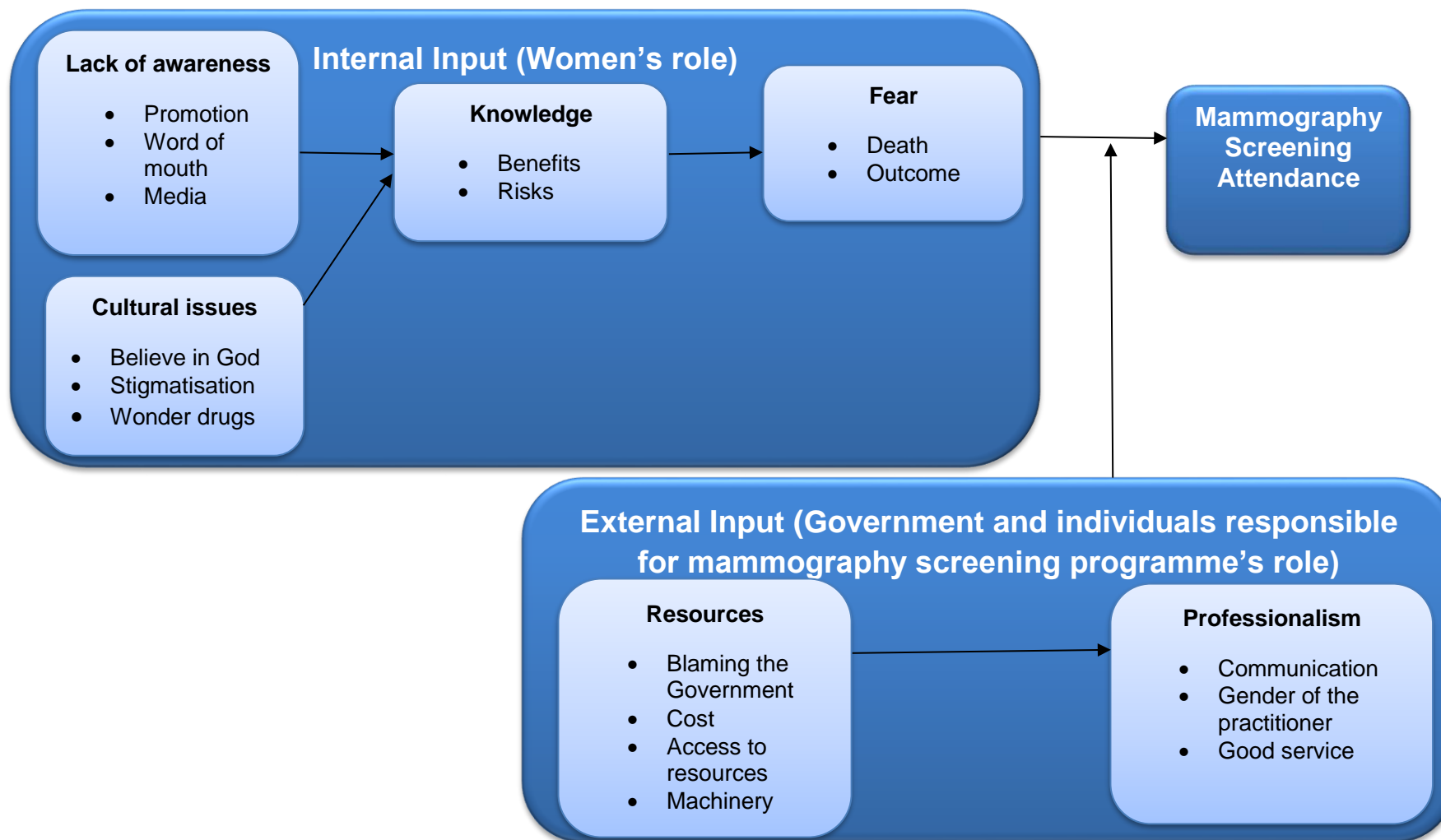
Figure 6.1. is a flow chart developed from analysing the focus group data. It shows that the two factors that influence women's attendance in mammography screening are the internal factors and external factors. The former refers to the factors within women's ability to influence, while the latter are factors beyond their ability to influence. For instance, a woman's knowledge of the importance of having a mammogram results from her exposure to the awareness programme and cultural beliefs. This then determines the level of fear she shows towards having a mammogram. These factors are assumed to be within the woman's ability to influence that might affect her attendance in mammography screening. However, the cost of

having the mammogram, accessibility of the unit and the professional standard of the staff have potential to either facilitate or act as barrier towards attendance. These themes are explored the sections below.

Table 6. 1 Demographics of the Study Participants.

	FGD 1	FGD 2	FGD3	FGD 4	FGD5	FGD6	FGD7
Number of women in the group	8 women	10 women	11 women	11 women	8 women	8 women	9 women
Location in Lagos state	Rural	Urban	Urban	Rural	Rural	Rural	Rural
Meeting venue	Mosque	Mosque	Community centre	Church	Community centre	Community centre	Mosque
Educational background	All educated	Mostly educated	All educated	Mostly educated	Mostly educated	All educated	Mostly uneducated
Age range	42-57 years	40- 61 years	44-58 years	40-58 years	44- 55 years	41- 56 years	42-69 years
Number of women who have had a mammogram	None	1 woman	3 women	None	3 women	None	None

Figure 6.1.: Relationship between the categories and themes of the focus group discussion and effect on mammography screening attendance.



6.3. Lack of awareness

Women's lack of awareness regarding detection for breast cancer appears to be the most common category developed from the focus group discussions' analysis, which can be attributable to the low attendance of women in the mammography screening programmes in Lagos state (figure 6.1.). Even though most of these women were aware of breast cancer, only a small proportion had heard about a mammogram. The common perception of the disease amongst these women is '*breast cancer is a killer disease*'. The study participants mentioned that awareness within the population for breast cancer detection is not sufficient, and even the educated women within the society are not fully aware of the disease detection. The participants suggested that the government should focus more on methods of improving awareness amongst all women and not just focus on organising seminars, as these would only attract the educated women within the society but discount the illiterate women. They added that the government should employ an awareness programme, which is sensitive to the socio-economic differences (such as language and location) of the women. In addition, these women mentioned that the government is not paying requisite attention to this disease in comparison to other diseases (like, Ebola and HIV) that they believe are similar to breast cancer in terms of morbidity and mortality.

'They should do more advert, you know like they do this HIV, immunisation programme, the level of advert is very high. In fact, the advert on Ebola is still ongoing. This [breast cancer] is not as popular as the other diseases, and this is a killer disease.'
(Participant 7e, line 323).

Furthermore, some participants also mentioned that more women are becoming aware of breast cancer because of the increased incidence of the disease within the society. Correspondingly, they agreed that increase in the availability of detection tools might be responsible for the high incidence, as more breast cancers were detected earlier than in the past.

'It is very rampant now unlike before, I think it is just this generation now that we are hearing [about] head cancer, nose cancer and everywhere cancerous so that is what makes everybody to be conscious of it now.' (Participant 1d, line 104).

Most of the women reported that they had been taught and they had conducted breast self-examination. However, participants reported that women wait until they have breast cancer symptoms, such as pain and inflammation in their breasts before they present at the hospital because of their ill-defined knowledge of the disease. Awareness about the disease in the majority of individuals is mostly a result of what they have seen happen to their friends and neighbours, as participant 1a mentioned that:

'Like that my friend I said, it is now over ten years that they have removed the breast, she did the chemo, [and] she is still living.' (Participant 1a, line 347).

However, most of the women who reported knowledge of mammography screening mentioned that they came across it during a health promotion programme, by word of mouth, on media and social media (Facebook and WhatsApp). The subsequent sections explore these in detail.

'Some people don't know they have this problem until when they now say this breast is paining me, may be its boil [an inflammation of the breast tissue], or whatever not

even knowing that it is breast cancer. So they should create awareness.' (Participant 6b, line 234).

The women suggested that courtesy gifts and pamphlets (containing information on the breast-screening programme) should be given to women who attend the screening programme to encourage other women to attend. For instance, a participant reported previously retaining a pamphlet informing and inviting her to attend a free breast-screening programme provided by a non-governmental organisation, which she offered to show to the participants of the focus group after the meeting. In addition, some participants reported that secondary school physical and health education curricula should teach the students about breast cancer and the importance of early detection, as these might make them more vigilant of changes in their breast as they grow older. They agreed that this particular method can have a ripple effect on improving breast cancer education in the society, as these students might go back home to inform their families and friends.

6.3.1. Health Promotion Programmes

Most of the women reported hearing about mammography screening and its benefits at seminars, public lectures, and training programmes. They mentioned that most of these programmes occur during the Breast Cancer Awareness week. However, they suggested that this should not be the case, and more programmes should be conducted frequently to improve awareness and attendance rate. Only one participant mentioned that she took a mammogram test at this programme after she had been educated on breast cancer detection and mammography screening. However, all the other women mentioned that the doctor only offered them clinical breast examination

post training, but gave no information about places they could visit for a mammogram. These promotional programmes were organised by different religious groups and only one participant mentioned attending a public lecture organised by the government. In addition, for some of the programmes, the women reported contributing money themselves to invite health professionals to educate and screen them for breast cancer. These women recommended that promotional programmes for educating women on breast cancer, and what to do when they discover that they have symptoms of the disease should be conducted for women frequently in public places, such as mosques, churches, markets, and schools (at parent teachers meetings). In addition, women need to be reassured to alleviate their fear that breast cancer diagnosis is always a death sentence, and provided with testimonies of women that lived after being diagnosed and treated for breast cancer.

'We normally attend lectures, they tell us at a public lecture or any lecture organised specially for breast cancer but not that we have gotten the opportunity to do it.'

(Participant 1a, line 48).

'Usually when you hear that a free screening is coming up, it is usually around the breast cancer awareness week. They should try more outside that time.' *(Participant 9b, line 227).*

6.3.2. Media

Most of the women reported reading adverts on breast cancer and mammography screening at their local hospitals. In addition, some of the participants mentioned that they heard about it on radio and one participant reported that they mentioned on the radio advert that there was a free mammography screening for women. Another

woman reported that the advert concentrated more on encouraging women to perform a breast self-examination and if the women experience pain in their breast they should go for screening. However, this might be considered as misinformation, as women who experience symptoms in their breast are not classed as asymptomatic women and attending mammography screening might not be the most effective care pathway for such patients.

'Through the radio; they tell women that if you know that you are feeling any pains in your breast, you should go for screening and any other test and since I have tested myself. I will lie down and do it, and I don't feel anything. I don't think I need to go to the place.' (Participant 4e, line 61).

Furthermore, some of the women mentioned watching television adverts where women are encouraged to participate in mammography screening for early breast cancer detection. However, these women mentioned that they found the television advert disturbing, as they showed women with massive breast tumours. This experience discouraged the women from participating in the screening. This might be attributed to the women's perception that they might be publicly shown to people if they are diagnosed with the disease. In addition, the graphic adverts could lead to the development of heightened fear of the disease effects. The shock tactics do not always work and may have opposite effects as shown here, as the women may choose to miss the screening with the unsubstantiated fear of death on a positive diagnosis. However, it is better to show the women subtle effects that they need to look out for (such as, small lumps, wrinkled skin, sores that do not heal and discharge from the breast).

'On the television they show the breast of a woman with sore and so on, and I think it normally eats up the breast and the sore you will be seeing is very wide, so it is discouraging.' (Participant 7c, line 101).

Some of the women reported reading some information about breast cancer and mammography screening on the internet. They believe that women are more aware because of the increase in availability of internet access, which has subsequently led to the improved detection and an increase in the recorded breast cancer incidence rate in this society- the cancer was always present in the population but may not have been recorded as such. The women also mentioned that information on breast cancer is available and shared on Facebook. With this platform, they educate themselves by consulting friends who have more knowledge on the disease and answer the questions on the topic.

'This day and age you don't have any excuse for ignorance, you have a phone, if you can Facebook on your phone that means you are able to go on your phone. If somebody said oral contraceptive can cause cancer just type on Google, it will show you and you will be able to know more, but most people just go about saying 'they said'...' (Participant 8d, line 159).

Some women mentioned that they had found information about mammography screening in social media and the newspaper and magazines; although, participants raised concern that this media can mostly be accessed by women with white collared jobs in the society; thereby, leaving other women out. Considering that there are more illiterate women compared to literate women within the society, the participants believed that effort should be channelled into developing an awareness programme that might be suitable for these women in order to improve participation in

mammography screening programme. In the quote below, *'market women'* is the term used to refer to women in society who are invariably uneducated and are illiterate.

'Because most of these people [market women] don't have time, they don't have time to read magazine or newspapers, so how will they be aware, and most of them wouldn't even go to the hospital.' (Participant 1e, line 314).

'So many women don't go into the office, the number of women that go to the market, the market women, is more than people in the white collar job where we get to sit down and discuss. You see this on Facebook, you discuss it, come and see this person has breast cancer, we discuss it, who discusses with them in their shops and in their markets? Nobody, so the awareness is high amongst the literates than the illiterates and they need it more.' (Participant 7e; line 329).

6.3.3. Word of mouth

Some of the women reported that they heard about mammography screening by word of mouth from their friends, neighbours, and relatives, who have had this procedure previously. During the discussion, it was apparent that there is much misinformation about mammography screenings; this is explored in-depth in the knowledge section below. Furthermore, the majority of the women mentioned that the women who had mammogram were diagnosed with breast cancer. This can be attributed to the fact, as reported by a participant during one of the meetings that most women go to the hospital on experiencing some sort of breast cancer symptoms. Some of the women had a good knowledge of the benefits and risks of having a mammogram. These women either were healthcare practitioners or were associated with medical practitioners who had discussed the topic with them.

'My aunt was a Nurse at LUTH so we had a discussion concerning the breast and ten years back she told me about the mammogram and I told her I read a little bit about it in 'Everywoman' [a magazine].' (Participant 2e, line 32).

Interestingly, most of these women indicated an interest in propagating the good news about mammography screening but mentioned that they are limited by the information that they have about the procedure themselves. They believe that to rapidly improve awareness and attendance in mammography screening programme, it is essential to train women to educate other women on the benefits and risk of having a mammogram. Thus, provide similar ripple effect explored in-depth in health promotional section earlier.

'It is only what you know about that you can campaign about, like me now I don't have the awareness I don't have the idea so what will I go and tell people?' (Participant 2a, line 351).

One recommendation was that:

'There will be train the trainer, a continuous training. As you are training after we are expert in our locality alone we can spread it.' (Participant 1a, line 353).

6.4. Cultural issues

The focus group data shows some cultural issues that might pose a barrier towards women's attendance at mammography screening programme. These issues were found to have common prevalence within this society as several participants mentioned these issues during the discussion. However, other elements indicate a low level of awareness on breast cancer and mammography screening amongst these

women. The issues varied from belief in God for healing, stigmatisation, and use of wonder drugs.

6.4.1. God as a healer

Several women believe that God shall heal them of breast cancer because they have seen women in their community who had breast cancer '*but discovered that it had disappeared with prayers*'. One of them mentioned that some women trust that God will heal their breast cancer, and this does happen in some cases. Another participant shared about a friend of hers who felt a lump in her breast and went for mammography examination to discover that she had breast cancer. The doctors recommended surgery of the breast to her as treatment, but she insisted that she believes God would not let her have breast cancer and wanted a re-test. The doctors agreed to further examination of the lump with a needle biopsy, but the result showed that the lump was not cancerous. She believed that her faith had changed the result. However, further investigation such as biopsy would be the routine next step to show the histology of the lump before she was advised for surgery. Unfortunately, miscommunication can lead the woman to believe that God intervened rather than a false positive, which are accepted outcomes of mammography screening.

Similarly, some participants in another group gave an account of a woman who after spending all of her money on breast cancer treatment, was issued a bill for further treatment, but after attending a church programme she discovered that the lump had disappeared. Could this be attributed to a false positive result? Could it be that the initial treatment was effective in regressing the breast cancer symptoms, but for the residual cancer the doctors had recommended that she return for further treatment?

Similarly, in young women lumps are commonly found to expand and recede due to the influence of hormones, which could account for this event.

In summary, these common cases of false positive results as reported by these women could lead to the waste of resources and could harm the women's perception of the screening programme. However, a participant gave an account of a friend who was told by her parents not to go to the hospital for breast cancer treatment after she had been diagnosed with the disease. They had faith that God will heal the disease but she died of the disease. Thus, this shows how religious beliefs affects the women within this society.

In addition, a participant mentioned that women within this society would prefer to go to religious places or native doctors for treatment because of the negative perception of the effect of conventional breast cancer treatment (such as mastectomy and hair loss) as seen in people taking treatment from the hospital. Generally, the common culture of belief that God would heal breast cancer without the treatment as recommended by their doctors should be properly addressed through education. Some of the participants believed that God created medicine to help treat the disease and avoiding hospital treatment can be harmful.

'...and some might be faithing it [trusting in God], they might discover that there is lump in their breast but just pray and trust in God, and miracle will happen but some people it might not.' (Participant 7c, line 172).

6.4.2. Stigmatisation

A few participants mentioned that they believe that women are *'silent'* about breast cancer diagnosis because they are concerned that they will be stigmatised by the people around them. Informing or sharing their problem may result in that individual gossiping about their problem to other people. This can be due to the common perception that the disease is contagious. Consequently, these women decide to not visit the hospital for further tests or treatment; and begin to apply skin cream to the affected area or use *'wonder drugs'* (discussed in the following subtheme). However, this report of stigmatisation shows that the level of awareness of breast cancer symptoms and management amongst the women within this society might be low.

'I think the reason some people might be silent about it is because of stigmatisation.'
(Participant 3c, line 176).

In addition, these women believe that it is not modest to expose their breast to other people even when that individual is a female. One study participant mentioned that despite evident symptoms of breast cancer these women are still very concerned about exposing their breast to other people. Thus, it can be safely assumed that asymptomatic women might be even more reluctant to attending mammography screening. However, one of the participants mentioned that while she shared her mammography screening experience at another meeting she was given a gown to cover her breast during the examination. The testimonies of women who have had a mammogram might be very relevant during awareness programmes as issues that are overlooked by practitioners might be mentioned by the women.

'I then asked my husband that is it easy for women to be exposing their body, because I believe this part of the women's body should no really be exposed...' (Participant 1d, line 59).

6.4.3. Wonder drugs

Some participants mentioned that they believe that breast cancer diagnosis is a result of a curse placed upon them by their enemies. Thus, using the native doctor's approach might be an appropriate treatment pathway for the disease. These participants identified that a lack of knowledge due to low breast cancer treatment awareness can be attributed to some women opting to use native doctors' medications for breast cancer treatment when they experience the symptoms. Furthermore, a participant mentioned that women chose to go to native doctors for herbal treatment because of the effect of breast cancer medications seen by them in people undergoing treatment from hospitals. In addition, a participant mentioned that a wonder drug known as GNLD- a food supplement- is effective in curing breast cancer and hypertension, she was informed of this by a pharmaceutical marketer who sells the drug to her. However, this is a common problem in this society as pharmaceutical marketers give their customers incorrect information when trying to convince them to buy their medications. This also might be a contributing factor to the high mortality rate of women due to breast cancer in this society, as a delayed decision to report to the hospital for treatment would have progressed the disease to its advanced stage.

'If it is something they [the medical doctors] can remove immediately they will do that but some who don't understand this, follow their native doctor's recommendation and

it [the cancer] spreads to other places and that is why some of them die as a result of breast cancer.' (Participant 6b, line 144).

6.5. Fear

The category fear generated the largest theme in the analysis, as it was frequently mentioned during the discussions with the women. As shown in figure 6.1, it has an indirect relationship with awareness and knowledge; therefore, as awareness and knowledge increases, the women's anxiety towards mammography screening reduces and vice versa. The women expressed that varieties of factors contribute to their fear of the disease. These factors are the outcome of the procedure and knowing breast cancer leads to death. However, all these factors act as barriers towards the women's attendance in mammography screening. Thus, to reduce the effect of these factors, proper education on the benefits of mammography screening in reducing the incidence of breast cancer amongst women in Lagos state is paramount. These factors will be explored in greater depth in subsequent sections.

6.5.1. Fear of outcome

The women mentioned that the fear of testing positive for breast cancer is of great concern to them and many of them compared this outcome with what they might experience if they tested positive for HIV/AIDS. They believed that not knowing the steps to take after a positive diagnosis, worry about the future, and not being present to care for their children are the reasons that contribute to their fear in addition to their belief that breast cancer will lead to their death. They mentioned that the frustration or persistent thought of the effects of the result increases their anxiety, which might further result in the individuals developing stress or distracting them from their regular day-to-day activities.

'I believe that is one of the effects. You will just be scared of that one that what if I go and they should tell me I have this thing, definitely if that person is driving she will be distracted.' (Participant 2a, line 118).

Therefore, they would prefer not to know their status, as they believe not knowing will not rapidly kill them compared to knowing. Interestingly, two participants in different groups mentioned that there is nothing to be scared about because early detection of breast cancer will improve their prognosis. Some of the women identified the importance of proper education on the breast cancer screening and treatment in addressing this challenge of fear of a positive outcome.

'When you don't know about it, it might not come out of your body, but when you know it can kill.' (Participant 4a, line 127).

6.5.2. Fear of death

This fear of death as evident from the discussion is closely linked to the fear of positive outcome experienced by the women when they consider attending mammography screening. This is because they believe that a positive diagnosis of breast cancer will lead to their death in a short span. Furthermore, some of the participants mentioned that they believe breast cancer does not have a cure. This could be because of myths that exists within this community and is spread amongst the women by word of mouth, which appears to be source of misinformation in this society; this mode of awareness was explored further in earlier section. Thus, attending mammography screening might not be relevant as finding out that they have a positive diagnosis, as this might have some psychological effects that might lead to their death as explored earlier.

'The fear of death, when they are thinking that I will soon die, so that fear will not allow you to go because if you go there and they detect that you have this thing, it will make the fear to be greater no matter what the death will come and they will not want to go. So they will find another way to take care of themselves.' (Participant 3c, line 189).

6.6. Professionalism

This category entails issues relevant to the staff offering the mammography screening service to the women in Lagos state. Particularly, it pertains to the issues related to the communication at the mammography units, the gender of the mammography practitioners and the examples of good service reported by the participants in the focus group meetings. According to the women (see Figure. 6.1), issues regarding communication and the gender of the mammography practitioners might negatively affect the participation of women in mammography screening programme- this is further discussed in detail below.

6.6.1. Communication

Most of the participants mentioned that doctors at the public hospitals are rude and do not address them with respect. This previous poor experience adversely affected the subsequent use of hospitals even when the participants felt the need to use the service. A participant shared her experience of visiting the public hospital to consult for a swelling in her breast but after several consultations and examinations by the public hospital doctor, he recommended that she should visit his private hospital for further examinations. She shared during the study interview that she sensed he did this for his own personal benefit; thereafter she did not bother to return to the hospital to know what was wrong with her breast. In addition, few other women mentioned

encountering similar problems that doctors would frequently recommend women to visit other hospitals of their affiliations to gain referral rewards from these hospitals.

'There was a time that this breast swell up and I went to Ikeja General Hospital. So when I got there they did every test that they could but they did not see anything the next thing that the doctor said was that I will direct you to one private place, that if they did not see anything there again we will just operate and I said no, when you are not just a butcher, how can you just operate me like that and I didn't return that day until now.' (Participant 1c, line 201).

In addition, a participant mentioned that people attend private hospitals because it can take months of waiting period before obtaining the doctors' assignment in the public hospitals. However, this might be a problem for women with low income as they are less likely to use private hospital services because of the high service rates at the private hospitals. Furthermore, this participant mentioned that women avoid the public hospitals because of the perceived impression of the impolite manner in which they might be addressed at the public hospital. Instead of being persuasive and showing compassion to the patients, these public hospitals are indecorous in their services. However, one of the participants reported that hospitals are short-staffed, which may increase pressure on these staff, resulting in their frustration. She also felt that the government is responsible for this problem. Most of the participants mentioned that complaints have been made several times as regards these problems, but minimal changes have been observed. One of the study participants also mentioned that prominent government officials had visited the hospitals under disguise and unannounced and were faced with these challenges. Subsequently, they tried to implement certain measures to combat and control the problem. An example,

of such measure, is the Lagos Chartered Programme, in which the enforcement officers visit the hospitals and report misconducts observed during their visits.

'That is why people do go to private, we know that most private hospital are not up to standard, but because the way they will react to you at the public hospital that is why people go there, and if you go to a public hospital you may go there for months and would not see a doctor.' (Participate 5c, line 244).

However, most of the participants mentioned that they experience fear of not knowing what to expect at the examination unit. They mentioned the fear that the mammography staff might not be well trained in this speciality, as this is a common challenge experienced in both the private and government owned hospitals. One participant cited an instance of an incident that she had read about in the newspaper where a woman was operated upon by medical practitioners who were not trained in the area at a tertiary health centre in the state. She reported that these individuals had damaged the woman's internal organ in the process. Thus, going to the hospital for treatment or diagnosis is a scary proposition to her, as the staff might not have adequate knowledge or experience.

'Another thing is the fear of the unknown, the person that is going to be doing the mammogram for you might not be an expert in that field.' (Participant 8f, line 153).

Interestingly, all of the participants who reported taking the mammogram test mentioned that they were satisfied with the quality of service offered to them during their visit. They reported that the staff helped them overcome their fears before, during and after their procedure by properly explaining the benefits of the test and by showing empathy to them. However, most of the women reported being given an

envelope with their results, which they were expected to go home and read. This is a problem as it highlights the fact that in the case of a positive breast cancer diagnosis, the women lack support. With the lack of knowledge on the following course of action or ability to pay for treatment, the women probably are forced to consult the native doctors for help. Thus, as revealed in the study, accounting for a participant's mention of the public hospitals being short-staffed, it can be safely inferred that the staff may lack adequate time to fully care for the individuals due to the high workload. Thus, it is imperative that the government evaluates and assesses this issue to improve the hospital services offered to women in the state.

'Immediately they gave me the envelope, I removed the result. They said why don't you go home to remove it madam, I said no let me read it.' (Participant 7e, line 200).

6.6.2. Good Service

All of the participants who have had a mammogram reported experiencing good service, with quick service, satisfactory staff communication, and expedited issuing of results. Although only two of the women participants reported getting their results immediately after their mammography examination, the other women got their report within a week of their mammogram. Therefore, it is necessitated that good practice of expedited results are improved upon, as will affect a reduction in waiting time for women to know their results and directly reduce their anxiety towards a positive outcome as explored in the earlier section. Furthermore, a woman mentioned that:

'It is only private that they give prompt attention to you, when you go to them. Their machines are working as expected because majority of them opened it for profit purpose.' (Participant 3c, line 230).

However, the women also mentioned that the private hospitals produce a high number of false positive results as probably to cut costs and maximise profits these private hospitals employ staff not trained in mammography. Thus, the women appeared to be confused regarding where they might be able to access the best level of care. This can be attributed to the possibility of untrained staff at the private hospitals and the staff unprofessional attitude of the staff and/or non-functional mammography equipment at the public hospitals (this is further explored in detail in the subsequent section).

6.6.3. Gender Of The Practitioner

Some of the women also reported that they are concerned about the mammography practitioners' gender due to their strong religious belief that does not support exposing their breast to any man other than their husbands. In addition, they mentioned that their husbands would never encourage them to go for a mammogram exam by a male practitioner due to jealousy. These women clearly stated that they are restricted and refrain from using the mammography screening service for this vital reason. However, some other women contradictorily reported that they are not bothered about the practitioner's gender, as they had previously taken diagnostic tests of sensitive parts by male medical professionals. They also believed that male practitioners would treat them properly, as they have a professional code of conduct guiding them. However, some participants who had taken the mammogram exam by a male practitioner shared their satisfaction with the service rendered to them.

'...you know men how they feel jealous when it comes to anything to touch their wives, so those one alone is one of the things that will piss a woman off not to feel like going, and you know your husband might even discourage you.' (Participant 2a, line 169).

Interestingly, it was discovered that the majority of the women participants who reported not wanting a male practitioner to examine them were Muslim women recruited from the mosques, but the women from the other groups appeared to not perceive this as a problem. In addition, the low manpower in health care service available in this society can be attributed to being responsible for the use of male practitioners in breast screening. However, individuals responsible for the mammography screening programme should consider the female practitioners in regions that are highly populated by Muslim women so as to improve the women's attendance.

6.7. Knowledge

In Figure 6.1, it can be assumed from the results that women's knowledge on mammography screening can be improved directly by the means of generating awareness. According to the information shared by some of the participants of the groups, women of this society have an improved knowledge because of the recent increase in publicity in the media as compared to the past. Thus, an increase in knowledge will reduce the women's anxiety towards breast cancer and mammography screening. Therefore, different aspects of women's knowledge, such as the benefit and risk of taking a mammogram exam, and the example of cases of individuals who have had a mammogram are explored below.

6.7.1. Benefits of Taking a Mammogram Exam

Most of the women identified that mammography screening has the benefit of an early detection of breast cancer. Therefore, as early detection offers effective treatment options, it is better than late or delayed breast cancer detection. Only a few women mentioned their unawareness of the breast cancer being treatable, even when detected early. The women agreed that the ignorance of the benefits of taking a mammogram is the reason why most women do not attend the mammography-screening programme. Thus, the role of awareness on the benefits of mammography screening as discussed earlier cannot be overemphasized in this society.

'It is for early detection of any lump, and if there is a lump they will quickly remove and go and test it if it is cancerous or not.' (Participant 8c, line 35).

'What I want to point out is this, for somebody that went to do a routine mammogram and found out she has stage one cancer. Then somebody that feels a breast lump and when test is told she has stage three cancer, the treatment for stage three cancer is more than the treatment for stage one cancer but most people do not know that.' (Participant 8d, line 202).

In addition, some of the women exhibited good knowledge about the age group of women in which mammography screening can be effective in the detection of early breast cancer. They mentioned that women between the ages of 40 – 80 years were eligible to attend the mammography screening programme. One of the women also reported that the incidence rate of breast cancer amongst younger women within this society is increasing.

In addition, the participants reported that the eligible women should attend mammography screening once in two to three years; however, a participant

mentioned that the mammography exam should be taken once in five years. One of the participants also explained that she once read about mammography screening and they mentioned that the reason women should have a mammogram once every two years instead of every year is because of the ionising radiation effect of x-ray, which can cause cancer itself.

'It is like an x-ray of the breast but because of the risk of the ionising radiation that can cause cancer itself. I think with recent study, it is said that every two years instead of every year for every woman between the age of 40 and 80 years.' (Participant 7d, line 55).

'And early detection of it saves live, because we learnt that if it is not big, if it is the tiny thing it is better than when it has grown for long.' (Participant 5e, line 95).

6.7.2. Risks of Taking a Mammogram Exam

The women showed some knowledge about the risks of taking a mammogram but did not have a clear understanding of how the benefits of taking a mammogram outweigh the risks. Their views on the risk are explored in depth under the false positive results and radiation risks sections described below.

6.7.2.1. False Positive Results

The effect of the false positive results was explored earlier as some of the women believe that God had cured them of breast cancer when their confirmation test came out negative. One of the participants reported that she has known cases where women have been given false positive results. She added that the effect of these false positive results could be stressful to the women compared to the effects of breast cancer. She associated false positive reporting and associated trauma with the level of

mammography staff training and suggested improvement in staff training might reduce the false positive results.

'The technicians (the radiographers and radiologist) and not people that will give us false positive result, because we have seen cases where patients have been given false positive result and that one [the associated stress] has killed the patient, than the patient having breast cancer on its own.' (Participant 7b, line 223).

In addition, some of the participants mentioned refraining from attending mammography-screening programme due to the false positive results issued to their acquaintances and friends or family in the past. However, as suggested by one of the participants it is necessary to implement proper mammography staff training and quality assurance programme for the individuals responsible for the mammography-screening programme to improve the screening standard and improve the women's confidence in the effectiveness of the screening programme. In addition, as this will lead to correct diagnosis, it will be cost effective in the end as most patients who do have breast cancer would be referred for further investigation or treatment.

'I have not participated in it, because of the result [false positive result] that they gave my friend; it made me uninterested in it.' (Participant 7d, line 83).

6.7.2.2. Radiation Risk

Two women in different groups mentioned their anxiousness about the harmful effect of the x-rays emitted during the mammography procedure. They believe that this might be the reason why most women within this society 'run away' from taking a mammogram. They both suggested that the use of alternative means of screening for breast cancer or identifying a way to reduce the radiation emitted during the procedure might encourage women to attend the mammography-screening

programme. Thus, previously, this might have posed a concern for eligible women within this society as they were advised to attend mammography screening yearly. This carried the risk of exposing women to increased harmful radiation effects and was not cost effective.

'The women came for one thing [but] another thing is being acquired, so most people try to run away from it.' (Participant 4d, line 129).

The majority of women mentioned their unawareness of any risks associated with mammography screening. However, some other women mentioned their awareness of risks associated with mammography screening like the ionising radiation effect of x radiation, which might lead to cancer. Although, a participant mentioned that the radiation dose used for the procedure is low and therefore, the chances of developing cancer due to mammography screening are low. In addition, another participant reported her awareness of the benefits of mammogram in the early detection of breast cancer, as a late detection would result in the further exposure of the breast to much more radiation during radiotherapy. Thus, she shared her opinion of opting for mammography, which presents significantly less ionising radiation risk compared to radiotherapy procedure.

'There is risk of radiation and that one itself can lead to cancer.' (Participant 9b, line 148).

'It is better we go for the screening, as the radiation effect is even okay than for you to be facing the problems associated with having cancer. You are still going to have a lot of radiation if you actually have the cancer during treatment.' (Participant 7b, line 213).

A participant mentioned her belief that the frequency of the mammography screening as recommended by the doctors might affect the radiation effects, as a long interval in between the mammography screenings would mean that the effect is minimal.

However, one other participant reported that in this society women who have already had a mammogram (free of charge) tend to attend another mammography-screening programme regardless of the interval. This she attributed to the lack of the structure in the mammography-screening programme. Thus, they may end up attending several free mammography-screening programmes in a year organised by other individuals because they believe this might be effective in the early detection of breast cancer. Thus, the chances of these women discovering breast cancer as a result of ionising radiation effect might be high but at the expense of the lack of knowledge of the risks of the procedure.

'...they do say that it should be done once in two or three years, so I don't think if somebody is doing something once in three years I don't think the side effects would be too much on the person.' (Participant 3c, line 142).

6.7.3. Pain

Some of the participants who have had a mammogram mentioned that the procedure was painful, but the pain was just for a short while. A participant mentioned that she had been told about the pain women experience when the mammography practitioner compresses their breast for the mammogram, before the examination. However, some of the other women reported that they did not experience pain during the procedure. This raises the query if the compression force used in their mammogram was lower compared to the other mammogram. In addition, probably the extended duration between the mammography test and the focus group meeting had made them forget

about the actual experience. In addition, the pain threshold of the women could be different, and this might have been the reason for the opposing views amongst the women who have had a mammogram. One of the women who has not had a mammogram, mentioned that whenever she thinks of having a mammogram, she was concerned because other women mentioned to her that they had experienced chronic pain after a mammogram. This might be the reason why she has not had a mammogram. However, there is no known link between the mammography procedure resulting in chronic breast pain (Hogg et al., 2015).

'The thought of pain, because if you see those people that have gone through it you will know that they usually have chronic pain.' (Participant 9c, line 174).

6.8. Resources

This category explores the view of women on the accessibility of the mammography screening centres, the cost of having a mammogram, the role of government and machinery. As seen in figure 6.1., these themes in the category are classified as factors that cannot be influenced by the women. An improvement in these factors might improve women's attendance in mammography screening programme. The themes are explored further in the subsequent sections.

6.8.1. Access to Resources

Some of the women reported that they are not aware of places around them that conduct mammography screening. Some women added that the mammography screening centres are several miles away from them. They agreed that the closer proximity of the mammography screening centres might encourage them to attend the programme.

'If it is around the area you are staying it would be easier for you to go if it is not too far.' (Participant 3a, line 205).

'But if they say it is at Ile- epo, 90% of us will go because it is not too far. It will encourage a lot of people because it is not far. So It has to be within your locality.' (Participant 5a, line 211).

These women mentioned that when they attend the programme they are booked to return for a future appointment, which could be about six to seven months away. Thus, *'this discourages women'* in this society. In addition to the long duration it takes before they can have the procedure done, they mentioned another issue of the several number of times they might have to visit this screening unit. They shared that before they get their mammogram done, they might have to make up to five visits, which would add to the cost of transport (this is explored in depth in the subsequent section) and the stress involved. According to the women, the range of the duration it takes to get to the mammography screening centres ranges from 50 minutes to 4 hours, depending on traffic on the road.

'That is what discourages a lot of people in this part of the country, for any test not even only mammography for any test they might ask you to come another time. You might pay about four five times visit before actually having the examination done.' (Participant 1a, line 223).

In addition, a participant mentioned that she did not attend mammography screening because of the crowd present at the venue. This could be because of the unbalanced ratio of the number of mammography machines or staff available to the excessive number of eligible women attending the mammography-screening unit. Thus, the

individuals responsible for the mammography screening programmes might need to provide enough mammography screening units and staff to cope with a large number of women attending the mammography programme.

'Because, we have a lot of crowd there and if you don't get there on time, you would not get anything done. So that is one of the major reason I did not go.' (Participant 9b, line 45).

Furthermore, most of the women mentioned knowing many private mammography screening centres around them but they also reported the expensive services at these places.

6.8.2. Cost and Time

Most of the women believe that the mammography service is too expensive for the average women within the state and this might be a reason why women do not attend mammography screening. Therefore, the government needs to help subsidise the cost of the procedure or provide the service free of charge for women because of the high incidence of the disease amongst women within the state. They believe that their tax contributions should help provide the funds for this health project.

'...but the time I asked for it, it was too expensive for me to do so I didn't do not go there.' (Participant 1a, line 32).

However, some participants mentioned that the mammography screening service organised by the government is free but the effort should be made to reduce the associated cost implications due to the transportation costs and time-consuming nature of the test (this is discussed in greater depth below). One of the participants reported that the government is fond of misleading patients; she shared an instance

when she discovered a service offered in the hospital was not free, although it was advertised to be free. When she argued that the service was advertised free the staff insisted that she should pay for the procedure. Thus, this problem might discourage women from attending mammography-screening programme in Lagos state even when the government advertised that it is free of charge. Interestingly, all of the women agreed that lessening the cost of having a mammogram or providing the mammography screening service free for eligible women within the state might be an important step towards improving women's attendance.

'The cost implication- most of the time the government ones are free, so the cost implication should be very minimal, at least some thing that every layman can afford.' (Participant 7b, line 221).

Furthermore, some of the women mentioned that seeking permission from their employers to attend mammography screening is a problem, as this might make the employer assume that the individual has developed breast cancer and might not be fit for their job. In addition, the employer may assume that the women are lying about attending mammography screening centre. The women mentioned that the delay they experience at the screening centre before they have the mammogram is also a problem as they might have to visit the centres several times; thus, causing them to make repeated requests for permission to attend the mammography screening programme from their employers. A participant mentioned that:

'...they [employers] will say, do you need to go, have you been tested positive, do you have it, they will discourage you.' (Participant 1a, line 265).

These women are faced with the choice of staying in their jobs or attending the mammography-screening programme, but when they consider the financial burden of losing their job they prefer to avoid the mammogram. However, some women mentioned that they would be more willing to attend mammography screening if they could attend on the weekend when they have a weekly day off.

In addition, some of the women mentioned that the cost of transportation to the mammography screening centre might be too expensive, because of the distance of these centres from the residence of eligible women within the state. Thus, there is a need for the individuals responsible for mammography screening within the state to provide more mammography screening centre across the state and improve the accessibility of the service for women.

'All these things has to do with money. Even only the transport is part of it.' (Participant 5a, line 271).

6.8.3. Blaming of the Government

The women reported an awareness of the fact that mammography-screening programmes are organised by both government and non-government organisations. They also added that most of the awareness programmes are organised within the international breast cancer awareness week in October. Thus, they believe the government is not paying adequate attention to breast cancer detection because of the current low incidence rate within the society. The women faulted the non-governmental organisations for providing their services in the urban settlements within the state, suggesting that efforts should be channelled into reaching women in the rural settlements within the state, as they more likely to lack funds to take a

mammogram exam. They also highlighted that even though private hospitals offer the mammography screening services, these are highly priced.

The participants suggested that government should seek support from entrepreneurs within the state to improve the mammography service- creating guidelines for the programme. They also suggested that these entrepreneurial set-ups should offer the procedure as a routine test, similar to some private organisations that test their staff free routinely. These private organisations understand that it is cheaper to manage breast cancer at an early stage in comparison to when it has advanced to its terminal stage.

'I know that some private companies like NNPC and SHELL do these routine examinations for their staff, because it is cheaper for them to find out if their staff has cancer than for that staff to now come down with the disease. I think they have to pay a certain amount because they cannot just lay off the staff because he/she is not working, so it is cheaper for the multinationals to do screening for their staff.'
(Participant 8d, line 308).

In addition, these women mentioned that it is important that the government monitor this programme to ensure that the service is up to standard and the staff communicates with patients in a professional manner. This is resultant of the women's previous experience with health professionals, which could have influenced their decision towards avoiding to attend mammography screening. However, all of the women who have had a mammogram reported that they were satisfied with their mammography experience. Thus, it can be safely inferred that the mammography screening service might not be as problematic as some of the other health services, with which the other women reported poor experience.

'Government is monitoring it, and if you know your job is at stake, then you would do what you are supposed to do when you are supposed to do it.' (Participant 1e, line 279).

6.8.4. Machinery

The women mentioned that they believe that the Lagos state has few mammography units and suggested that provision of more units might improve women's attendance in the screening programme. In addition, the women mentioned that electricity failure might influence women's decision to attend. This is because they had experienced delay in getting other examinations done in their previous experience due to power failure. This appears to be a major problem that needs to be addressed in addition to the several factors explored in the previous sections. These factors impose as barriers influencing the women's decision to attend mammography screening, as it would be unreasonable for them to overcome all these barriers only to discover an inability to take the mammography examination due to power failure. Some of the women suggested that the provisioning of mobile mammography units with electricity generators by the government would not only sort out the problem of power failure but also the problem of accessibility. These suggested mobile mammography units would move around the state to serve women in different communities providing a feasible solution to most of the issues raised in the previous section.

'Even if it is not permanent there they can move it from one centre to another centre, maybe they will leave it in one area with a generator for a month. There have to be a generator or else if you leave it there for a month there might not be light [power supply].' (Participant 2a, line 320).

Chapter 7: Discussion

7.1. Overview of Chapter

This chapter examines the aims of the current study (section 7.1.1.) and indicates how they are accomplished using the theory of care seeking behaviour to guide the discussion; therefore staying true to the concepts of this theory and the researcher has this in mind at all times during the study as shown in figure 4.6. In addition to the literature review conducted in chapter two, a further systematic literature search is performed to reflect the findings in chapter five and six (section 7.1.2).

Figure 7.1 illustrates the research path that began with the literature review, which informs the research methodology, followed by the method through which the information is gathered from the participants and subsequently analysed. The findings of the study are successively discussed in the light of available literature for supporting the information gathered from the women and the mammography practitioners at the end of focus group discussions and interviews, respectively. Furthermore, Colorafi and Evans (2016) and Sandelowski (2010) provide evidence that using theoretical frameworks and literature to support findings of a qualitative descriptive approach research is a method that helps develop the credibility of the research findings. Moreover, it also justifies the inclusion of further literature in the discussion in order to acquire a broad understanding of the findings of the interviews and focus groups.

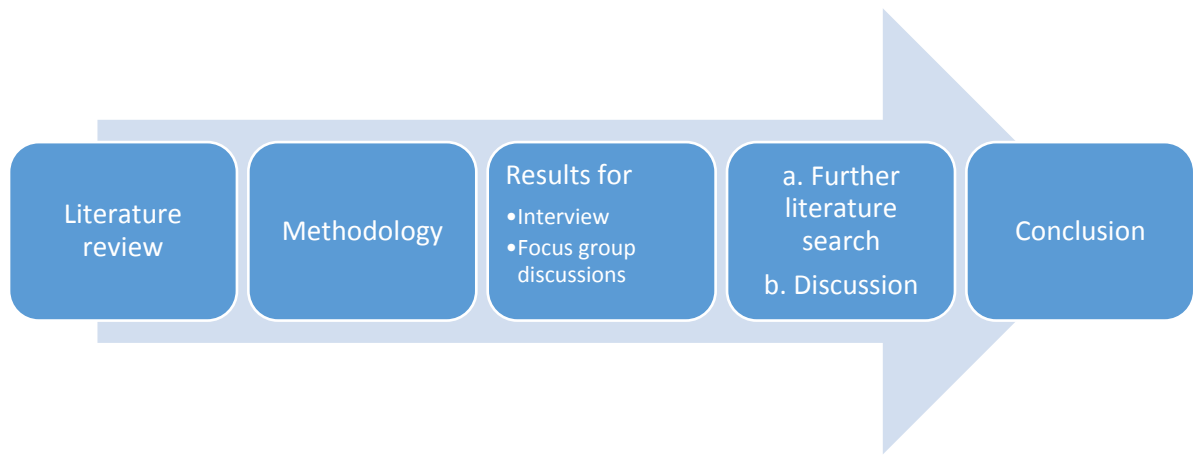


Figure 7. 1 The research process.

7.1.1. Re- introduction of the aims of the current study

According to Silverman (2013), re-introducing the research aims before discussing the findings of the study helps prepare the reader to predict what is primarily expected from the discussion and consequently, helps them examine what aims have been attained. In the light of the initial literature review conducted in Chapter Two, the following are the aims of this study:

- i. To identify and explore the psychosocial variables and external resources (the component of the Theory of Care Seeking Behaviour, see section 3.2.5. for description) related to mammography screening behavioural patterns for asymptomatic women in the state of Lagos, Nigeria.
- ii. To develop recommendations on how to improve women’s attendance in mammography screening in Lagos state, Nigeria.

The following figure (figure 7.2) presents the information gathered from participants on the factors affecting women’s attendance in the mammography screening programme in the state of Lagos through interviews and focus groups, along with their relationship with the constructs of the Theory of Care Seeking Behaviour developed by Lauver (1992). This has been beneficial in exploring the women’s behaviour towards

mammography screening in comparison to other theories (Lawal et al., 2017a)- see chapter three.

In addition, the factors affecting these women can be categorised into two segments - psychosocial factors and external factors. Psychosocial factors refer to the elements within the capacity of the women that can affect their attendance in mammography screening. These factors include the element of fear that women tend to associate with undergoing a mammogram, their knowledge relating to the benefits and risks of mammography screening, their attitudes influenced by cultural beliefs, and the lack of awareness influencing their habits towards attending mammography screening programme. On the contrary, external factors include elements beyond the women's influence affecting their attendance in mammography screening. These factors can either facilitate or impede the women's attendance. External factors are further subdivided into two categories -- professionalism and government responsibilities. Essentially, the level of professionalism of mammography screening units plausibly affects the level of satisfaction of women, which may influence their decision to re-attend or introduce mammography screening to other women. Finally, the government's responsibility to provide mammography screening to women within the state plays a vital role due to the costs associated with a mammogram. The access to mammography units and lack of a structured screening programme are some of the barriers identified in this study and are discussed in detail in the subsequent sections of this chapter.

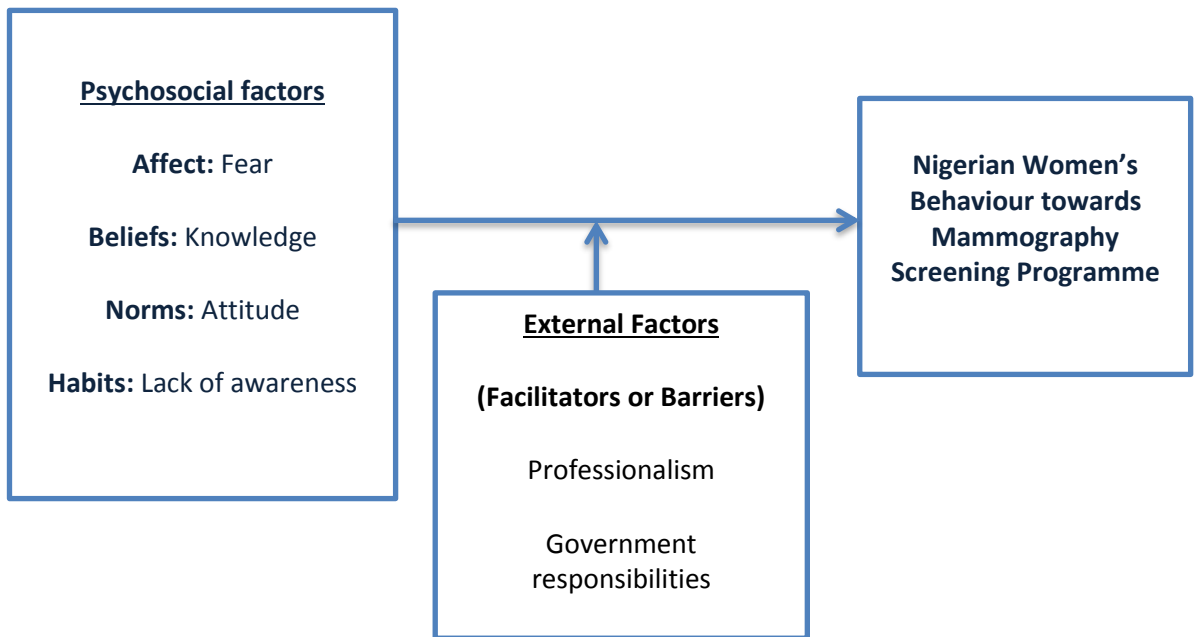


Figure 7. 2 Flow Chart of the factors associated with Nigerian women's behaviour towards mammography screening.

A literature review concerning factors affecting women's attendance in mammography screening programme was initially conducted in Chapter Two and Three. This review reveals a knowledge gap on the factors affecting women's attendance in mammography screening programme in Lagos state, Nigeria (Chapter Three, Section 3.3). Correspondingly, the results chapter indicates that the factors affecting women's attendance in mammography screening programme in Nigeria are linked to the knowledge, attitude and healthcare resources available to the women. This is similar to the findings of some previous studies that have been conducted in Nigeria, but these were not included in the initial review in Chapter Two and Three. After examining these findings, the researcher conducted a comprehensive literature search using keywords distinct from the ones used in the literature review (Chapter Three) in order to better extrapolate on these the findings (the terms Facilitator Or Barrier Or Factors were replaces with Knowledge OR Attitude in the new search). Although, as

some of the studies conducted in Nigeria are not included in the initial search, it has plausibly limited the information gathered from the women. However, this effect was reduced through the use of semi-structured interview guides in the interviews and focus group discussions as the participants were allowed to freely discuss the issues that have not been previously mentioned but are considered critical to their attendance in mammography screening (Holloway & Wheeler, 2013). Additionally, it also helped improve the credibility of the study (Lincoln, 1985), as it indicates that the participants are in control of the outcome of the study and the researcher cannot have used knowledge of literature read before the data collection to influence the findings of the study.

Furthermore, the literature filtration process can be seen in Table 7.1., as searches are carried out on two databases with a large volume of data on health research (de Vet et al., 2008) - Medline and Embase. Furthermore, to avoid excluding relevant papers published in African journals, appropriate keywords were also searched on Google scholar. In fact, as many as 4,009 articles were generated from the initial search using these keywords. Out of these, only 20 full-text articles were shortlisted after filtering irrelevant and duplicate articles. Additionally, four articles were added from the reference list of articles identified from the search. Therefore, 24 articles were generated and reviewed in total, out of which, 23 were cross-sectional survey design, whereas one was a systematic review.

The data extracted from the articles is used to support and explain the findings of this study. Most of this chapter explains the finding of the interviews in Chapter Five along with the focus group discussion in Chapter Six in context with other findings from the peer reviewed evidence and grey literature. It further explores the similarities and

differences existing between them and explains their corresponding reasons. In addition, appendix K shows a description of the factors influencing the provision of mammography service in Nigeria. These factors are grouped into three; factors associated with women’s attitude, norms and the healthcare system in Nigeria. The different elements that are associated with mammography screening in Nigeria will be discussed in depth, with the findings of this study in subsequent sections.

Table 7. 1. Literature filtration process

S/N	Exclusion criteria	Number of articles on database			Total (Articles)
		Google scholar	Medline	Embase	
1.	Keywords: Knowledge OR Attitude AND Practice OR Attendance OR Participation AND Mammography screening OR Mammogram OR Mammography AND Nigeria.	2,480	39	30	2,549
2.	Examined title	42	13	1	56
3.	Examined abstract	30	13	1	44
4.	Duplicates removed	-	-	-	30
5.	Full text available	-	-	-	20

7.1.2. Limitations of the selected literature

Sample characteristics- All the studies evaluating women’s knowledge and practice of breast cancer detection strategies included women who were younger than the eligible age for mammography screening. Akhigbe and Omuemu (2009) considered this

when analysing the data, as it was seen that out of all the women who were eligible (between ages 40- 70 years) for mammography screening, only 3.1% have had a mammogram. However, by not recruiting appropriate participants in this study, there is a possibility that the acquired information might be inaccurate. For instance, women who are in anyway not eligible would not have undergone a mammogram, whereas others may not have heard of the procedure in the first place. In addition, Jedy-Agba et al. (2012b) explored the incidence rate of breast cancer using two population-based cancer registries in Nigeria and asserted that the age group with the highest incidence of breast cancer in Nigeria was 40- 54 years, although a high incidence rate was also noticed among women outside this age group.

Research approach- All the studies used the quantitative research approach for evaluating women's knowledge and practice of breast cancer detection strategies through a closed-ended questionnaire. The major limitation of this approach is that researchers impose their own views (Holloway & Wheeler, 2013) on the basis of evidence and experiences and do not explore women's views on the factors affecting their adherence to regular breast screening. In addition, as this approach focuses on the ratio of effects, the reasons why some women decide not to attend breast screening programme may not be determined (Denzin & Lincoln, 2011). However, the approach taken in this study that gives these women an opportunity to express themselves may be relevant in understanding the barriers and facilitators to breast screening attendance.

Non-uniformity of data collection instrument- The data collection instruments (questionnaires) used in these studies were different, as questions and scales varied from one study to another. Thus, it becomes difficult to compare the findings of these

studies as women's knowledge, attitudes and practices towards breast cancer were distinctly measured. In addition, different questions were asked and varied responses were gauged using a gamut of methods and just one study (Oduşanya & Tayo, 2001) reported that they had used similar validated questionnaires.

Sample size- Most of the included studies stated that they conducted a sample size calculation, but did not categorically demonstrate an understanding of their sampling population. For instance, Akinola et al. (2011) aimed to evaluate the knowledge of women on mammography screening within a state (Lagos state, Nigeria). However, they used outpatient clinic records of a hospital in order to calculate the sample size of the study. Therefore, by not including an adequate proportion of participants in their study, it is evident that the views of certain eligible women on the concerned topic were not captured, even though the findings of such studies cannot be generalised based on the population.

While these studies provide some valuable information, there is a necessity to conduct good quality quantitative studies within this society for exploring the knowledge, attitudes and practices of breast screening amongst women in order to evaluate the proportion of individuals who experience the challenges reported in qualitative studies. Furthermore, future studies must recruit women within the screening age for acquiring appropriate information on the topic.

7.2. Psychosocial factors affecting attendance in mammography screening programme in Lagos State, Nigeria.

Figure 7. 3. shows that lack of awareness concerning mammography screening in the society might result in lack of knowledge on the benefit and risk of having a mammogram and women’s poor attitude towards mammography screening. Consequently, resulting in various forms of fear reported by the participants of the study. These factors will be explored in greater depth below.

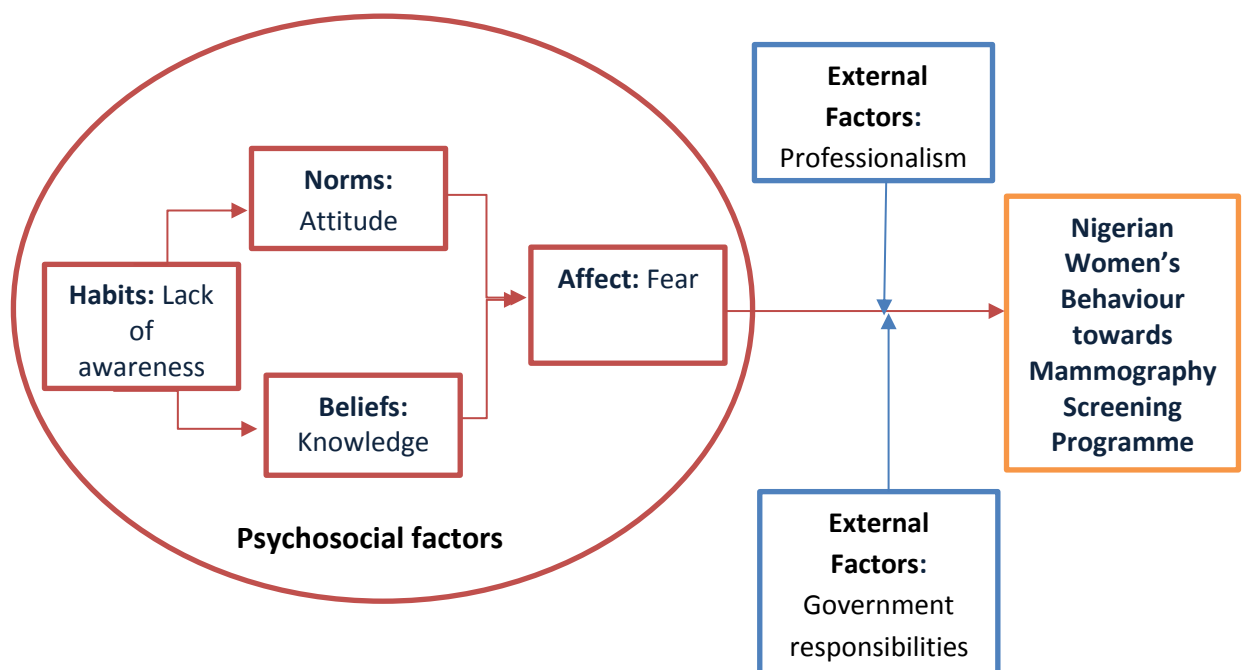


Figure 7. 3. Microscopic view of the psychosocial factors associated with Nigerian women’s behaviour towards mammography screening.

7.2.1. Habits: Lack of awareness

The women and practitioners agreed that the awareness level of breast cancer is high, as they believe most women do know about the disease. They believed that the increase in awareness has resulted in an increase of the detection rate of breast cancer

amongst women, because more women are conscious of the changes taking place in their breast. Similarly, in the literature, the level of awareness of breast cancer amongst women within this population is high, but the level of awareness regarding mammography screening remains low (Olugbenga-Bello et al., 2011; Onwere et al., 2007). However, about 98% of the participants in both studies are less than 40 years old (the minimum age of the women invited for mammography screening). Thus, low awareness levels of mammography screening could be attributed to their low underuse of breast cancer detection strategy, owing to their ineligibility. Bello et al. (2012) reported that the awareness programme provided for women, the close proximity of mammography units, and subsidised rate of mammograms were some of the factors responsible for the high attendance rate at a mammography screening programme organised for women in Osun state, Nigeria. Therefore, it shows that whilst the awareness programme is important towards improving attendance other factors needs to be considered as well. While their findings cannot be generalised based on the entire population because of their small sample size, lack of awareness could be a factor affecting the women's attendance or adherence to mammography screening in Nigeria. Consequently, more evidence is required in order to understand the reasons for the indirect association between women's awareness pertaining to breast cancer and mammography screening programmes involving eligible women.

The women believed that ill-defined knowledge on breast cancer within this society could be a reason for inadequate knowledge about mammography screening.

However, this could also be attributed to the individuals who possess less knowledge about breast cancer and its detection at the breast screening awareness programmes, as mentioned by the participants. In a study, Akhigbe and Omuemu (2009) said while

evaluating the knowledge of health workers associated with a tertiary healthcare centre that only 23.7% of its participants had a good amount of knowledge about the importance of mammography screening. Therefore, the use of trained health professionals in mammography and breast cancer detection might be relevant in improving the awareness level of mammography screening awareness among women, which may lead to better attendance of women. Furthermore, the women and mammography practitioners blamed the government for not paying enough attention to breast cancer detection as compared to other diseases (such as Ebola and HIV) which they believe have a similar morbidity and mortality rate. The women recommended that the awareness of mammography screening could be improved using two strategies:

- i. Deploy an awareness programme that is sensitive to the socio economic differences of the women, as they believe that illiterate women have little access to the seminars that promote mammography screening.
- ii. Introduce lessons on breast cancer and the importance of early detection in the Physical and Health Education subject of secondary school students. Thus, this might help them become more vigilant as they grow older and provide some kind of a ripple effect in sharing this information with families and friends.

Furthermore, the women reported that their source of information concerning mammography screenings was from health promotion programmes, word of mouth from friends and family, media and social media platforms. These sources of information are explored further in the next sections.

7.2.1.1. Health Promotion

The women and the practitioners believe that women within rural settlements might not have access to media as much as the women living the urban settlement in the state; therefore, this route of information might not be appropriate for the women. In a study (Olowokere et al., 2012) conducted in a rural settlement, the women said that the primary source of information concerning mammography screening was in the form of health workers, while another study (Akinola et al., 2011) conducted with women residing in an urban settlement mentioned that television was the major source of information. This shows that the geographical settlement of the women might determine the most appropriate method for providing information about mammography screening. In addition, the level of education of the women might influence their source of information, as Obajimi et al. (2011) showed that most women obtained the information relating to cancer from print media, such as newspapers and magazines, and 80% of the participants in this study were well educated. Therefore, it is recommended that the individuals responsible for mammography screening awareness focus on the appropriate media to reach the women with respect to their settlements instead of believing that one system fits all.

The women in these focus groups and the practitioners mentioned that they mostly hear about mammography screening at seminars, public lectures, and training programmes. However, most of these health promotional programmes occur during the breast cancer awareness week, and after this particular period, little or nothing is heard about breast cancer screening all-round the year.

However, the two groups (the women in the focus groups and mammography practitioners interviewed) are of the opinion that this awareness needs to be

widespread and ongoing for women to help them understand the importance of early detection of breast cancer. In addition, only women reported having a mammogram after she had been educated on breast cancer detection and mammography screening. Most of the women reported that they were only offered clinical breast examination after the training exercise. The poor promotion of mammography screening at the breast cancer awareness programmes could be a result of two problems. Firstly, as discussed earlier, the lack of involvement of mammography practitioners in the awareness programme might be responsible for the low participation of women to use mammography screening, as individuals who do not possess sufficient knowledge about the benefits of mammography screening might be the lecturers at these training programmes. However, practitioners reported that they are actively involved in educating their friends and families about the benefits of getting a mammogram done. In addition, a practitioner mentioned that she was a member of a non-governmental organisation that visits rural settlements in order to educate women about the benefits of mammography screening. She pointed out that the cost of operating these programmes is generated from donations made by her as well as other members of the organisation, due to the lack of funding.

Secondly, leaflets are another important source of information for most women who are invited to attend mammography screenings in developed countries (Gummersbach et al., 2010). However, the practitioners interviewed mentioned that no leaflets are available at the government hospitals for women to read before or whilst they attend their mammography procedure. Similarly, the women in these focus groups mentioned that no leaflets were issued during their training programmes except for one participant that reported collecting a leaflet at a health promotional programme that

she attended. The importance of sharing leaflets at the training programmes is that information regarding mammography screening would be available for women to read at their convenience (Jorgensen & Gotzsche, 2006). Interestingly, practitioners mentioned that the private screening programme within the state shares leaflets that are very informative, as they have information on the signs and symptoms of breast cancer along with the benefits of conducting a mammogram.

7.2.1.2. Enlightening women

The source of information is a vital aspect to an effective screening programme, as the information needs to reach all eligible women, regardless of their socio-demographic differences. Word of mouth from friends, community elders and neighbours and television advert appears to be the major source of information on breast cancer, whereas radio adverts, newspapers, magazines, health workers and leaflets are minor sources of information, as reported by the Nigerian women in the literature (Akhigbe & Omuemu, 2009; Kayode et al., 2005). According to the women in these focus groups, the source of information regarding mammography screening include word of mouth from friends, relatives and neighbours, television, newspaper and magazines adverts, and the internet through social media forums. However, it can be seen from the discussion with these women that two factors positively affect these enlightening programmes. Misinformation on the use of mammography screening during the early detection of breast cancer appears to be a common problem reported by the women in these groups. They mentioned that these adverts encourage women to continually practice breast self-examinations on their breasts, and attend mammography screening as soon as they notice some symptoms. However, this is considered as

misinformation because some women who have experienced symptoms of breast cancer are classed as symptomatic patients and the care pathway for this group is different from asymptomatic women who are encouraged to attend mammography screening (World Health Organisation, 2014). Women need to understand the limitations and benefits of early detection strategies of breast cancer, as there might be some of them who might be willing to cover the cost of screening because of their knowledge about the benefits of mammography screening (Elkin et al., 2017). However, during the focus group discussion, women who had reportedly been associated with medical practitioners demonstrated good understanding about the benefits of attending mammography screening. Similarly, the practitioners mentioned that they encourage women around them to attend mammography screening by educating them on the benefits of screening. This indicates that proper education from individuals who have a good understanding of mammography screening benefits might improve the level of awareness among women.

The women in these groups reported that the adverts they had seen on mammography screening were disturbing, by showing women with massive breast tumours; therefore, this discourages them from attending mammography screening. According to Lewis et al. (2007), these shock tactics are useful in attracting attention, but they rarely contribute to behavioural change. This might explain the reason for good knowledge on breast cancer, but less practice of the early detection strategy amongst the women, as discussed in section 2.2. In the case of these women, the adverts affected their willingness to attend mammography screening negatively by increasing the element of fear, which was reported as a significant factor that might affect their attendance in mammography screenings. However, it might be useful for

women to know the subtle symptoms of breast cancer, to educate them better and allay their fears. Furthermore, the examples of individuals who survived breast cancer should be used in adverts in order to encourage women to attend mammography screenings.

Studies that evaluated the level of knowledge about women on breast cancer signs show that 65% - 91% of their participants appeared to have adequate level of knowledge (Azubuike & Okwuokei, 2013; Odusanya & Tayo, 2001; Oluwatosin & Oladapo, 2006; Salaudeen et al., 2009). However, this huge difference between the upper and lower limit of range of women who could identify the symptoms of breast cancer could be attributed to the inconsistencies of data collection instruments used by the authors of the studies. Generally, all studies highlight that the women's knowledge on the risk factors of breast cancer was below average (Azubuike & Okwuokei, 2013; Ibrahim & Odusanya, 2009; Odusanya, 2001; Olowokere et al., 2012). Logically, one would expect that professional health workers would have the ability to educate women on breast cancer, but this was not the case as a study that used a sample containing medical practitioners reported that 13% of the participants could not identify any breast cancer risk factors (Ibrahim & Odusanya, 2009). Interestingly, demographic factors such as age and levels of education was not associated with the women's knowledge on breast cancer symptoms and the accompanying risk factors (Odusanya & Tayo, 2001; Olowokere et al., 2012). However, low quality of the awareness programmes organised by the government on breast cancer and screening might be responsible for the poor knowledge exhibited by the women on breast cancer risk factors.

In addition, the women in the focus groups reported that information on social media, newspapers and magazines might only be accessible to women with white collar jobs in the society. Similarly, Kayode et al. (2005) explained that women were interested in informing other women about breast cancer when they are confident about the knowledge they possess. Therefore, an awareness programme suitable for women with various levels of education might be useful in improving the rate of attendance within this society.

7.2.2. Norms: Attitude

This section explores the views of the women and practitioners regarding what they believe the society or the surrounding people think about mammography screening. Therefore, the study describes attitude as a reflection of the women's beliefs that have originated from their societal theories. Several studies have indicated that these factors can significantly affect women's attendance in mammography screening programmes (Al-Amoudi et al., 2015; Al Dasoqi et al., 2013; Baron-Epel et al., 2004). According to Lawal et al. (2017a), the construct assumes that women are more likely to adopt a health behaviour, such as mammography screening if they perceive that it is socially acceptable and vice versa. This section is further segregated into three sections - the women's attitude towards breast cancer, attitude towards the gender of the practitioners and the culture of non-disclosure of problems.

7.2.2.1. Attitude towards breast cancer

The practitioners reported that they believe that the women in Lagos state are aware that breast cancer is a medical ailment, but when they encounter other women with the disease or hear about it, they appear nervous (the different types of anxiety

associated with mammography screening are further discussed in the next section). Similarly, some of the women reported that individuals within this society are stigmatised when they are diagnosed with breast cancer, as they perceive that the disease is contagious. Also, studies conducted with middle Eastern women (Arabian, Jordanian, Iranian, and Palestine) reported that stigmatisation was one of the barriers reported for inadequate attendance in mammography screening (Al Dasoqi et al., 2013; Baron-Epel et al., 2004; Bener et al., 2002; Kavar, 2013; Khazaei-Pool et al., 2014). However, this stigmatisation might be because of the lack of awareness on the benefits and risk of mammography screening and existing breast cancer amongst women within these cultures.

Furthermore, the participants stated that because of the fear of stigmatisation, the women with breast cancer symptoms may not report at the hospital for early treatment and may choose to trust God or use wonder drugs (this would be explored further later in the study). Consequently, in Nigeria, this might be a reason for the late presentation of women at the hospital even when they experience breast cancer symptoms; evidence and the study participants indicate that majority of breast cancer cases are detected at the late stage of the disease (Jedy-Agba et al., 2012b). In addition, some of these women believe it is not modest to expose their breast to other people (including female practitioners) and therefore, they decide not to attend mammography screening. The practitioners also mentioned the cultural issue, which indicates that the practitioners comprehend its existence amongst the women. It was mentioned that women are provided with gowns to wear during the mammography examination. To support this as a good practice, one of the women mentioned that while having a mammogram, she was given a gown to cover her breasts and this

protected her dignity. Although the mammography practitioners and the other individuals responsible for mammography screening programme may have scientific knowledge about mammography screening, it is recommended that this programme should consider using the testimonies of women who have had a mammogram, as some cultural issues might be overlooked and could only be addressed by these explanations of women's experience.

7.2.2.2. Attitude towards the gender of the practitioner

Some of the women and the practitioners agreed that the gender of the practitioner (male) might discourage women from attending mammography screening. Hence, the practitioners report that they reassure the women from the moment they arrive at the mammography unit that only a female practitioner would attend to them. Similarly, Salaudeen et al. (2009) examined women's practice of breast screening procedures, such as self-breast examination and clinical breast examination and indicated that a reason for the women's non-adherence to practicing clinical breast examination is their unwillingness to be examined by a male physician. However, due to the research approach used in the study - quantitative research design - the factors associated with this response were not explained. Both the women and the mammography practitioners reported that the religious background of the women might influence their decision to expose their breast, and most of the Muslim women reported that their religion does not permit them to expose their breasts to any other man except their husbands. In addition, they reported that their husband would also not permit them to go for mammography examination done by a male practitioner due to the element of possessiveness.

Although, on the contrary, some of the women reported that they are not bothered about the gender of the practitioner as they have previously been for diagnostic tests or treatments (such as childbirth) that necessitates that they expose their sensitive parts to male medical practitioners. Furthermore, they believe that the male professionals will treat them properly, as they are guided by a professional code of conduct. However, having a female practitioner attend to the women when they come for a mammogram eases their fears and as a result of the comfort experienced, vital information that could be of diagnostic importance are divulged by the women during the procedure. However, due to the low workforce in healthcare services within this society, the use of male practitioners in breast screening is inevitable. This challenge is similar to what is obtainable in the Australian breast screening programme, and due to the shortage of female mammography practitioners available to conduct the mammography procedure for women, male practitioners are trained to conduct the examination. Although the cultural background of the Australian women might be different from the Nigerian women their reports concerning the use of male practitioners in mammography screening is similar, as a study reported that 90% (n= 146) of the women that participated in the study might not be bothered about the gender of the practitioner and 9% of the women reported that it would discourage them from having a mammogram (Warren-Forward et al., 2017). Therefore, individuals responsible might continue to train more male practitioners in conducting mammography screening, but should endeavour to use female practitioners especially in regions within the state that are highly populated by Muslim women in order to encourage their attendance.

7.2.2.3. Culture of non-disclosure of problem/ Belief in God/ Wonder drugs

This section examines the issues pertaining to the women's cultural beliefs towards the use of mammography screening for the early detection of breast cancer. It further explores the concerns like women's cultural inclinations for non-disclosure of problems, belief in God and the use of wonder drugs to cure breast cancer.

According to the practitioners interviewed, women within this society are usually intrinsically shy and do not want other people to know of their problems. This culture of shyness can be attributed to their fear of stigmatisation and social exclusion associated with the notion of suffering from breast cancer. Although this is not seen as a problem amongst women in developed countries, evidence has indicated that women in Arab countries reported being shy of sharing their problems with other women because of the fear of being stigmatised (Baron-Epel et al., 2004). The fear of stigmatisation, as discussed earlier, can be reduced by improving the public's awareness of the breast cancer and the importance of early detection. However, this issue of non-disclosure was not indicated by the women in the focus group, which can be logically expected as they might not be able to identify this as a problem. Hence, exploring the views of the practitioners benefits the study to further understand the problems affecting women.

In addition, the women believe that God shall heal them of breast cancer as they have heard of rumours within their community that a few women who suffered from breast cancer were cured through prayers. It can be assumed that what the women believed to be the magical disappearance of breast cancer may, in fact, be a false positive diagnosis of breast cancer. Due to the lack of understanding of the care pathway for women with positive diagnosis on mammography screening, the women believe that

the breast cancer has disappeared when they then go for further examination of the breast to confirm the diagnosis. Similarly, past research (Okobia et al., 2006; Olowokere et al., 2012; Olugbenga-Bello et al., 2011) conducted amongst women with the same cultural backgrounds and the one conducted with Arab women (Baron-Epel et al., 2004) also reported that the women participants in their studies believed that breast cancer is a result of evil attack, a test of their faith or their destiny from God. In addition, one of the women in the focus group mentioned that within this society, women might choose to go to religious places for prayers on being diagnosed with breast cancer due to the effects of the conventional breast cancer treatment, such as mastectomy and hair loss. Usually, proper education on the benefits and risk (especially on the false positive results) of mammography screening, which has been repetitively recommended in this chapter, would help the women address their misconceptions.

Furthermore, a participant mentioned that a wonder drug, known as GNLD - a food supplement, was effective in the treatment of breast cancer and hypertension, as informed by a pharmaceutical agent that advertised the product to her. Hence, it is vital that the government pays more attention for providing useful information on breast cancer, as these pharmaceutical agents often take advantage of the ignorance for their personal gains.

7.2.3. Beliefs: Knowledge

Belief is a construct in the theory of care seeking behaviour concerning the women's perception of the outcome of participating in mammography screening programmes and the importance associated with these outcomes (Lauver et al., 1997). For instance, if a woman believes the benefits of a mammogram outweighs the risks; it is more likely for her to have a mammogram compared to when she does not have a proper understanding of the importance of having a mammogram. Logically, this factor emphasises the need for proper education on the benefits and risks of having a mammogram, as incorrect or incomplete knowledge might affect the women's participation in mammography screening. African women who believe they are less susceptible to developing breast cancer due to the lower incidence of breast cancer amongst them compared to white women (Fregene & Newman, 2005) would need to understand the benefits and risks of conducting a mammogram for their ethnic group.

Most of the studies on breast cancer screening in Nigeria focused on evaluating the women's attitude towards the practice of self-examination and clinical breast examination and paying less attention to the importance of screening. Their justification for this might be because of the low availability of mammography units within the society, which in turn could be due to the location where this study was conducted (Olugbenga-Bello et al., 2011) and the studies that focused mainly on mammography screening attendance were conducted in urban communities where mammography units could have been relatively more available (Akinola et al., 2011; Obajimi et al., 2013). However, these studies do not ascertain whether the lack of availability of mammography units might impede the women's adherence to mammography screening.

Self-breast examination appeared to be the most common breast cancer detection strategy practiced by women within this society who had already done it before; therefore, they are similar to the findings in the other studies conducted in different parts of Nigeria (Ibrahim & Odusanya, 2009; Kayode et al., 2005; Odusanya & Tayo, 2001; Olowokere et al., 2012; Oluwatosin, 2010). However, Oluwatosin and Oladapo (2006) reported that 89% of their study participants have never done a self-examination. This could be attributed to the fact that women were rural settlers and breast-screening education was not readily available there, although the timing of this data collection was not currently available as the results might not have been recent; thus, the findings might not reflect the existing scenario.

In contrast to the common practice of breast self-examination amongst women, clinical breast examination practice was reported to be low, with studies mentioning that 2% - 25% of the women mentioned that they have had the procedure done before (Ibrahim & Odusanya, 2009; Oluwatosin, 2010; Oluwatosin & Oladapo, 2006; Onwere et al., 2007). According to Ibrahim and Odusanya (2009), the factors responsible for inadequate deployment of this procedure include the beliefs that there was no cure for breast cancer, and the notion that the procedure is painful with associated feelings of embarrassment. However, lack of adequate knowledge of the procedure was said to be the overarching factor responsible for less usage of this procedure in the studies. Azubuike and Okwuokei (2013) and Odusanya and Tayo (2001) asserted that the women's knowledge about breast cancer symptoms and the method of diagnosis is strongly associated with their engagement with breast cancer screening. Thus, improving the women's knowledge through awareness programmes might improve women's breast screening practice. This category explores the knowledge of the

women and practitioners on the benefits and risk of mammography screening, as adequate knowledge might lower the women's anxiety towards breast cancer and mammography screening. In addition, it might help address some of the misinformation and concerns relating to the procedure. Consequently, better knowledge of the benefits as well as risks of mammography screening might improve the women's attendance in mammography screening; thus, reducing the mortality rate of women due to breast cancer.

7.2.3.1. Benefits of mammography screening

Only seven of the 65 women who had participated in the focus group discussions reported that they have had a mammogram done before (see table 5.1. in the results chapter). This suggests that the usage of mammography screening in Nigeria might be low amongst eligible women. Mammography screening was underutilised by women in this society, and some women mentioned that they had not done it before although they had heard about it (Obajimi et al., 2013; Odusanya, 2001; Okobia et al., 2006). In the study done by Akhigbe and Omuemu (2009), only 3.1% of the women eligible for mammography screening (that is, average risk women and between the age 40- 70 years) reported that they had undergone a mammogram. Similarly, a small proportion of women (4.8%) in Akinola et al. (2011) reported that they previously had a mammogram. However, over half of the women recruited in this study (Akinola et al., 2011) are below 40 years old. In addition, 20% of the women are high-risk women, as they have a family history of breast cancer and were considered to be more susceptible to breast cancer. Thus, the findings might not accurately reflect the mammography screening practice of women within this population, as the recommendations for screening are different for eligible women as compared to high risk women and women who were younger than 40 years. Thus, the findings suggest

that a very small proportion of women have had a mammogram done within this society; therefore, understanding the factors responsible for poor mammography screening habits of women is important to reduce the mortality rate of women.

The women and practitioners identified that early breast cancer can be detected with mammography screening in the absence of symptoms, thereby increasing the prognostic value of treatment. In addition, they believed that mammography screening might reduce the mortality rates of women due to breast cancer and safeguard them from going through the stress of later stage breast cancer, although they mentioned that illiterate women within the society might not know about this benefit of having a mammogram. The opinions of these women are similar to the benefits of mammography screening as reported by a systematic review (Armstrong et al., 2007). However, due to the mixture of educated and uneducated women in the focus groups women's individual knowledge of the benefits of mammography screening could not be examined (see table 5.1 for the sociodemographic characteristic of the women). Interestingly, several studies point out that there is a statistically significant association between the women's level of education and mammography screening practice (Akinola et al., 2011; Okobia et al., 2006; Olowokere et al., 2012). Thus, women with a higher education background are three times more aware about the benefits of having a mammogram than those with lower levels of education. However, a high proportion (77.1%) of women with tertiary levels of education knew about mammography screening and only 4% have had a mammogram done before (Akinola et al., 2011; Ibrahim & Odusanya, 2009; Obajimi et al., 2013). In Akinola et al. (2011), 83% of these women believed mammography screening was a type of breast cancer treatment, or a diagnostic procedure for treating women with

breast cancer symptoms. In addition, only 7.6% of these study's participants knew the side effects of a mammogram- ionizing radiation risk of developing breast cancer and the accompanying discomfort owing to the compression applied to the breast during the procedure. This explains why a high awareness level of mammography screening does not yield a high screening rate in this group of women. Whilst the quantitative studies conducted in Nigeria were able to discuss the percentages and proportion of women, they could not explore the reasons for their results; thus the uniqueness of this study. A proper awareness programme that would educate both women with high and low levels of education on the benefits and risks of a mammogram is essential in improving the women's attendance.

However, a few women in the focus group mentioned they were unaware that breast cancer can be treated even when it is detected early. In addition, they agree that the low awareness levels about the benefits of mammography screening might be responsible for the low attendance rates in mammography screening. Similarly, studies conducted on women with a high educational background show that most of them believe that breast cancer cannot be cured (Odusanya, 2001; Okobia et al., 2006); a study conducted with tertiary healthcare workers noted that 65% (n= 207) participants believed that breast cancer can be cured with herbal or alternative medicine as well as prayers (Ibrahim & Odusanya, 2009). Surprisingly, women with tertiary levels of education but not from a healthcare background (91.6%) opined that breast cancer can be cured if detected early (Azubuike & Okwuokei, 2013). Thus, these studies show that Nigerian women have a moderate knowledge of breast cancer and their levels of education might not be an indicator about their knowledge. However,

there appears to be a poor understanding of the fact that early breast cancer can be treated medically amongst women of various levels of education.

Mammography practitioners reported that they encourage women to examine their breast to detect the symptoms of breast cancer between their mammography screening visits, in order to boost the chances of early detection. They also encourage women to adopt the habit of screening regularly, as consecutive negative results are not an indicator that breast cancer cannot be detected in the future. They recommended that physicians should inform eligible women who attend their clinic about the benefits mammography screening. Thus, the government must educate doctors within the state on the importance of early mammography screening to boost general public awareness.

Both the women and the practitioners mentioned that they understand the criteria for eligibility in mammography screening. These are women without any symptoms and family history of breast cancer and are within the age of 40- 70 years. Furthermore, they gave evidence that women should attend mammography screenings once in every two to three years. However, one of the women in the groups mentioned that she believes it should be once in every five years. Irregularities in the information provided to the women regarding mammography screening might be the reason for the difference in opinion on the frequency of mammography screening. However, this might affect women's attendance in mammography screening programme across the state. A woman once reported reading a publication that informed her that the reason why women should have a mammogram once every two years is because of the ionising radiation effect of x-ray, which can cause cancer itself. The reports from

mammography practitioners agree with this as they believe that the interval of mammography screening was to minimise the risk of mammography screening.

7.2.3.2. Risk of mammography screening

According to Armstrong et al. (2007) and Mandelblatt et al. (2009), the risk associated with mammography screening are ionizing radiation risk, false positive results and over-diagnosis, although, the benefits of early detection of breast cancer outweighs these risks. However, only three out of the five practitioners mentioned that they are not aware of the risk associated with mammography screening. Similarly, most women in the focus groups believe that mammography screening does not pose any risk to women. The other participants reported that there are two kinds of risks associated with mammography screening- psychological effect of false positive diagnosis and radiation induced cancer. The ionising radiation effect on women was the most common risk that the participants that could identify. They explained that the mammography screening has the ability to trigger the development of breast cancer due to the ionising radiation it uses. However, a practitioner convincingly mentioned that she believes the benefit of early detection of breast cancer presented by mammography screening outweighs the ionizing radiation risks as the procedure has the ability to detect early breast cancer arising out of radiation exposure. Therefore, she shared this information with women to encourage them to attend mammography screening.

Surprisingly, only the women in the focus groups mentioned that an increase in false positive results might pose a risk to getting a mammogram. Although this is an inherent risk associated with mammography screening, the high level of false positive

results within this population might be associated with the low age of women recruited for mammography screening in Nigeria. Evidence shows that the range of false positive result amongst women between the age of 40-49 years that attend mammography screening might increase by 20%-56% (Armstrong et al., 2007). In addition, some of the women believe this is because of the low level of training on mammography. Furthermore, some women believe a false positive result is an act of God's healing power- this would be explored in greater depth in the later part of this chapter. Therefore, as a result of their knowledge on false positive results, they did not attend the mammography screening, although evidence shows that these false positive results have little effect on the subsequent adherence of women to attending regular mammography screening (Armstrong et al., 2007). This difference in behaviour between the women in the focus group and findings in research might be due to the difference in the population used in the studies, as systematic study used randomised control trials that had been conducted in developed countries such as USA. However, there is need for mammography practitioners to inform women about the risks of mammography screening as this information would address some of myths associated with this encourage them to make an informed choice to attend mammography screening. In addition, proper staff training and regular quality assurance programmes would improve the screening standard as well; therefore, improving the women's confidence in the effectiveness of this screening programme.

7.2.4. Affect: Fear

This section explores the participants' view on the feelings of women associated with mammography screening. Fear was reported to be a major factor affecting their interest in attending mammography screening programme. Although evidence indicates that this fear can motivate women to get tested and know their status (Lee & Vang, 2010), it can also discourage them from wanting to know if they have the disease or not (Al Dasoqi et al., 2013; Baron-Epel et al., 2004). According to Obajimi et al. (2013), women, who were aware of the benefits of mammography screening appeared to be less worried about breast cancer diagnosis. Therefore, educating women within this society on the benefits of mammography screening in the early detection of breast cancer might help reduce their fears towards mammography screening. The different types of fears that are identified from the interview and focus group discussion analysis are segregated into three categories - the fear of the outcome, fear of death and fear of the effect of breast compression. These categories are further explored in the subsequent sections.

7.2.4.1. Fear of outcome

Both the women and the practitioners reported that the fear of getting a positive diagnosis is a common fear experienced by women undergoing a mammography within this society. It was indicated that this fear discourages them from attending mammography screening programme. Furthermore, on attending, if they are told to return for further tests because of the inconclusive nature of their initial mammogram, they become more nervous and believe that there is a greater chance of getting a positive diagnosis. In a study conducted by Salaudeen et al. (2009), a similar majority of the women reported of being frightened by breast cancer diagnosis. However, the closed-ended questionnaires used in the study (Salaudeen et al., 2009) did not provide

the author the opportunity to explore the reasons responsible for this issue. The participants in this study reported that reasons for this anxiety are the psychological impact of having breast cancer and associated stigmatisation and social exclusion. The women reported that due to this psychological effect they continuously worry about the future. In addition, not being available to take care of their children results in the development of stress and distracts them from their normal day-to-day activities, which, in turn may result in their rapid death.

In addition, the practitioners mentioned that after undergoing the mammogram, the women often ask the practitioners for the outcome, and are informed that they are not proficient in providing an interpretation and only a Radiologist would be able to discuss the results later. However, they endeavour to alleviate the women's fear by telling them about the importance of early detection and the different treatments they can adopt if they are diagnosed with breast cancer. In addition, the practitioners indicate that they encourage women and inform them if they are likely to have breast cancer by examining their mammogram for pathologies that they are familiar with due to their experience. Furthermore, a practitioner stated that women are more confident about the procedure when their friends and relatives, who have had undergone a mammogram inform them of their experience. Interestingly, two women who have had a mammogram mentioned that there is nothing to be scared about as early detection of breast cancer improves their prognosis. However, both the women and the practitioners were able to associate this challenge of fear of positive outcome with the lack of understanding of the benefits of mammography screening in the early detection of breast cancer. It is believed that if the society is well informed, the issue of stigmatisation or social exclusion would not exist.

Moreover, the practitioners reported that women within this society are worried about the effect of treatment (like mastectomy) on their lives and how the people around them would perceive them. They feared that mastectomy would make them be sexually unattractive to their spouses. Although the women in any of the focus groups did not raise this issue, it might be an important problem. Due to the gender difference of the moderator at the focus groups, participants were very sensitive to issues like sexual attractiveness, and hence, it was difficult for the women to express during the meeting. However, gender difference might not be a barrier at the interviews with the mammography practitioners as they see the moderator as professionally equivalent to them. This barrier is further explored in the latter part of this chapter.

7.2.4.2. Fear of death

The women and the mammography practitioners reported that some women within this society believe that breast cancer diagnosis will always lead to death, as there is no cure for the disease. Similarly, women in various studies (Olowokere et al., 2012; Olugbenga-Bello et al., 2011; Oluwatosin & Oladapo, 2006) conducted in Nigeria also indicated that as breast cancer does not have a cure, its diagnosis will ultimately cause death. This fear of death appeared to be a barrier towards their willingness to undergo a mammogram as they are unable to recognise the benefit of an early diagnosis. This fear of death is, hence, an outcome of what they have heard or seen about their friends or relatives who might have died due to breast cancer. However, they fail to realise that these friends or relatives may not have presented early at the hospital for diagnosis and the treatment, which might have made it very challenging to treat the disease at a later stage. In addition, the mammography practitioner believes that this fear of death might be beneficial as the relatives of women who died of breast cancer

may be willing to know more about the diagnostic and treatment methods for the disease and in the process, may get their breast examined for breast cancer.

As the fear of death reported by the participants can be attributed to the lack of awareness programme available for eligible women within this society, there is a great need for mass education on the benefits of early detection in the management of the disease. Furthermore, as mentioned earlier, it might be beneficial that the individuals responsible for mammography screening in the Lagos state consider employing women who have survived the disease because of early detection of breast cancer. This may help inculcate more confidence that the disease can be successfully treated when detected early.

7.2.4.3. Fear of effects of compression

The practitioners and the women agreed that mammography procedure is painful because of the compressional paddle pressing the breast against the detector plate. However, it was also mentioned that the benefit of having the mammogram outweighs the pain experienced during the procedure. This fear is attributed to what women have heard about mammography screening from their friends or relatives, who have undergone the procedure in the past. However, the practitioners stated that they address these concerns as soon as the women arrive at the mammography screening unit by explaining that the pain is not severe and that they should instead focus on the importance of early detection of breast cancer that mammography screening offers.

A participant reported that women are bothered about the effect of breast compression during the mammography procedure, as they believe that their breast will lose its shape and form (breast ptosis) after being compressed during the mammography procedure. Evidently, this is not a desirable effect, as they fear that,

consequently, their spouses might not find them attractive. Although no evidence has shown that the breast compression during the mammography procedure might result in breast ptosis, it can be logically assumed that women with breast implants might experience some effect of breast compression if the compression force is greater than what the implant's material can withstand.

7.3. External factors affecting attendance in mammography screening programme in Lagos State, Nigeria

7.3.1. External factors: Professionalism

External factors refer to the elements affecting women's attendance in mammography screening that are beyond the control of women. These factors act either as barriers or facilitators towards women's attendance in mammography screening programme (Lauver, 1992; Lauver et al., 2003a). For instance, women in the focus group and practitioners reported some of these factors, categorised as mammography staff professionalism and government's responsibilities.

Although over half of the sample in a study conducted on German women (Klug et al., 2005) included participants below the eligible age of attending mammography screening (i.e. women less than 50 years of age), the level of satisfaction with previous mammography examination significantly influenced their decision to attend screening programmes in future. Thus, either external factors act as a barrier or a facilitator towards women's attendance in mammography screening depending upon the way the service is delivered to the women. Moreover, these factors are considered to be beyond the women's ability to influence. The participating women's experience of the professionalism level amongst the mammography staff and elements of

professionalism that emerge during the interviews with the practitioners are explored and discussed below. They are further categorised under the following themes - good service, communication and lack of confidence in the staff.

7.3.1.1. Good service

According to the reports of women who have undergone a mammogram and mammography practitioners, the services offered at the mammography units seem to be of good standard. The elements that determine their satisfaction level include the time taken to do the mammogram, quality of staff communication (explored in greater depth in the subsequent section) and the duration taken to evaluate their results. All the participants that have undergone a mammogram indicated that they were satisfied with the duration of the mammography procedure as it was swift. However, the time taken to issue the results varied; while some reported that they received their result immediately after their mammogram, others stated that it took nearly a week to get the results. However, it was not reported how this delay affected their perceptions. Therefore, it can only be assumed that the women who immediately got their results after the mammography procedure are likely to be more satisfied in comparison to the group that got their results a week later. This is probably because these women reported a higher level of anxiety towards undergoing a mammogram; this factor is explained in greater depth earlier in this chapter. Correspondingly, a study (Dolan et al., 2001) evaluating women satisfaction with mammography screening service in the USA reported that women were dissatisfied with mammography screening service as they were required to wait for two weeks before they could know their results and this led to a heightened level of anxiety. In other words, swiftly presenting women with the results of their mammography procedure reduces the waiting time to know the status and consequently, reduces the anxiety. The mammography practitioners stated that

ideally, it takes a week before women are given their reports when they visit the government mammography units.

A practitioner further added that some women are not excessively concerned about their results after undergoing their mammogram and often, do not return to get their reports. However, in a few cases, such women are diagnosed with breast cancer. This may be a consequence of the women's anxiety towards not wanting to know their outcome because of the extended duration for getting the results. On the contrary, a practitioner working in a hospital that has collaborated with a private organisation to provide mammography screening to women revealed that results are immediately issued after mammography examination at their centre. This variation in the result duration is possibly associated with the available funding, which is considerably lower at the government hospital in comparison to the hospital collaborating with a private organisation. Therefore, efforts should be taken by individuals responsible for the mammography screening programme to encourage more such associations and collaborations with private organisations.

According to the mammography practitioners in order to provide high-quality service, two good quality mammograms are undertaken for each breast in the craniocaudal and mediolateral oblique projections. Precautions are taken to avoid repeating the mammograms and ensure that the patient dose is minimal. The dual projections of the breast are reported to have high ability in detecting breast cancer as compared to a single breast projection (Van Breest Smallenburg et al., 2012), and are recommended for mammography screening in the USA, Canada, Australia and the UK (Lawal et al., 2015). Therefore, this worthy practice must be encouraged amongst the

mammography practitioners to ensure that the optimal mammography experience can be provided to patients.

The practitioners indicated that women are provided with gowns to cover parts of their body that are not being examined in order to promote dignity during the mammography procedure. This is done because it is believed that patients may feel embarrassed to expose their entire bodies. Correspondingly, women also stated whilst sharing their mammography experience that they felt their dignity was protected by the given gowns. Carrasquillo and Pati (2004) provided evidence that an element of mammography screening service that determines satisfaction level is the belief that they were addressed with respect and dignity during the procedure. Evidently, this suggests that mammography practitioners are sensitive to the needs of women within this society probably from experience, and hence, all practitioners should be encouraged to provide the patients with gowns during the procedure. This is because women who have had good mammography experience are more likely re-attend and encourage other women to attend mammography screening (Hogg et al., 2015).

Nevertheless, some women believe that only private hospitals provide high-quality service, even though they may produce a high number of false positive results. These women perceive that the reason for the high proportion of false positives is that they try to maximise profit by employing staff that is not well trained in mammography procedure. Consequently, patients are confused whether to visit a private centre, where there is a greater risk of a false positive or the government hospital, which communicates in an unprofessional manner. Hence, monitoring mammography screening service is in the UK (National Health Service Breast Screening Programme, 2015; NHS Breast Screening, 2016) and Australia (Australian Government Department

of Health, 2016), across both private and public hospitals, is highly critical to ensure that equal and high quality of service are rendered to the women while attending mammography screening.

7.3.1.2. Communication

Amongst the focus group participants, the women who had undergone a mammogram reported that staff at the mammography screening units effectively communicated to them and were able to alleviate their fears. This was done by expressively explaining the benefits of the test and showing empathy towards the patients. This is similar to the report gathered from the mammography practitioners as they indicated that most of the women are apprehensive when they first visit the mammography screening centre. This is the reason why they are informed about the benefits of early breast cancer detection and attending regular breast screening. Thus, the level of professionalism displayed by the mammography practitioners within Lagos state appears to be high. This could be associated with their professional development training in mammography, as properly trained mammography radiographers have the ability to reassure women experiencing psychological distress due to the mammogram procedure (Robinson et al., 2013). In addition, several studies indicate that the quality of communication women receive at the mammography screening unit affects their overall satisfaction level, as it addresses concerns and fears they might be experiencing before and during the procedure (Bairati et al., 2014; Brnic et al., 2017; DuBenske et al., 2017).

Furthermore, the procedure is explained to patients, indicating that they might experience some pain or discomfort during the procedure because of the compression paddle pressing their breast against the detector plate and that this pain would only

last for a few minutes. Robinson et al. (2013) reported that mammography practitioners using practice-based evidence to minimise the pain experienced during the mammography procedure may improve women's satisfaction with the service. Likewise, a systematic review by Miller et al. (2008) provides evidence that informing women of the expected pain and discomfort during the procedure psychologically prepares them for it and consequently reduces the actual pain experienced during the mammography screening. Therefore, this beneficial practice should be further encouraged amongst the mammography practitioners for improving the mammography experience.

Additionally, it is believed that providing examples of women who have been diagnosed with breast cancer (who have consented for their stories to be shared with other women) and have survived it due to early prognosis may also encourage the patients to believe that there is 'hope' for them to overcome the disease (explored in depth in section 7.2.3.).

On the other hand, these women reported that on receiving the results, they were expected to take it home and read it. In fact, the practitioners did not explain the content of the result to them. Thus, in the case of positive breast cancer diagnosis, the women experienced a lack of adequate support. This might be because the mammography units are short-staffed, and therefore, the staff does not have sufficient time to care for the individuals completely. Due to the high workload, they may not be able to speak to every patient, but selectively interacting with the women with a positive diagnosis and offer them the required support wherever necessary is essential. The use of assistant practitioners in mammography screening service can be suggested, as the UK mentioned that these individuals could work under the

supervision of a registered radiographer (NHS Breast Screening, 2016). This intervention may help reduce the burden on the practitioners, as they could then focus on the more technical aspect of the service (such as patient support). However, the government needs to assess this issue in order to improve the mammography screening service offered to women.

Most of the women, who have not yet experienced a mammogram reported that the doctor at the public hospitals do not address them with respect, and their previous experience adversely affects their subsequent use of hospital service, even on experiencing an imperative need to do so. Participants feel that the public hospitals are short-staffed and the workload on the staff is high and this is what leads to their frustration. In addition, the doctors at the public hospitals frequently recommend that the women visit other private hospitals of their affiliation to gain referral rewards from the hospitals. Therefore, due to these challenges encountered at the public hospitals, most women visit private centres when they need to use the health service. However, this may be a challenge for women with low income, as they are less likely to use private hospitals because of the high service rate. These women report that several complaints have been made, which has even resulted in government officials visiting hospitals under disguise and unannounced to examine these problems. Subsequently, measures are developed to control and combat these issues. For instance, the Lagos Chartered Programme, where enforcement officers visit the hospitals and report misconducts observed during their visits. Unfortunately, women have observed minimal changes due to the implementation of this programme.

7.3.1.3. Lack of confidence in staff

'Another thing is the fear of the unknown, the person that is going to be doing the mammogram for you might not be an expert in that field.'

Participant 8f, FGD line...

The women expressed that they experience the apprehension of not knowing what to expect at the mammography unit, and fear that the staff may not be well trained in this speciality. Moreover, this is a common challenge experienced in both public and private hospitals. Interestingly, a mammography practitioner provided the details of an instance where a radiologist had produced a lot of positive diagnoses, but when an audit was conducted and the mammograms were given to another radiologist, it was discovered that the initial reports were erroneous. The practitioner attributed this to the low attendance of women in mammography screening programme, as women, who have received a false positive result may be discouraged to re-attend any mammography screening in future because of the psychological and physical effect they have experienced.

Furthermore, quality assurance is a process of monitoring the service in order to safeguard a high mammography screening standard (Australian Government Department of Health, 2016). This quality assurance programme includes regular audits of all aspect of the mammography service. However, still more audits of the service and training must be conducted in the screening programme of Lagos state in order to improve the service and enhance the populace confidence in it.

7.3.2. External factor: Government responsibilities

This section elucidates issues mentioned by women and mammography practitioners on the factors that are believed to be government responsibilities. It covers the participants' views on the accessibility of mammography screening, cost of having a mammogram and government role in providing a structured mammography screening programme.

7.3.2.1. Lack of structured screening

According to the report of women and the practitioners, mammography screening programme in Lagos state is largely organised by the government and non-governmental organisations. Most of the screening programmes are largely planned within the breast cancer awareness week in October (as mentioned in section 7.2.1) and are often ineffective because they are merely seen as 'fanfare' by the populace. The participants recognised the fact that the programme may be expensive for the government to fund, and hence, recommended that the government should invite entrepreneurs to collaborate with them for providing this service to eligible women within the state. According to the World Health Organisation (2014), the use of an alternative breast cancer detection strategy (such as clinical breast examination) might be beneficial for low to middle-income countries like Nigeria. This is because the cost required to provide this service is much lower as compared to mammography screening, though it is not as effective in the early detection of breast cancer. This clinical breast examination is considered effective in reducing the mortality rate of women in a population base study conducted in India (Sankaranarayanan et al., 2011). Therefore, there is a need for a future study to evaluate the cost implication of providing a regular mammography screening programme and clinical breast

examination in Nigeria for eligible women and assess their effectiveness in the early detection of breast cancer.

The participants further suggested that the government should endeavour to monitor this service and create guidelines for the programme to improve the patient experience. Nonetheless, all women who had undergone a mammogram, indicated that they were satisfied with their mammography experience. Similarly, Okobia et al. (2006) and Odusanya (2001) recommended from the findings of their studies that it is requisite that the government in Nigeria establishes framework and policy guidelines to advise individuals on all the aspects of mammography screening. According to the World Health Organisation (2014), one of the criteria for an effective screening programme for reducing the breast cancer morbidity and mortality rate is the provision of a framework to guide the programme. This framework can help bring uniformity in the mammography screening service, as healthcare professionals and the populace would be well informed on areas such as the frequency of screening, the age of eligible women, imaging projections and quality assurance.

Furthermore, the women reported that the Lagos state government has only a few mammography screening units and these units often experience a power failure. The women believe that this might be an important barrier, as it influences women's decision to attend mammography screening. The women suggested that the government should provide more mobile mammography units with its own electrical generators, as this would sort both accessibility and electrical problems. The women stated that programmes organised by the non-governmental organisations are conducted in the affluent areas of the state and suggested that efforts should be made to reach women in the less affluent areas as well because they are more likely to lack

the necessary funds essential for undergoing a mammogram. In addition, they reported that because private organisations understand the benefits of detecting breast cancer early (as it is less costly to treat), they encourage their staff to have a routine mammogram. Thus, the government should also recognise that early breast cancer detection could benefit all the women in the society.

7.3.2.2. Cost

Both women and practitioners believe that the cost of having a mammogram is expensive, and may not be affordable for the average women within the state. In fact, this may be a plausible reason why women fail to attend regular mammography screening programmes. Although, some of the women reported knowing that the mammography screening programme organised by the state government is free, the practitioners' views indicate that this free programme is irregular and has not been in existence in recent years. On the contrary, the Lagos state government reported that it has provided free mammography screening to women yearly since 2006 (Lagos State Government Ministry of Health, 2017). The practitioners reported poor mammography equipment maintenance as the reason for the inconsistent provision of mammography service (this is further explored in the following section). According to Olugbenga-Bello et al. (2011), 57.6% of the women in their study reported that the reason they did not attend mammography screening is the belief that they do not have the disease, 14.4% were not aware of the mammography screening process, and 2.9% mentioned the lack of mammography facility and high cost of the procedure as factors affecting their decision. Nevertheless, lack of facilities and the high cost of a mammogram appeared to be the least important factors affecting women's attendance in mammography screening. In addition, the low average age (22 years) of women recruited for this study may be a reason for such a finding, as most of the participants would not have

had a mammogram or have acquired adequate knowledge on the facilities available and the cost of a mammogram. However, Akhigbe and Omuemu (2009) stated that the reason for the minimal use of mammography screening amongst eligible women is the low availability and accessibility of mammography unit and the high cost of the procedure. According to the British Broadcasting Corporation (2012), the cost of having a mammogram may be a logistic barrier towards effective participation in mammography screening. In fact, it was reported that 61% of the Nigerian populace could barely afford the essentials of living and sustain on less than one U.S Dollar per day. Hence, providing mammography screening service at a subsidized rate or for free may encourage women to attend mammography screening programme.

In addition, the women reported that the cost of transportation to the mammography screening units and the time it takes to undergo a mammogram might be the factors adversely affecting the participation in mammography screening programme. The women reported that as they may have to visit the mammography screening unit several times before actually undergoing the procedure, they would have to take permission to leave work and visit the unit, which may be very challenging. The recurrent requests for leave may lead their employers to assume that they have breast cancer and hence are not fit to work. Contrarily, they may believe that the women are lying about attending the mammography screening. Therefore, in both the cases, the women are encountered with the choice to either get a mammogram or keep their job safe. Consequently, considering the financial implications of losing their jobs, they always prefer to avoid attending the mammography screening programme. Therefore, they suggested that keeping the mammography screening units functional on

weekends might encourage them to attend, as they would not need to take any leave from their work.

Furthermore, both the women and the practitioners agreed that the cost of transportation to the mammography screening units might be another critical cost factor due to the location of the units. According to the Lagos State government, four mammography screening units were installed in the state (Lagos State Government Ministry of Health, 2017), but these units are at a location that makes it difficult for women in the suburbs to access this service. In addition, considering that these women may have to visit the units several times for their mammogram, the cost implication may be high. Therefore, there is a need that individuals responsible for mammography screening programme provide mammography units across the state to improve the women's accessibility to the service.

The practitioners also reported that the cost of having a mammogram is far more expensive in comparison to other laboratory screening tests. Additionally, a senior practitioner reported that at one of the free mammography screening programme centre organised by the state had to be closed early because of the shortage of procedure materials for conducting mammography, and hence the women who attended the mammography unit for screening were required to pay the cost.

The practitioners believe that lack of education amongst the individuals responsible for mammography screening within the state, as regards to the importance of providing regular mammography screening may be another reason for the lack of concern shown towards the programme in the state. Hence, in developing countries, it is vital to create awareness amongst policy makers, key stakeholders, government officials, health workers and the press for increasing the women's attendance in mammography

screening (Hanna & Kangolle, 2010). Therefore, it is imperative that these individuals understand the importance of early diagnosis of breast cancer for reducing mortality rate amongst women. Thus, efforts should be made by well-informed individuals to help promote mammography screening within Nigeria.

Correspondingly, a practitioner mentioned that at her mammography unit (a separate mammography unit within the state), the government collaborated with a private organisation (a telecommunication company) and has been able to subsidise the cost of having a mammogram by 20% (\$10) of the normal rate (\$50 US Dollar). Therefore, the government should encourage more such collaborations, as it would help reduce the financial burden on both the state government and the women, which would further encourage eligible women to attend mammography screening across the state.

7.3.2.3. Access to resources

Both the women and the practitioners reported that there are limited mammography screening units within the Lagos state. Although some of the practitioners mentioned knowing about mammography service offered at most of the general hospitals, they also indicated that they were unsure if the units were functioning or not. They stated that at times when the mammography equipment encounters a breakdown, the government does not fix them, which often leads to the closure of the units. Most of the participants reported that they were aware of the mammography screening unit at the Lagos State University Teaching Hospital, but only a few of them mentioned Lagos State General Hospital, Marina - the unit that offers subsidised mammography screening service for women due to its collaboration with a private organisation. Similarly, Zidar et al. (2015) a study conducted in Germany, mentioned that the far distance between where the women live and the mammography screening units might

be responsible for the non-attendance of older women. Thus, emphasising the need for easily accessible mammography screening units to encourage women to attend. Generally, this indicates that there is a need for better publicity of the mammography screening units functioning within the state and these units should be easily accessible to the women.

The women mentioned that these mammography screening units known to them are far from them and could take them 50 minutes to 4 hours of travel time.

Consequently, they are not encouraged to attend the mammography screening because of the lack of proximity of the centre. Although they indicated that they are aware of nearby private hospitals that offer the mammography screening service, but the higher cost discourages them from having a mammogram. Also, in addition to the distance to the mammography screening units, they reported that it might take them nearly five visits to get the actual mammogram procedure. Similarly, the practitioners reported that when the women arrive at the unit for mammography screening, they give them an appointment for a later date, but the women indicated that this date could be as far as 6-7 months. Then, subsequent to their mammogram, they are advised to return for their results a week later. Therefore, the valuable time taken, the cost of transportation to the units and inconvenience involved discourages them to opt for the procedure. Thus, it is essential that the government set up more mammography screening units across the state, as it would reduce the distance to travel in order to get a mammogram. In addition, more effective ways for managing client-flow should be considered to reduce the number of visits to the mammography units for getting the service.

Furthermore, a participant reported that she did not get a mammogram because of the crowd she encountered at the mammography screening unit when she visited the hospital. It can be assumed that this problem actually exists as some of the participants stated that mammography screening is only done for a short duration each year, and hence, one can expect a crowd at such events. However, if the individuals responsible for mammography screening can provide mammography screening service to women around the year, the pressure the units face may reduce as women can choose to attend the programme anytime during the year. Generally, it is useful to examine the ratio of mammography units to eligible women within the state in order to provide an adequate amount of units. In addition, these units should not just be at a location, but should be distributed across the state, so it is easier for the women to visit.

Chapter 8: Reflection

8.1. Overview of Chapter

As mentioned in chapter four, in the qualitative research approach, the researchers are used as data collection instruments. My views and perceptions as the researcher about the world that exists around me can influence the direction the data collected might lead. Even though as a qualitative researcher I aimed to understand women's behaviour towards mammography screening based on the views of the study participants, there might still be some level of subjective influence in the data collected with the way in which it is analysed and reported.

Reflexivity and how it relates to this study will be discussed after a brief introduction of reflection in the earlier part of this chapter, while the latter part of this chapter will focus on the reflection process to improve the '*credibility, dependability, confirmability, and transferability*' of this study (Murphy & Yelder, 2010) . In addition, to show how my learning has developed (Tracy, 2010), the reflection section will critically discuss how the action plan developed from the pilot study (this was conducted in preparation for the main data collection process- see section 4.3.1.3) improved the quality of the interview and focus groups.

8.2. Introduction

Reflection is the critical analysis of knowledge and experience in order to gain new or better understanding and appreciation of the experience (Mann et al., 2009).

Therefore, our experience can provide more information on how to improve our practice by carefully examining it under reflective lenses: that is, the use of reflection tools. This is similar to the analogy of looking at myself in a mirror. Using the mirror as the reflective tool, what will appear on the mirror will depend on my image (the experience that would be examined), the angle with which the mirror is viewed, and the level of distortion of the glass (Jasper et al., 2013). Reflection as defined by Bolton (2014) *is an in-depth review of events or situations either alone or with critical support. The reflector attempts to work out what happened, what they thought or felt about it, who was involved when and where, what the others might have experienced and thought and felt about it from their own perspective. It is looking at the whole scenario from as many angles as possible: people, relationships, situations, place, timing, chronology, causality, connection, socio-political context and so on to make situations and people more comprehensible (p. 7).*

From these definitions, it can be deduced that reflection involves critical thinking and examining my experience from different perspectives to improve my understanding of the scenario I had experienced. Therefore, with respect to this study, reflection would involve a systematic critical analysis of the process and content of data collection, to ensure or improve the quality of the information gained from the participants.

Radiography practice has evolved over the years, with more evidence published on reflective practice (Baird, 1996; Baird, 2008; Hall & Davis, 1999; Hamilton & Druva, 2010; Milinkovic & Field, 2005). To ensure professionalism in clinical practice, it is a

legal obligation for health professionals to make certain that their patients get good quality healthcare, and the way to do this is by using the regular reflection of practice; that is Radiographers are to reflect on the clinical scenario, understand their meaning and analyse them alongside the body of evidence related to this area. Milinkovic and Field (2005) stated that reflection can be in two forms depending on when they are being carried out; reflection whilst the activity is occurring, which is known as reflection-in-action, or reflection after an activity had occurred which is termed reflection-on-action. Reflection-in-action is a good process for developing ones' practice by evaluating actions with experience, but the lack of evidence to support actions might make it less effective compared to reflection-on-action. However, I have focused on using the reflection-on-action method because of its ability to critically examine actions, feelings or thought with available evidence to improve the quality of information generated in the study.

According to White (2006), researchers should consider providing a detailed explanation on how their position, view or perception might influence the information gathered during the research—reflexivity. They should also provide an exhaustive account of the events that have occurred during the data collection process and how this could have affected the data collected—reflection. Doing this will give the readers of the study some understanding regarding the context from which the findings of the study have been generated. I will explore my reflexivity in the next section and the latter section will critically discuss my reflection on the process of data collection from the study participants.

8.3. Reflexivity

Reflexivity is finding strategies to question our own attitude, theories-in-use, values, assumptions, prejudices and habitual actions; to understand our complex roles in relation to others. To be reflexive is to examine, for example, the limits of our knowledge, of how our own behaviour plays into organisational structures counter to our own personal and professional values, and why such practices might marginalise group or exclude individuals (Bolton, 2014).

Furthermore, Murphy and Yelder (2010) state that a method of introducing rigour into qualitative research is by reflexivity; this is the process whereby the researchers identify their roles and involvement in the study and how it informs the outcome of the research. This gives the readers confidence in the credibility of the outcome of the research. I am a male diagnostic radiographer with six years of experience in conventional x-ray and computed tomography, yet have no clinical experience in mammography examination and have never participated in a mammography screening programme. This serves as an advantage as the data is analysed from an outsider view - etic view (Bourgeault et al., 2010). Although, I have not had a direct experience in mammography screening, however, I possess vast knowledge as a result of working in similar units within the radiology department as a Radiographer, and I believe that I might have some preconceived ideas about what the practitioners might say and what the patients behaviour are like within this culture (emic perspective). Therefore, there was need for me to bracket my lived experience within this society in order to submerge myself fully within the data collection field. It was an extremely difficult task to achieve, but by identifying my own biases, background and gender, I felt more comfortable in the interviews and focus groups, which then enabled me, submerge

myself in the data without too many external influences on me. In addition, I had my supervisors critiquing my work, analysis, suggestion reword of questions when they felt it might be slightly biased, so I had that check from independent individuals.

I decided to do this study as a result of the low mammography screening attendance in the Lagos state mammography screening programme and my interest in promoting women's use of healthcare service in Nigeria, because women are believed to be the backbone of the family in this society. As I began to examine evidence on women's behaviour towards mammography screening I discovered the theories and models that had been developed to explain or predict women's behaviour (Ajzen & Madden, 1986; Lauver, 1992; Prochaska, 2013; Rosenstock, 1966). However, there has not been any attempt made to explore women's behaviour towards mammography screening in Nigeria. In addition, the WHO predicted that the incidence rate of breast cancer might increase by 70% by the year 2030. Similarly, recent evidence has shown that the incidence rate of breast cancer in Nigeria had increased by 200% when compared to data from the 1960s (Jedy-Agba et al., 2012b). Given these limitations, I designed a study to explore the external and psychosocial factors underlying the women's behaviour towards mammography screening in Lagos state, Nigeria.

Three power issues could be associated with this study, as I am male researcher examining a gender sensitive topic (Green & Thorogood, 2014). These issues are the effect of my gender on the women's participation in and at the focus group meeting; the effect of my position on the mammography staff interviewed; and the effect of my knowledge on the women's participation in the meeting. The former was expected to be of less importance in this society as male radiographers were permitted to conduct the mammography procedure in Nigeria. In addition, the wide age difference between

the women and myself made me believe that they trust that I would respect them (this is explore further in section 9.4. and 9.5.). The latter challenges was addressed with me explaining to the women and the mammography staff that their views were extremely important in improving the mammography screening programme. Furthermore, the use of the focus group discussion method for data collection might reduce these limitations, as the women were invited to have greater control over the group discussion compared with an interview (Maltby et al., 2015). The use of an experienced moderator who has a good understanding of the research was important to help guide the participants towards focusing on the research aims during the discussion without coercing the participants or directing the debate (Holloway & Wheeler, 2013).

During the focus group with the women, I felt excited that the women seemed to be openly discussing the sensitive issue with me, and because I was used to discussing issues related to this as a result of my professional background, I felt comfortable. In addition, due to the wide age difference that exists between the women recruited in the focus groups and me, I felt safe. These women might have seen me as a son or nephew, but I would have been worried if I was discussing this issue with women of my age, as they might not be pleased discussing this issue with me.

A pilot focus group was initially conducted with nine UK- based Nigerian women in the meeting, to examine the women's understanding of the questions (Holloway & Wheeler, 2013), the order of questions in the focus group discussion guide (Barbour, 2005), and for me to develop my focus group moderating skill, as this is the first focus group I would be moderating. At the end of the pilot focus group discussion I reflected on experience, in other to identify aspects of the meeting that had gone well and otherwise, so as to improve the quality of the main data collection process.

8.4. The interviews and focus group discussions

The different events that occurred during the interview and focus group discussions will be explained in this section. Examples of the events that will be explored in depth are difficulty in recruiting interview participants, participant recruitment for the focus group discussions and the roles of the mammography practitioner at the focus group meetings. Similarly, Johnson and Clarke (2003) mentioned that researchers exploring sensitive topics, such as cancer, HIV/AIDS and death, are likely to experience challenges in the participant's recruitment and the researchers' influence on the data collected areas. However, it was suggested that the use of continuous training and support by the field researcher might help address these challenges. I adopted this approach as I regularly reported events that occurred during the data collection to my supervisors who had a vast knowledge and experience in conducting qualitative research.

8.4.1. Difficulty in recruiting interview participants

To gain a holistic view of the factors affecting women's attendance in mammography screening in Lagos state, Nigeria, we decided to conduct interviews with mammography practitioners and focus group discussions with women; the justifications for this is explored in depth in chapter three. Five mammography practitioners were interviewed face-to-face using semi-structured questions by the primary researcher. The interview participant invitation was prepared by the researcher who spoke to the head of the Radiology department (HOD) at the Lagos University Teaching Hospital and Lagos State General hospital, Marina concerning the

research, and a poster was placed in the staff rooms to invite the interested participants.

Talking to the HOD to gain permission for the interviews to be conducted within the department might have helped the staff within the department know of the existence of the research; however, I was confused as to whether this approach was ethical in gaining access to the staff, as they might find it impolite to decline being interviewed. The relationship between the staff and the HOD was classed by Miller et al. (2012) as a form of gatekeeper's control over prospective study participants, which is hierarchical in nature. This power influence might not have given the mammography practitioners the opportunity to voluntarily choose to participate in the interview. However, after reflecting on this event, the decision to put up posters inviting participants in their staff rooms might have reduced the power influence that exists between the HOD and the departmental staff. The staff that were interested in participating in the study contacted me and we arranged a meeting for their interview.

According to Bolderston (2012), interviews are best conducted in locations that are comfortable and convenient for the prospective participants, as this might impact their concentration in the discussion which could affect their responses to the questions. The interview meetings were conducted in different locations and because the junior staff had no offices like the seniors had, we had to use different rooms within the hospital, which were not quite comfortable but were convenient for them to attend. These noisy locations, however, did not affect the course of the interview, but the audio recording had a lot of background noise that made it difficult to transcribe the data. Using the senior staff's offices also had its own limitation since they were sometimes distracted by the other staff who needed their attention. For instance,

while I was interviewing one of the senior mammography practitioners at her office, a person interrupted the discussion because the attention of the practitioner being interviewed was urgently needed. She excused herself and asked me to wait for her in the office so that she could sort the issue that required her attention. As I waited for her, I was worried that the distraction could affect the course of the interview as she might forget her line of thought. Several thoughts such as the fear that I might lose some vital information and the fear that the interruption might affect the duration of the interview came to my mind when this took place. However, my calmness and efforts to reassure the participants that everything was alright, might have helped in convincing the participant to continue with her contributions when she returned to be interviewed. The limited funding available for the research restricted me to using rooms within the department; however, this might have been an advantage, as some of the participants might not have participated if we had to meet outside the hospital. Finally, allocating time for the interview was a challenge as the staff mentioned that they were busy and could not wait after their shift to be interviewed, and so we had to conduct the interviews during their lunch break. As a result of this, I had to make sure that the time spent on each interview was within 30–45 minutes. The choice of using the semi-structured interviews approach was beneficial in keeping to time, as evidence shows that this is a more effective approach compared to the unstructured approach when the duration of the interview is to be considered (Ryan et al., 2009). This helped us focus on discussing the important point, and reduced the risk of discussing relevant topics.

8.4.2. Participant recruitment for the focus group discussions

Participants for the focus group discussions were recruited from religious gatherings, such as churches and mosques, as it was shown to have a good number of participants attending the meeting in my pilot focus group discussion (see section 9.2.4.). I discussed the research aim and objectives with the leaders of the religious gatherings, who then introduced me to their congregation. In most cases, I was given the opportunity to address the women and discuss the research with the eligible women in the gatherings. Women who were willing to participate in the focus groups were advised to meet with me after I had addressed them. We then arranged a convenient time and date to meet up for the focus group meeting. At the focus group meeting, however, I noticed that the women did not freely express their views; they avoided issues that they thought were religiously unacceptable because they did not want to appear to be religiously deviated to the other women in the group. For instance, Participant 3g, the religious leader of the mosque, mentioned that: *'[Her mammogram was done by] a woman. Even if it is in the hospital, I can't allow a man to examine my breast'*.

(Participant 3g, FGD 137)

All of the women in the group agreed with her view, and I felt it might have been because of her position in the group. Another example was when participant 9b mentioned that: *'you go and expose yourself [your breasts to the mammography practitioner who might be a man]'*.

(Participant 9b, FGD 152).

Similarly, all her group members admitted that exposing their breasts to a male practitioner might be a barrier towards their attendance in mammography screening. However, I reflected on this challenge and discussed it with my supervisors. We decided to recruit participants also from community centres instead of religious gatherings to avoid these gatekeepers' control over the participants. Interestingly, this step helped me identify that the women's choice of not wanting to expose their bodies to male mammography practitioner might be culture related and not just religious, as participant 9b mentioned that: *'modesty [exposing one's breasts might not be modest], cultural thing'*.

(Participant 9b, FGD 154).

Thus, the use of a different recruitment strategy might have been effective as I was able to clearly identify the role of religion and the cultural background of the women in their choice of the gender of the practitioner that would have to do the mammogram for them. However, the women's view concerning the gender of the practitioner made me reflect on how these women might have felt uncomfortable about being asked fairly intimate questions by me, but the women appeared comfortable discussing their views at the meetings. Although, it might be possible that this group of women did not share their entire view on the factors affecting their attendance in mammography screening, the effect of this limitation on the entire data collected might have been reduced by my decision to recruit women from social gatherings.

8.4.3. The role of the mammography practitioner at the focus group meetings

Following my decision to use a mammography practitioner at the focus group meetings because of the questions and concerns raised at the pilot focus group discussion, I approached a mammography practitioner who had participated in the interview and encouraged her to come with me to the focus group meetings. During her interview, she had mentioned that she was associated with a non-governmental organisation that helped provide free healthcare services to individuals living in rural settlements, and hence, I assumed that she will be willing to help with the research. This mammography practitioner has a good knowledge of the relevance of mammography screening in reducing the mortality rate of women due to breast cancer and has had over 10 years' experience in conducting mammography in Lagos State, Nigeria. She agreed to participate in the study and she was encouraged to complete a consent form to prove that she had voluntarily agreed to assist with educating the women about mammography screening after the focus group meetings. I was excited when she agreed to assist in the research because I believed her vast knowledge and experience in mammography screening would be useful in training the women and addressing the women's concerns that might emerge whilst we were discussing the topic. According to Corbin and Morse (2003) and Dickson-Swift et al. (2007) reports, although the emotional distress that might emerge from participating in a focus group discussion with women might be minimal, it would be useful to anticipate ways of dealing with problems when they occur. The role of the mammography practitioner in the focus group meetings appeared to be relevant as the women were able to discuss their concerns at the meetings and were educated on the benefits of having a mammogram done by a practitioner, but none of the women appeared to experience emotional distress. This lack in the reporting of emotional distress might be as a result of the mammography

practitioner's ability to properly address the women's questions after the meetings. Therefore, the intervention appeared useful; consequently, it can be recommended that qualitative studies examining sensitive issues might be needed to consider the measures to address emotional distress that might arise during the data collection. Also, in the focus group of women who are sharing a sort of common issue, they are often providing some support in a way, so it is less likely that someone would be concerned (Papastavrou & Andreou, 2012). However, in the event where psychological concerns might be raised in the meeting, I believe that the discussion that was provided at the end of the meeting by the practitioner, and referring the women to organisations that could support their psychological needs might be an effective intervention.

In addition to training the women at the group meetings, the mammography practitioner also helped in taking some notes during the focus group meetings, thereby acting as the notetaker. After the mammography practitioner had agreed to assist with the study, I requested her to help me by writing some of the words spoken by the participants during the focus group discussions, explaining to her that if done correctly, it might help me easily identify the responses of each participant and this might reduce the time taken to transcribe the focus group data (Krueger & Casey, 2015). I trained her by explaining to her that the process begins with labelling each participant before the meeting begins; then, she was expected to write down a few words they said when they contributed to the discussion (Amico et al., 2011). She performed the role appropriately, and this helped me to a great extent while I was transcribing the audio recordings as I was able to identify each participant's responses in the transcript. This saved me from the stress associated with identifying each participant's voice during the transcription and it improved the credibility of the transcripts. Therefore, I would

carry on using the approach in the future focus group discussions, as it is more effective compared to the method used in the pilot focus group meeting. However, the notetaker reported that she could not identify each participants' demographics, as she only wrote down their details without labelling them. This is why we could not relate to the participants' individual view with their demographic differences. However, this was not considered as a major problem because of the chosen research approach, as we did not intend to generalise our findings on the different socioeconomic status that exists in Lagos state, Nigeria as would be expected in the quantitative research approach (Holloway & Wheeler, 2013). However, this information might have helped to give an insight to the views of women with different socioeconomic backgrounds regarding the factors that might affect them from having a mammogram. Interestingly, the participants of the study mentioned how this varying socioeconomic differences might affect women within the society. In addition, the information we were able to gather regarding the demographics of the women was useful, as they could help give readers an idea of the group that had participated in the focus groups; thus making the findings transferable (Murphy & Yelder, 2010).

In future, I will endeavour to further train the notetaker on the importance of identifying each participant's demographics and endeavour to transcribe each focus group discussion immediately after the meeting and before conducting another one, as I believe that this error would have been detected and corrected before the next meeting if I had noticed it earlier. However, this error might have been inevitable as there were limited resources available for the research and there was not enough time available for in-depth reflection between the focus group meetings as all data collection had to be completed in a short timeframe.

8.4.4. Learning throughout the doctoral journey

The doctoral programme has exposed me to several training sections and practical application of the skills acquired therein, the examples of which are the use of the qualitative research approach and NVivo application for my study's data management.

The decision to use the qualitative research approach was not an easy one, as my background was mainly in the use of the quantitative research approach. However, after attending several tutorials and conducting an extensive reading on the use of the qualitative approach, I was able to justify the use of this approach to explore the topic (this is discussed in section 4.2). In addition, the society where I had been trained had a great belief in the use of quantitative approach to examine health-related issues - this is evident from the quantitative approach to examine women behaviour towards mammography screening, as all of the 24 articles that had been previously done in Nigeria on this topic used the quantitative approach (this is discussed in section 7.1.2). Therefore, the use of the qualitative approach to explore the factors affecting women's behaviour towards mammography screening is novel. Interestingly, findings that had not been explained by these previous studies were clearly explored in my study, as it gave the participants the freedom to discuss the issues that are genuinely related to their behaviour. Thus, there is a need for more areas in the health science research in Nigeria to employ the use of the qualitative approach to explore issues that are related to explaining the patient's or client's behaviour to the health service.

While conducting the study, I learnt to improve my communication skills, as it is an essential feature of conducting an in-depth interview or focus group discussion. Communication is an active process that involves active listening and asking questions

when appropriate to clarify areas of doubts (Freeman, 2006; Silverman, 2013). These communication skills developed as the study progressed. I began with reading and attending seminars on becoming a good interview moderator. I, then, had a pilot focus group discussion with my supervisor in attendance, providing feedback on the process and content of the meeting (this process is explained further in section 4.3.1.2.). In addition, through the process of reflection, I further enhanced the skill as I conducted the main study. For instance, there was a scene when I asked a particular group a question that had been answered to earlier in the discussion because we had digressed. A participant responded by saying that the question had been answered earlier. However, as the semi-structured interview guide does not require that I follow the questions in the order that it had been prepared; therefore, I should not have repeated the question, except I needed further clarifications (Holloway & Galvin, 2017; Wong, 2008b). After I had reflected on the event, I noted that I needed to know my questions by heart in order to avoid this from occurring in the future, as the questions that might have been answered while discussing other issues need not be reiterated.

As explained in section 4.3.3, NVivo was used as a data-handling tool in this research. However, I attended a few tutorials and readings. While using the application for the study's analysis, I discovered that it was user-friendly and provided several advantages over the traditional paper analysis. One advantage was that I did not have to carry bulk paper about during the data analysis, but all the data were stored in the application; thereby reducing the risk exposing participants' anonymity. Another advantage was that I could easily code data to individual themes and it provided good organisation for the data; this made it easy to read. Bearing these advantages in mind, I would encourage the use of this data handling application for future qualitative data analysis.

8.5. Summary

Both the interviews and focus group discussions conducted provided useful information on the factors affecting women from having a mammogram in Lagos state, Nigeria. This might have been because of the organised way in which the meetings were conducted, as the data collection process consisted of training, learning and reflection. The action plan for future interviews or focus group studies noted within this reflection are: providing a conducive environment for the interviews, training the notetaker extensively on their role and conducting in-depth reflection and transcription after every interview. Future studies conducted with interviews or focus group discussions might consider budgeting enough funds to properly conduct the study, as the available funding was central to most of the limitations encountered in this study.

Learning points

- Use different recruitment strategies, as it might help ascertain the effect of participants' background such as religion on the topic.
- Endeavour to use a room that is convenient, comfortable, and quite for future interviews and focus group discussions.
- Transcribe and reflect on the data collection process after every focus group meeting or interview, as this would help reduce the effects of error on the data collected.
- Ensure the demographic characteristics of participants are well collected and can be associated to their responses in the analysis.
- Ensure that the psychological needs of participants are better supported in future qualitative studies.

Chapter 9: Recommendations and Conclusion

9.1. Overview of chapter

Several factors have been discussed in the previous chapter as the challenges women in Lagos state faces when considering having a mammogram. This chapter provides some recommendations to ways of reducing or eliminating these challenges within this society, as this might improve women's attendance in mammography screening.

Consequently, it might reduce the mortality rate of women as a result of breast cancer in Lagos state, Nigeria. In addition, the latter aspect of the chapter provides a summary of the findings of the study.

9.2. Recommendations

Within the previous chapters many different recommendations were mentioned and discussed (see in table 9.1.), however, the most common theme that emerged from the discussion chapters is education (highlighted in italics in the recommendations column) and this is be discussed further in sections below.

Table 9. 1. The study recommendations

Categories and themes		Recommendations
1.	Professionalism <ul style="list-style-type: none"> a. Good service b. Communication c. Lack of confidence in staff 	<ol style="list-style-type: none"> 1. Swiftly presenting women with mammography results (section 7.3.1.) 2. Employ the use of assistant mammography practitioners to allow the radiographers focus on delivering efficient service (section 7.3.2. and 2.6). 3. Audits of service and staff training in mammography procedure required (section 7.3.3. and 2.7).
2.	Government responsibilities <ul style="list-style-type: none"> a. Lack of structured screening b. Cost c. Access to resources 	<ol style="list-style-type: none"> 1. <i>Liaising with individuals in government.</i> 2. Private organisations should be encouraged to support the programme (section 7.2.1.). 3. The ratio of mammography unit to eligible women within the state should be examined (section 7.2.3. and 2.9.). 4. These units should be distributed across the state, so it is easier for the women to visit (section 7.2.3.).
3.	Lack of awareness <ul style="list-style-type: none"> a. Health promotion b. Enlightening women 	<ol style="list-style-type: none"> 1. <i>Educate women through public lectures, leaflets and posters</i> 2. <i>Use of subtle breast cancer signs and symptoms in adverts and posters.</i> 3. <i>Educate healthcare staff on the benefits of mammogram screening.</i>
4.	Attitude <ul style="list-style-type: none"> a. Attitude towards breast cancer b. Attitude towards the gender of the practitioner c. Culture of non-disclosure of problem 	<ol style="list-style-type: none"> 1. <i>Educate the populace and women on breast cancer and the importance of mammography screening (section 7.2.1.).</i> 2. The use of female mammography practitioners especially at regions of the state of the state where Muslim women reside (section 7.2.2.).
5.	Knowledge <ul style="list-style-type: none"> a. Benefits of mammography b. Risk of mammography screening 	<ol style="list-style-type: none"> 1. <i>Educate women and government officials on the benefit and risk of mammography screening.</i> 2. <i>Providing structure to the mammography screening programme by the government would mean that the information provided to the women concerning mammography screening would be uniform across the state.</i>
6.	Fear <ul style="list-style-type: none"> a. Fear of outcome b. Fear of death c. Fear of the effects of compression 	<ol style="list-style-type: none"> 1. <i>Educate the populace about breast cancer and mammography screening</i> 2. <i>The use of women who have previously been diagnosed of breast cancer but have survived as a result of early diagnosis as ambassadors at mammography awareness programme.</i>

i. Educating the women that are eligible for mammography screening

Lack of awareness was a significant factor affecting women's attendance in mammography screening in Nigeria as reported by both the women and mammography practitioners that participated in the study. Previously published evidence conducted within this society also indicated that the level of awareness of women on the benefit of mammography screening was low (Akinola et al., 2011; Okobia et al., 2006); thus, suggesting that the government needed to improve their effort in increasing the level of mammography screening awareness in Nigeria. Most of the participants reported that most of the mammography screening awareness was raised through television, radio and newspaper adverts, but this choice of medium of awareness does not reach women with a low socioeconomic background. A systematic review conducted by Austoker et al. (2009) gave evidence that community focused intensive education campaigns might improve breast cancer awareness and early presentation of women compared to individual level interventions, such as invitation letters, leaflets and telephone calls. Although most of the studies used in the systematic review were conducted in developed countries, the recommendation might be useful to use in a middle-income country, such as Nigeria; therefore, it could be suggested that giving public lectures in religious and social gatherings might be an effective method of reaching the women of various socioeconomic classes in this society.

Furthermore, these women mentioned that most of the information shown in the adverts scares them, and thus, affects their choice of taking up the mammogram screening. This might explain why there is low mammography screening use even

amongst women with a high socioeconomic class. As it has been explained in section 7.2.2., the use of shock tactics in encouraging the adoption of health promotional behaviour might not be useful, but the use of subtle early breast cancer signs in these adverts might encourage women to be more conscious of the changes in their breast and might encourage more women to attend mammography units for examinations. Furthermore, the use of posters with pictures of the early signs of breast cancer can also help women who are experiencing any of these symptoms to be aware of the importance of showing their symptoms to the doctors. These posters can be displayed at hospitals and health centres as women who might visit the hospitals for other medical conditions can see the posters while they wait to be seen by the doctors.

ii. Lobbying with the individuals in government

Lobbying with the individuals that make up the government, such as the health ministers, commissioners and hospital management board members on the significance of paying attention to the importance of early breast cancer detection in reducing the mortality rate of women within the state is imperative, as breast cancer was not mentioned as a disease that requires public health attention in Nigeria (Federal Ministry of Health, 2017). In addition, the participants reported that the availability, accessibility and cost of having a mammogram were the barriers affecting the women's attendance in mammography screening in Lagos state (section 9.2. in the previous chapter explored how these factors affect the women). This is important because no matter how much effort is channelled into encouraging women to attend the mammography screening programme, if the units are not easily accessible or available for the women to use, they might be discouraged from having a

mammogram. Interventions such as making provisions for more mammography screening units that are easily accessible to all eligible women within the state and providing the mammograms at a subsidised rate or free of charge might help in improving the women's attitude towards mammography screening in Lagos state, Nigeria. It can be discussed with the government to improve budgetary allocation for breast cancer detection, and by liaising with mammography equipment manufacturers and NGOs, the mammography units can be donated to improve women's health in the state.

iii. Educating the healthcare staff

The findings of the study showed that both the mammography staff and the women agreed that the level of knowledge of the healthcare staff (but not mammography staff) in the state might not be up to the expected standard. One would expect these individuals to be highly knowledgeable about the benefits and risks of having a mammogram as they might be the first point of contact to the women within the society who would want to know about the examination or who might be experiencing subtle signs of breast cancer. To support this recommendation, similar previous evidence shows that the level of awareness of mammography screening amongst healthcare professionals in Lagos state might be low (Akhigbe & Omuemu, 2009; Ibrahim & Odusanya, 2009; Odusanya & Tayo, 2001). Thus, there is a need for public health awareness programmes for healthcare professionals on the importance of mammography screening, so they would be able to educate the eligible women around them and would be encouraged to publicly speak to the women about it.

iv. Educating the populace

In addition to educating the stakeholders on the benefits and effects of early breast cancer detection, it might be useful to provide proper breast cancer and early detection strategy awareness programmes for the individuals in the society. The findings of the study showed that a reason why women are anxious about having a positive breast cancer diagnosis might be because of the stigmatisation associated with having the disease due to lack of understanding of the nature of the disease. Through proper education, the populace might be well-informed about the benefits of mammography screening and would understand that breast cancer is a non-communicable disease. Furthermore, these individuals can encourage their relatives (that is their wives, daughters and mothers) and friends to attend mammography screening programmes.

To address the fear women reported in the study, it might be useful to employ women who have survived breast cancer diagnosis as ambassadors to share their experience at the mammography screening awareness programmes. This would help the women understand that breast cancer does not always lead to death, as there is a high chance of a good prognosis when detected early, and mammography screening has the ability to detect breast cancer even when the symptoms cannot be seen.

9.2.1. Further research to examine the effect of mammography screening

Increased education may lead to a higher attendance rate in the mammography screening programme, which might increase the rate of false positive results, an inherent drawback of mammography screening and over diagnosis (Armstrong et al., 2007). Thus, a strategy would need to be developed to deal with the effect of this increase in false positive result, such as increased reports of anxiety and treatment of cases.

In addition, it might be useful to understand the proportion of women in the state that are affected by the factors reported by the participants of this study. Therefore, a future study might explore this topic with a mixed method approach (quantitative and qualitative approaches) to examine ratio and significance of some of the factors with the women's adherence to mammography screening, and present the women with opportunity to report issues that might affect their attendance that had not been addressed in the survey question. It might be relevant to examine the effect of difference in socioeconomic status of the women and change in government policy, as this provide an insight to the effects of availability and accessibility of the programme. As it has been shown in this study that breast cancer incidence requires closer attention by the Nigerian government, our results can influence change in government policy (by including breast cancer as a major health challenge in the country), as well as results from a larger and representative sampling population might provide a generalizable result.

Furthermore, the effectiveness of the use of the posters as an intervention to encourage women to attend mammography screening can be examined by future studies, as an ineffective poster could be as a result of its content. Therefore, carefully

considering what pictures and information to put in the posters that would not be considered upsetting to the women is important, as this was a challenge reported by the women in this study. A good poster might get women to discuss amongst themselves when they see them; thus, might tackle the challenge of stigmatisation and the fear factor.

9.3. Conclusion

Fear, low level of professionalism displayed by healthcare staff, strong views of women towards the gender of the mammography practitioner and the culture of non-disclosure of problem that exists amongst women in this society had never been shown by the previous studies conducted in Nigeria, relate to the barriers affecting women's attendance in mammography screening. Different forms of fear were found to be associated with mammography screening. They are the fear of outcome, death and the effect of compression; therefore, addressing these barriers might increase mammography screening use in Lagos state. In addition, contrary to government reports that mammography screening in Lagos state was free of charge, it was discovered that women had to pay at the point of examination and frequently mammography equipment breakdowns and the mammography units are not easily accessible to women across the state, which indicates that some of the factors are beyond the women's ability control and they discourage their attendance.

Furthermore, it was discovered that the factors affecting women's attendance in mammography screening in Lagos state fit well with the constructs of the theory of care-seeking behaviour (Lauver, 1992), and no new construct emerged from the views of the women in this study. Although the theory had been used to predict or explain women's behaviours towards mammography screening in developed societies such as

the U.S.A., this study has identified that it is relevant in exploring women's behaviours towards mammography screening in a developing country, such as Nigeria. However, the factors affecting the women's attendance in both societies are different in some cases, for example when compared to Lor et al. (2013) who examined the factors affecting Hmong women living in the USA attendance in mammography screening programme. The factors that differ between this study and Lor's study are the lack of awareness, level of professionalism of healthcare staff and government focus in providing the service. This difference in findings could be associated with the difference in the value the governments place on breast cancer diagnosis in both societies.

Figure 7.2 demonstrates the relationships between the psychosocial variables related to the mammography screening behaviour for asymptomatic women in Lagos state. It shows that there is a high level of fear reported by participants regarding mammography screening, which is the effect of the low level of knowledge and attitude of the women in this society. This results from the lack of consistent mammography screening awareness amongst eligible women in the society. This inconsistent awareness programme could be as a result of insufficient budget allocation for breast cancer diagnosis and treatment within the state, as the Federal government report shows that breast cancer is not a public health priority (Federal Ministry of Health, 2010); but evidence shows that there is an increase in the incidence of breast cancer in Nigeria (Jedy-Agba et al., 2012a; Jedy-Agba et al., 2012b; Jedy-Agba et al., 2017). Therefore, there is a need for a more recent reflection considering the incidence and mortality rate of breast cancer in Nigeria, as this might indicate that it is a public health issue that requires attention.

In addition, the external factors explored in the study were the low professional character of the healthcare staff and the government lack of focus in providing mammography screening to all eligible women within the society. The unique findings show that even when women overcome the fear of having a mammogram, external factors, such as the availability and accessibility of the mammography units, cost and the mammography staff's professionalism, might directly influence the women's decisions to attend the mammography screening programme. Thus, the government has a huge role to play in encouraging women to attend regular mammography screening programmes in Lagos state, Nigeria.

'The fear of not wanting to come is because of the fact that it is considered to be a death sentence, and no woman wants to hear about cancer'. (Barbara, line 98).

'When you don't know about it, it might not come out of your body, but when you know it can kill.' (Participant 4a, line 127).

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Appendix A: Developing focus group guide

Questions in the focus group guide with their justifications.

Question number	Question	Justification	Theory of care seeking behaviour construct
D ₄	When you think about having a mammogram, what thoughts do you have?	These questions examined the women's <i>affect</i> towards mammography screening.	Affect
D ₅	Using the table, can you describe these thoughts or emotions with respect to how important they are to you?		
B.	A mammogram is an x-ray examination of the breast, and normally 2 or 3 x-ray pictures will be taken of each breast. Who has had a mammogram?	This question aimed to understand how the previous attendance or non-attendance might influence the women's behaviour towards mammography screening. It also examines the women's <i>habit</i> (a construct in the theory of care seeking behaviour discussed earlier in this chapter) towards mammography screening.	Habit
D ₁ .	How did you get to know about the mammography-screening programme?	These questions to explore their knowledge and <i>beliefs</i> on mammography screening programme.	Belief
D ₂ .	Can you tell me what the benefits of having a mammogram are?		
D ₃	Do you know of any risks of having a mammogram?		
C ₂ .	What have you been told about mammography screening?	This question aimed to explore the participants' <i>individual norms</i> .	Norms
C ₃ .	Do you have friends or relatives who have had a mammogram? If yes, what have they told you about it?	This question aimed to explore the <i>social norms</i> that exist in the community.	

C ₁ .	Have you received an invitation for breast screening? If yes, are you willing to share with the group why you chose not to attend?	Exploring the effects of <i>external factors</i> such as invitation method to understand how this might be a facilitator or a barrier towards attendance.	External factors
D ₆	How far do you have to travel to have a mammogram?	The question above aimed to explore how this <i>external factor</i> might facilitate or be a barrier towards mammography screening attendance. Evidence has shown that, it could be an important factor that might contribute to women's decision to attend mammography-screening programme.	
D ₇	Can you describe the experience of having a mammogram?	As evidence as shown that patient satisfaction with mammography screening service might encourage re attendance. The questions explores the elements of screening experience.	
D ₈	How satisfied were you with how the staff at the mammography unit communicated with you?		
A.	To start with, can everyone please introduce themselves by telling us your name and a little bit about yourself?	This question aimed to help the women settle into the discussion and at the same time, help the group member know one another.	Other
D ₉	Will you have or recommend a mammogram to your friends and relatives?	The question examines how the information shared in the focus group discussion might have influenced their decision to attend screening and encourage other people around them.	
D ₁₀	A final question. Is there anything that can be done to increase women's attendance in the Lagos state breast screening programme?	This question aimed to explore some other issue that might not have been mentioned during our discussion that might be sense by the women to be responsible for the low women's attendance at the Lagos state	

		mammography screening programme.	
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Appendix B: Focus group discussion guide

Good afternoon. I appreciate it that you have taken out time from your busy schedule to attend this focus group discussion. My name is Olanrewaju Lawal; I am a doctoral student in the department of Radiography at the University of Salford. I am accompanied by a mammography practitioner, who will talk to you further about these at the end of discussion.

Breast cancer is a leading cause of death among women worldwide. It is predicted by the WHO that the incidence of breast cancer would increase in developing countries by 70%, by the year 2030. Nigeria is a developing country with a population that is about three times the size of the United Kingdom. Recent evidence shows that there has been an increased incidence of breast cancer in the country (Jedy- Agba 2012).

Evidence shows that mammography screening is the most effective method of detecting breast cancer early among women. The Lagos state mammography-screening programme's record shows that fewer women than expected had participated in the programme within four years. My study aims to describe the reason why women do or do not participate in the Lagos state mammography-screening programme, so that we can recommend changes to help to improve participation.

I have asked you here today to explore the factors affecting your participation in the Lagos state mammography-screening programme. This will help future programme address the needs of the women within Lagos state to provide a mammography-screening programme that is suitable for the women.

Guidelines:

I am going to give you some information about what I would like us to do, so that you can decide whether you are happy to continue

- This meeting will last about an hour, and there would not be any break in the course of the meeting. You are allowed to leave the meeting to use the restroom or to get some refreshment during the meeting.
- Let us respect other participants by putting our phones in silent mode, and please step out of the meeting to answer calls if you need to do so.
- Our conversation would be audio recorded, so that I can have more time to listen to you and ask questions when appropriate to clarify statements. The audio recording would not be shared with people outside this room, and I will not use your name on the transcripts. My supervisor will make some handwritten notes.
- So that we do not miss any of your comments or thoughts, can I ask that you speak one at a time, so that the recording is clear.
- Is everybody happy to continue?
- **Share the consent forms and then switch on the audio recorders.**

Questions:

- A. To start with, can everyone please introduce themselves by telling us your name and a little bit about yourself, including whether you have lived in or visited Nigeria?



B. A mammogram is an x-ray examination of the breast, and normally 2 or 3 x-ray pictures will be taken of each breast. Who has had a mammogram?

(For easy identification of participants who have had a mammogram or not, the participants will be assigned an alphabet with the initial alphabets representing those who have had a mammogram and the latter alphabets for those who have not had one) Can you respond by saying yes or no for audio recording purpose?

C. For participants who have not had a mammogram:

1. Have you received an invitation for breast screening? If yes, are you willing to share with the group why you chose not to attend?

2. What have you been told about mammography screening?

3. Do you have friends or relatives who have had a mammogram?

4. If yes, what have they told you about it?

D. For all participants...

1. How did you get to know about the mammography-screening programme?

2. Can you tell me what the benefits of having a mammogram are?

Probe: Can you tell me what the advantages of having a mammogram are?

Why have a mammogram?

3. Do you know of any risks of having a mammogram?

4. When you think about having a mammogram, what thoughts do you have?

Probe: What kind of feeling comes to your mind when you think of having a mammogram?

5. How far do you have to travel to have a mammogram?

Do you have a car of your own?

How long does it take to travel?

Are you concerned about the distance you need to travel to have a mammogram?

If you travel by means of public transportation, how much does this cost you?

Are you concerned with the cost of transport and time spent travelling to the mammography screening centres?

6. Can you describe the experience of having a mammogram?

Probe: Can you tell me about the mammogram you had?

7. How satisfied were you with how the staff at the mammography unit communicated with you?

8. Will you have or recommend a mammogram to your friends and relatives?

9. A final question. Is there anything else that you would like to share regarding mammography screening?

The mammography practitioner can then lecture the women and address their questions.

* Text highlighted in yellow were information added by the research team to the focus group guide after reflecting on the practice focus group experience.

Appendix C: Developing the interview guide

Questions in the interview guide with their justifications.

Question number	Question	Justification	Theory of care seeking behaviour construct
5.	From your experience, could you tell me what kind of reasons women give for not wanting to have a mammogram?	These questions examined the women's <i>affect</i> towards mammography screening.	Affect
6.	From your experience, can you give me examples of concerns or worries women have after participating in the programme?		
3.	What involvement do you have in the mammography-screening programme? If manager, do you have the number of women expected for the breast-screening programme?	Explore the individual's opinion of percentage attendance. Understanding the <i>habit</i> of women in the towards mammography screening programme	Habit
8.	What do you tell women about the benefits of mammography screening?	These questions to explore their knowledge and <i>beliefs</i> on mammography screening programme.	Belief
9.	What do you tell women about the risks of mammography screening?		
10.	Do you think that the women in the state are well informed of the benefits and risks of mammography screening, what are the reasons for your answer?	This question aimed to explore the <i>social norms</i> that exist in the community.	Norms
2.	Can you tell me how the mammography screening programme works in Lagos state?	Exploring the effects of <i>external factors</i> such as invitation method and cost to understand how	External factors

4.	Can you describe the mammography-screening pathway for participants beginning from when the women arrive at the programme to when she leaves?	this might be a facilitator or a barrier towards attendance.	
7.	What role do you play in inviting women to the mammography-screening programme?		
11.	How do you invite women who participate in the mammography programme, and which materials do you share with these women?		
12.	How accessible do you think the mammography unit is for the women within the State?		
1.	To start with, can you please introduce yourself by telling me your name and a little bit about yourself, including how long have you been working within the mammography programme?	This question aimed to help the participant settle into the discussion and at the same time, provide information concerning their years of experience and role in the unit.	Other
13.	Is there anything else that you would like to share regarding factors affecting women's participation in the Lagos State mammography screening?	This question aimed to explore some other issue that might not have been mentioned during our discussion that might be sense by the participants to be responsible for the low women's attendance at the Lagos state mammography screening programme.	

Appendix D: Interview guide

Good afternoon. I appreciate it that you have taken out time from your busy schedule to speak to me concerning the mammography screening programme. My name is Olanrewaju Lawal; I am a doctoral student in the department of Radiography at the University of Salford.

Breast cancer is a leading cause of death among women worldwide. It is predicted by the WHO that the incidence of breast cancer would increase in developing countries by 70%, by the year 2030. Nigeria is a developing country with a population that is about three times the size of the United Kingdom. Recent evidence shows that there has been an increased incidence of breast cancer in the country (Jedy- Agba 2012).

Evidence shows that mammography screening is the most effective method of detecting early breast cancer among women. The Lagos state mammography-screening programme's record show that fewer women than expected had participated in the programme within four years. My study aims to describe the reason why women do or do not participate in the Lagos state mammography-screening programme, so that we can recommend changes to help to improve participation.

Our discussion today would explore the factors affecting women's participation in the Lagos state mammography-screening programme. This will help future programme address the needs of the women within Lagos state to provide a mammography-screening programme that is suitable for the women.

Guidelines:

I am going to give you some information about what I would like us to do, so that you can decide whether you are happy to continue

- This meeting will last about an hour, and there would not be any break in the course of the meeting. You are allowed to leave the meeting to use the restroom or to get some refreshment during the meeting.
- Can you please put your phone(s) in silent mode so it does not disturb our meeting, and please do let me know if you need to answer calls during the meeting.
- Our conversation would be audio recorded, so that I can have more time to listen to you and ask questions when appropriate to clarify statements. The audio recording would not be shared with people outside this room, and I will not use your name on the transcripts.
- Are you happy to continue?
- Share the consent forms and then switch on the audio recorders.

Questions:

1. To start with, can you please introduce yourself by telling me your name and a little bit about yourself, including how long have you been working within the mammography programme?
 - a. If you are a mammography practitioner how long have you been practicing?
 - b. If you are a manager how long have you been managing the breast screening programme?

2. Can you tell me how the mammography screening programme works in Lagos state?
3. What involvement do you have in the mammography-screening programme? If manager, do you have the number of women expected for the breast screening programme?
4. Can you describe the mammography-screening pathway for participants beginning from when the women arrive at the programme to when she leaves?
5. From your experience, could you tell me what kind of reasons women give for not wanting to have a mammogram?
6. From your experience, can you give me examples of concerns or worries women have after participating in the programme?
7. What role do you play in inviting women to the mammography-screening programme?
8. What do you tell women about the benefits of mammography screening?
9. What do you tell women about the risks of mammography screening?
10. Do you think that the women in the state are well informed of the benefits and risks of mammography screening, what are the reasons for your answer?
11. How do you invite women who participate in the mammography programme, and which materials do you share with these women?
12. How accessible do you think the mammography unit is for the women within the State?
13. What factors do you think affect women's attendance at the mammography unit?
14. Is there anything else that you would like to share regarding factors affecting women's participation in the Lagos State mammography screening?

Appendix E: Participant's consent form

For Focus Group Discussion Participants:

Title of Project: Mammography screening: factors affecting participation in the Lagos state programme.

Ethics Ref No: HSCR/15/85 and ADM/DCST/HREC/APP/636

Name of Researcher: Mr Olanrewaju Lawal

appropriate)

(Delete as

- I confirm that I have read and understood the information sheet for the above study (version 3- 29/09/2015) and what my contribution will be.

Yes	No
------------	-----------

- I have been given the opportunity to ask questions (face to face)

Yes	No
------------	-----------

- I agree to take part in a focus group and I accept it will be audio-recorded

Yes	No	NA
------------	-----------	-----------

- I understand that I must keep what is discussed in the group confidential.

Yes	No	NA
------------	-----------	-----------

- I understand that I can withdraw from the group at any time without repercussion, but I accept that the data I have given up to that point cannot be removed.

Yes	No
------------	-----------

- I understand how the researcher will use my responses, who will see them and how the data will be stored.

Yes	No
------------	-----------

- **I agree to take part in the above study**

Yes	No
------------	-----------

Name of participant:

Signature:

Date:

Name of researcher taking consent: Olanrewaju Lawal

Researcher's e-mail address: o.lawal@edu.salford.ac.uk

For the Interview Participants:

Title of Project: Mammography screening: factors affecting participation in the Lagos state programme.

Ethics Ref No: HSCR/15/85 and ADM/DCST/HREC/APP/636

Name of Researcher: Mr Olanrewaju Lawal

appropriate)

(Delete as

➤ I confirm that I have read and understood the information sheet for the above study (version 3- 29/09/2015) and what my contribution will be.

Yes	No
------------	-----------

➤ I have been given the opportunity to ask questions (face to face)

Yes	No
------------	-----------

➤ I agree to take part in the interview

Yes	No	NA
------------	-----------	-----------

➤ I agree to the interview being audio recorded

Yes	No	NA
------------	-----------	-----------

➤ I understand that I can withdraw from the interview at any time without repercussion, but I accept that the data I have given up to that point cannot be removed.

Yes	No
------------	-----------

➤ I understand how the researcher will use my responses, who will see them and how the data will be stored.

Yes	No
------------	-----------

➤ **I agree to take part in the above study**

Yes	No
------------	-----------

Name of participant

Signature

Date

Name of researcher taking consent Olanrewaju Lawal

Researcher's e-mail address o.lawal@edu.salford.ac.uk

Appendix F: University of Salford Ethics Committee Letter



Research, Innovation and Academic
Engagement Ethical Approval Panel

Research Centres Support Team
G.03 Joule House
University of Salford
M5 4WT

T +44(0)161 295 52280

www.salford.ac.uk/

17 September 2015

Dear Olanrewaju,

RE: ETHICS APPLICATION HSCR15/85 –Mammography screening: factors affecting participation in the Lagos state programme- **PANEL COMMENTS:**

The College Research, Innovation and Academic Engagement Ethical Approval Panel have reviewed your application, but have asked that the following comments be addressed before ethical approval can be granted:

1. Data Protection:

Please confirm security of online data storage

2. Other Comments:

You must add a version and date to all accompanying documents and the same version and date for each must be completed on the application checklist.

Please add appropriate complaints procedure to the PIS.

Please use the template consent form. You also need to add version and date of PIS in point 1.

Please proof read documents.

I would be grateful if you could forward your responses to me by **17th October 2015** to Health-ResearchEthics@salford.ac.uk . Please note, all amendments/ additions should be clearly highlighted in the original documentation before re-submitting.

Yours sincerely

Sarah Starkey

Sarah Starkey
Research Support Assistant

Appendix G: Lagos State Teaching Hospital Ethics Committee

Letter

LAGOS UNIVERSITY TEACHING HOSPITAL HEALTH RESEARCH AND ETHICS COMMITTEE

PRIVATE MAIL BAG 12003, LAGOS, NIGERIA.
e-mail address: luthethics@yahoo.com

Chairman
ASSOC. PROF. N.U. OKUBADEJO
MB. ChB, FMCP

Administrative Secretary
MR. D.J. AKPAN
B.Sc. BUS. ADMIN, MIHSAN



Chief Medical Director:
PROF. AKIN. OSIBOGUN
MBBS (Lagos), MPH (Columbia), FMCPH FWACP

Chairman, Medical Advisory Committee
PROF. CHRIS BODE FMCS (Nig.) FWACS.

LUTH HREC REGISTRATION NUMBER: NHREC: 19/12/2008a
Office Address: Room 107, 1st floor, LUTH Administrative Block
Telephone: 234-1-5850737, 5852187, 5852209, 5852158, 5852111

11th December, 2015

NOTICE OF EXPEDITED REVIEW AND APPROVAL

PROJECT TITLE: "MAMMOGRAPHY SCREENING: THE FACTORS AFFECTING WOMEN'S PARTICIPATION IN THE LAGOS STATE MAMMOGRAPHY SCREENING PROGRAMME".

HEALTH RESEARCH COMMITTEE ASSIGNED NO.: ADM/DCST/HREC/APP/636

NAME OF PRINCIPAL INVESTIGATOR: MR. LAWAL OLANREWAJU

ADDRESS OF PRINCIPAL INVESTIGATOR: DIRECTORATE OF RADIOGRAPHY, SCHOOL OF HEALTH SCIENCE, ALLERTON BUILDING, UNIVERSITY OF SALFORD, MANCHESTER, UNITED KINGDOM.

DATE OF RECEIPT OF VALID APPLICATION: 08-12-15

This is to inform you that the research described in the submitted protocol, the consent forms, and all other related materials where relevant have been reviewed and given full approval by the Lagos University Teaching Hospital Health Research Ethics Committee (LUTHHREC).

This approval dates from 11-12-2015 to 11-12-2016. If there is delay in starting the research, please inform the HREC so that the dates of approval can be adjusted accordingly. Note that no participant accrual or activity related to this research may be conducted outside of this dates. All informed consent forms used in this study must carry the HREC assigned number and duration of HREC approval of the study. In multiyear research, endeavor to submit your annual report to the HREC early in order to obtain renewal of your approval and avoid disruption of your research.

The National code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the code including ensuring that all adverse events are reported promptly to the HREC. No changes are permitted in the research without prior approval by the HREC except in circumstances outlined in the code. The HREC reserves the right to conduct compliance visits to your research site without previous notification.

CHAIRMAN
HEALTH RESEARCH & ETHICS COMMITTEE
LUTH

PROF. N. U. OKUBADEJO
CHAIRMAN, LUTH HEALTH RESEARCH ETHICS COMMITTEE

Appendix H: Synthesis table

S/N	Discussion Categories	Interview Categories and their themes		Focus group Categories and their themes	
1.	Norms: Cultural issues	Attitude	Culture of non-disclosure of problem	Believe in God	Cultural issues
			Attitude towards breast cancer	Wonder drugs	
			Attitude towards the gender of the practitioners	Stigmatisation	Gender of the practitioners
2.	Habits: Lack of awareness	Education	Practitioners role in health promotion	Promotion	Lack of awareness
			Lack of educational materials	Word of mouth	
			Enlightening women	Media	
3.	External factors: Professionalism	Government responsibilities	Access to results	Good service	Professionalism
		Professionalism	Appropriate imaging		
			Dignity		
			Audits		
			Examples of living	Communication	
<i>'Five minutes of pain'</i>					
4.	External factors: Government responsibilities	Government responsibilities	Lack of structured screening	Blaming the government	Resources
			Lack of understanding of fee structure	Machinery	
			Mammography is expensive	Cost	
			Addressing inequalities	Access to resources	
5.	Belief: Knowledge	Education	Risk of having mammography	Benefits	Knowledge
			Risks		
6.	Affect: Fear	Fear	Positive diagnosis	Outcome	Fear
			Unknown		
			Social exclusion		
			Death	Death	
			Effect of compression		

Appendix I: Research output

These are events where the findings of this study has been disseminated.

s/n	Authors	Titles	Forum	Abstract
1.	Lawal et al. (2017b)	Mammography screening in Nigeria: women's view on the factors affecting participation.	International Health Conference 2017	<p>Aim: Explore the barriers affecting women's attendance in mammography screening.</p> <p>Method: Thematic analysis of seven focus group discussions conducted amongst women in Lagos, Nigeria.</p> <p>Results: Poor knowledge of the benefits and risk of having a mammogram influences the women's anxiety; thus, this directly affects their attendance. Furthermore, low level of professionalism displayed by healthcare workers and lack of adequate resources were found to discourage women.</p> <p>Conclusion: As there has not been any research in this society that directly explores women's view regarding their non-attendance in mammography screening- the women emphasise the need for a wider awareness programme.</p>
2.	Lawal et al. (2017c)	Mammography screening in Nigeria: women and practitioners' view on the factors affecting attendance.	The Salford Postgraduate Annual Research Conference (SPARC) 2017	<p>Breast cancer is one of the leading causes of death amongst women. According to the World Health Organisation (WHO), a significant increase in the incidence of breast cancer is expected in developing countries (such as Nigeria) by 2030. However, mammography screening can significantly reduce the mortality and morbidity owing to breast cancer in women. In Nigeria, 70% of the breast cancer cases are reported at its later stages, and evidence concludes that the participation level of susceptible women in the mammography screening programme is low. This study aims to explore the factors affecting women's attendance in mammography screening in the Lagos state.</p> <p>A qualitative descriptive approach is used to explore the views of susceptible women living in Lagos state. To gain the holistic understanding on this topic seven focus group discussions and face-to-face interviews with five mammography practitioners in Lagos state was conducted. The study was guided by the theory of care seeking behaviour, and participants were questioned through semi-structured interviews and focus group guides. The conventional content analysis method was used to analyse the information gathered from the participants.</p> <p>Results have shown that lack of awareness among women influences their knowledge on benefits and risks, thus exposing them to several forms of fear and cultural myths which may directly affect their attendance in mammography screenings. However, professionalism of mammography staff and government's role in providing an effective mammography screening service are factors found to externally influence women's attendance.</p> <p>Substantially, the need for education within the society can be exaggerated, as the participants identified that education might improve awareness, reduce fear and improve women's attendance.</p>

3.	Lawal et al. (2017a)	Health behavioural theories and their application to women's participation in mammography screening: a narrative review	Journal of Medical Imaging and Radiation Science	The most effective method of detecting breast cancer among asymptomatic women is by mammography screening. Most countries have this preventive measure in place for women within their society; however, most of these programs struggle with attendance. This article discusses four health behavioural theories and models in relation to mammography screening that may explain the factors affecting women's participation, including the health belief model, theory of planned behaviour, trans-theoretical model, and the theory of care seeking behaviour. In summary, analysis of these theories indicates that the theory of care seeking behaviour has value for exploring these factors because of its sensitivity to socioeconomic differences that exist among women in society and because it has a broader construct (such as habit and external factors) compared to the other health behavioural theories.
4.	Lawal et al. (2015)	Mammography screening in Nigeria - A critical comparison to other countries	Radiography	Breast cancer is a leading cause of death among women, and according to the World Health Organisation (WHO) there will be a significant increase in the incidence of breast cancer in developing countries such as Nigeria by 2030. However, mammography screening can significantly reduce the mortality and morbidity of women as a result of breast cancer. Therefore, the aim of this review is to evaluate the mammography screening program in Nigeria, compare it with four developed countries and then draw inferences. The Nigerian screening program was evaluated using the following factors: - mode of invitation, frequency of screening, age of the participants, image projections, imaging staff, quality assurance program, and availability. Similarities exist between Nigeria and four developed countries (the United States of America, United Kingdom, Australia and Canada), for instance trained Radiographers do the imaging and the image projections obtained are the same. However, important differences exist, these include mode of invitation, financial model, quality assurance program and availability. On comparison with the four developed countries, various issues have been identified within the Nigerian breast screening programmes. No one simple solution can be offered to address these as the challenges are multi-factorial.

Appendix J: Approval letter for pilot study



PRECIOUS
PEOPLE
PARISH

JULY 7TH 2015

15, Range Street,
Manchester,
United Kingdom.
M11 2JF.
29-06-15
Tel: +447825017306

Dear Olanrewaju,

RE: LETTER OF SUPPORT

In response to your letter of request concerning your research into Breast Cancer, I am happy to inform you that the Church Pastorate has approved your proposal to use some members of the church for your pilot study.

As stated in your letter, I hope record of the research will remain anonymous and will not disclose the identities and details of the volunteers.

I wish you God speed in your research and pray that it would benefit humanity.

Sincerely,

Pastor Nath Ayoade Ogundipe



6 Harthill street,
Manchester.
M8 8AG.

0161 8359 000
0753 5703 955

Appendix K: Description of factors influencing the provision of mammography service within Nigeria

