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Understanding breast health awareness in an Arabic culture: qualitative study protocol

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Understanding Breast Health Awareness in an Arabic Culture: A qualitative exploration

Abstract:

Aims. To explore breast health awareness and the early diagnosis and detection methods of breast cancer from the perspective of women and primary health care providers in the Jizan region of the Kingdom of Saudi Arabia.

Background. While there is a high incidence of advanced breast cancer in young women in the Kingdom of Saudi Arabia, there is no standardised information regarding breast self-examination, nor is there a national screening programme involving clinical breast examination and mammography available.

Design. A qualitative exploratory study.

Methods. Data collection will consist of 36 face-to-face semi-structured interviews: 12 with general practitioners; 12 with nurses at primary health care centres; and with 12 women who attend the health centres. This study will be carried out in eight states across the Jizan region (four rural and four urban) to reflect the cultural diversity of Jizan. The data will be analysed using thematic content analysis. Research Ethics Committee's approval was obtained in June 2015.

Discussion. While we understand the enablers and barriers to breast health awareness outside of Saudi culture, within the Kingdom of Saudi Arabia, particularly in rural populations such as Jizan, there is a paucity of research. This study will add positively to the international knowledge base of this topic. The findings will provide evidence and inform policy about women and health care providers' experiences in Jizan in a society such topics are taboo.

Keywords: Nursing, clinical breast examination, general practitioners, mammograms, breast cancer, breast health awareness, breast self-examination, qualitative, Saudi Arabia

Summary Statement:

Why this study is needed?

- * There are no current national breast cancer education and screening programmes in the Kingdom of Saudi Arabia.
- * There is a dearth of qualitative work exploring the experience of breast health awareness in Kingdom of Saudi Arabia.
- * Breast cancer is a taboo topic in Kingdom of Saudi Arabia and related cultural perspectives and barriers have not previously been investigated.

INTRODUCTION:

Breast cancer (BC) has been ranked as the most common cancer in women in the Kingdom of Saudi Arabia (KSA) (Al-Daihan & Shafi 2012, Saeedi *et al.* 2014). BC

significantly impacts on women's health worldwide, and incidence rates in Arab women, including Saudi women, increase (Donnelly *et al.* 2013). Improved life expectancy, increased urbanisation, the adoption of Western lifestyles, and delayed and reduced fertility have contributed to this increase (Anderson *et al.* 2008, Al-Daihan & Shafi 2012). One major factor influencing Saudi BC incidence is the large proportion of younger women presenting with BC, many of whom present at an advanced stage due to absence of national BC education and screening programme (Najjar & Easson 2010, Rudat *et al.* 2012a, Al-Basrei 2014). Currently, 50% of the Saudi population is aged less than 20 years and, because the number of BC cases has doubled in the past 10 years, a dramatic increase in both BC incidence (35%) (Ibrahim *et al.* 2008). BC at a young age is a critical health issue in the KSA, and has a negative impact on patients' prognoses (Elkum *et al.* 2007). These women have a poor prognosis, and thus a poor survival rate (Elkum *et al.* 2007, Rudat *et al.* 2012b). Their poor health is attributed to the absence of national BC education and screening programmes in the KSA (Donnelly *et al.* 2013). The absence of breast health programmes is apparent in many Middle Eastern countries. In addition, much of the Saudi population lives in remote regions with underdeveloped infrastructure and health facilities, and lack health information sources. A deficiency in service provision, coupled with a conservative culture, may be associated with the increased rate of advanced stages of BC in Saudi Arabia (Al-Diab *et al.* 2013).

Saudi society is largely conservative (AL-Munajjed 1997). One feature that influences profoundly, every aspect of public and social life in KSA is the segregation of the sexes physically, socially and psychologically. This segregation does not permit women to mix with unrelated men in Saudi Arabia (AL-Saggaf & Williamson 2004). In some Muslim cultures, in countries such as KSA, it is men who largely control women's mobility, health options and decisions. For example, husbands play an essential role in giving permission and women are not permitted to drive and have to rely on male relatives for transportation to health care facilities. This role is related to Saudi cultural and traditional roles, customs and regulations within Saudi societies, rather than to true and pure Islamic roles, which are more flexible than cultural roles (Al-Amoudi & Abduljabar 2012). For example, under Islamic regulations, women can leave their houses on their own to attend a health-related appointment. However, the culture within KSA does not permit this, and women must be accompanied by a male relative (Al-Amoudi & Abduljabar 2012). However, these cultural and traditional roles and regulations may differ from region to region, tribe to tribe and family to family within KSA. This study takes place in a more conservative region (Jizan) of KSA.

Culture-specific barriers, such as modesty, privacy and religion, cause many women to feel embarrassment and discomfort when being examined by male HCPs, or when there is a need to expose their bodies or breasts (Salman 2012, Banning 2011, Kawar 2009). Lack of knowledge and emotional reactions, such as embarrassment or fear regarding BC and its early detection, have led to BC becoming a taboo

subject in Saudi society, and people find it difficult to discuss (Abdel Hadi 2006, Alam 2006). BC survival rates are approximately 60% in middle-income countries and below 40% in many low-income countries, including the KSA (Coleman *et al.* 2008). Early detection is therefore imperative to improve BC outcomes and survival remains the cornerstone of BC control (Anderson *et al.* 2008, Rizwan & Saadullah 2009).

BC prevention programmes seek to increase breast health awareness by promoting education regarding breast self-checks (breast self-examinations), healthy lifestyles, and regular medical check-ups (Al-Amri 2005, Saadat 2008). Such education helps women to stay healthy by detecting the early warning signs of disease and illness, thereby reducing the incidence of late stage tumours and thus BC mortality and morbidity (Anderson *et al.* 2008). Together with national screening programmes and examinations, health care education that focuses on adopting a healthy lifestyle, adhering to BC screening (BCS), and symptom control and rehabilitation are said to be effective (Benson & Jatoi 2012, Saadat 2008, Al-Amri 2005, Cauley *et al.* 2001). However, such interventions are not commonly used in KSA, and no standardised information regarding breast self-examination (BSE) or a national screening programme involving clinical breast examination (BCE) and mammography is offered. Strategies to promote breast cancer screening (BCS) practices should pay particular attention to underserved groups, and they should be part of a more comprehensive policy that ensures the applicability of, and accessibility to, regular health care for women who live in remote regions of KSA, for whom there is a dearth of information in the literature relating to BCS practices (Siahpush & Singh 2002).

Jizan is considered to be a remote region with less infrastructure and health facilities, as well as having a conservative culture. It is the poorest area in KSA, with 34% of families living in poverty (Dohman 2012). Health services in Jizan consist of 17 hospitals (Saudi Health Statistic Year Book 2011) and 173 primary health centres (number identified with Health Office in Jizan). According to the referral health system in KSA, on presentation, GPs usually refer BC cases to the peripheral hospital for medical investigations and consultation, then to the central hospital within the Jizan region for further medical investigations and consultation. Finally, the central hospital usually transfers patients to the cancer centre in Riyadh, which is 1,245 km away. This long referral process may result in the deteriorating health, or even the death of patients, before they reach a cancer centre and access appropriate health services (Abdelhadi 2008).

The first cancer case registered in the Saudi Cancer Registry (SCR) was in 1994. The SCR reported cases through five regional offices in cancer centres: Riyadh, the Eastern region, Makkah Al Mukarramah, Al-Qassim and Al Madina Al Munawara (Al Sayed *et al.* 2010). Therefore, Jizan as other remote regions in KSA are not captured. ALghamdi *et al.* (2013) reviewed female BC records (n=6922) in the SCR from 2001 to 2008, and found that the prevalence of BC incidence increased among Saudi women. While remote regions such as Jizan and Baha have less BC

incidence in comparison with central regions in the KSA such as Riyadh and the Eastern region. This is very likely an underestimation of cancer incidence, as this work does not take into account the lack of cancer centres and cancer services in the most remote regions of the KSA, such as Jizan and Baha (Al-Diab *et al.* 2013, Alzahrani *et al.* 2003). Therefore, there is no database available for cancer patients in Jizan that accurately records the incidence of BC. ALghamdi has collected data on incidence, but this does not represent the true figure because it did not look at remote regions, so the incidence will be higher than that reported. Many people in remote regions such as Jizan do not survive long enough to even attend the cancer centres, only reaching cancer centres is captured thus compounding the underestimation. The findings from this study will provide evidence and inform policy regarding Saudi women and health care providers' experiences either living in KSA or outside KSA as well as about Arab women and health care providers' experiences across the world in societies where such topics are taboo and BC education and screening programs are not in existence.

Background

Research has shown that the average age at presentation of BC in Arab countries, such as the Kingdom of Saudi Arabia (KSA), is almost 10 years younger than it is in the US and European countries (Najjar & Easson 2010). The Saudi cancer registry (SCR) reports that BC constitutes 26% of all cancer cases in women in the KSA, and that the highest rate is in the 30–44-year age group (SCR 2007). Compared with Western countries, BC usually presents at advanced stages in the KSA and occurs more frequently in young, pre-menopausal women (Chiedozi *et al.* 2003). There is a difference between BC cases in the KSA and in the US in terms of age, type of BC tumour and mortality rates. The mean age of BC cases in the KSA is 46 years, while invasive BC accounts for 78.2% of all morphological breast cancer variants. By contrast, in the US, the mean age of BC cases is 63 years, while BC in situ is the most common type of BC among cases; around 62.2% of BC cases present with localised disease. Most patients who die as a result of BC in the US are currently aged ≥ 65 years and present with other health problems, such as hypertension and mild dementia. In contrast, Saudi patients who die as a result of BC in the KSA are currently younger and present in the advanced stage of the disease without other health problems (Muss 2010, Cancer Facts and Figures 2011, Rudat *et al.* 2012a, Al-Basrei 2014).

Saudi patients currently face a significant mortality risk from BC due to delayed diagnosis often occurring in the advanced stages of the disease (Azaiza & Cohen 2006). There is a high incidence of advanced BC in KSA, particularly in young women, due to poor awareness, social customs, a conservative culture and reduced

importance being placed on breast health awareness by health care providers (HCPs) (Elkum *et al.* 2007).

Very little work has been done to investigate the level of knowledge among physicians in primary health care centres (PHCCs), as well as their experience with women in the context of BC and early detection methods. Their level of awareness appears low (Alaboud & Kurashi 2006, Al-Amoudi & Abduljabbar 2012, Yousuf *et al.* 2012, Latif, 2014). Lack of knowledge and interest among health care providers (HCPs) regarding BC in the KSA is a critical health issue because lack of knowledge may impact on the wellbeing of women. In addition, a lack of training about BC early detection methods and communication skills limits the establishment of trusting relationships between women and HCPs in clinical settings to provide BC examination and education. Cultural and social circumstances are also likely to hinder staff from performing BCS at their clinics (Yosuf *et al.* 2012, Saeedi *et al.* 2014). Furthermore, some physicians do not consider the provision of health education part of their job role (Al-Amoudi & Abduljabbar 2012) even though they may provide breast health education and perform BCS when working outside of the KSA. This stereotyping of Saudi women may lead them to believe that all Saudi women are conservative and do not allow HCPs to examine their breasts in the absence of clinical symptoms, or that all women will be nervous, afraid or embarrassed if HCPs, especially males, conduct breast health education or examinations (Al-Amoudi & Abduljabbar 2012). Furthermore, it is suggested some women are afraid that abnormalities may be found and are happy not to be investigated (Alaboud & Kurashi 2006, Alrudainni & Selim 2010).

There is a need to understand women's experiences and perspectives regarding BC, and early detection methods, in order to enable the development of national BC programmes in the KSA. This study will provide evidence concerning women and HCPs' experiences, barriers and needs in the context of breast health education and early BC detection methods in a society where such topics are avoided.

Theoretical framework

Symbolic interactionism (SI) is a theoretical perspective and studies how individuals interpret objects and other people in their lives, and how this process of interpretation leads to behaviour in specific situations (Benzies & Allen 2001). SI will permit the researcher to assess the interaction between the HCPs and patients and the creation and attachment of meaning to specific phenomenon by individuals. Thus, symbolic interactionism allows the researcher to understand the effect of this meaning on participant's reaction towards breast health and their behaviour in relation to it (Blummer 1969). The researcher aims to explore the experience of women and healthcare professionals as well their perceptions and understanding of breast health awareness and how they act toward early BC diagnosis and detection

methods in KSA. Blummer (1969.92) identifies three premises of symbolic interactionism which are applied to this study, this is presented diagrammatically in (Figure 2).

Reflexivity

In order to achieve reflexivity the researchers have to acknowledge that they are part of interpreting and producing the data and reflect on these processes in detail (Bulpitt & Martin 2010, Green & Thorogood 2013). Thus, the researchers should be transparent in how they interpret the data and how this interpretation of findings might have been influenced by their past experiences (Bulpitt & Martin, 2010, Sargeant 2012, Creswell 2013). The researcher is the data collection instrument in qualitative research thus cannot be detached from the process of research. The researcher is likely to be subjective since data is a social interaction product. That said, the subjective nature of qualitative studies is an opportunity not a shortcoming (Tracy 2012). Those who involve themselves actively with participants have high chance of yielding the richest data (Schultze & Avital, 2011). The researcher has to be aware of their engagement in developing meaning throughout the study via interpretation and production of the results and demonstrate reflexivity, (Roberts & Priest 2010). The researcher is part of the Saudi community and shares the participants' culture and Arabic native tongue. Conducting the interviews in native tongue and being from a similar community and knowledgeable about the culture is likely to enhance the researchers' credibility (Squires 2008). Within Saudi Culture it is common practice for females to be escorted. The researcher's male relative who will be escorting will not attend any interviews. While conducting and recording the interviews the researcher will observe non-verbal communication of the participants and take field notes. The supervisors will play a vital role in considering reflexivity. The researcher will liaise with the supervisors via skype during field work when the researcher is a long distance away from the supervisors.

THE STUDY

Aims

- Explore Saudi Arabian women's experiences of breast health awareness and early diagnosis of breast cancer, and early detection methods such as breast self-examination, clinical breast examination and mammograms.

- Explore general practitioners' and nurses' perspectives in primary health care centres in KSA regarding breast health education and early breast cancer detection methods.
- Explore health care professionals' experiences of BC prevention techniques and the challenges of providing breast health education in KSA.

Design

Explorative, qualitative study

Sample/Participants

Purposive sampling will be used to recruit participants in the study in Stages 1 and 2 (HCPs and women) who are the primary point of contact for women whenever they first detect breast problem. Nurses and general practitioners (Stage 1) will be eligible to participate if they have regular contact with women, and have at least one year's experience at PHCCs in Jizan and are Arabic speakers (Table 1). Women in Stage 2 will be eligible to participate if they are Saudi women, have not had cancer, are Arabic speakers, and are ≥ 18 years of age (Table 2). Data collection will include approximately 12 interviews with health care professionals and 12 interviews with women; however data collection will continue until the point of data saturation (Gerrish & Lacey 2010).

Setting

Eight potential PHCCs will be purposively selected by the researcher from all primary care centres in the Jizan region to ensure the representation of both urban and rural regions. The researcher collaborated closely with the Ministry of Health office in the Jizan region of KSA. A list of all GP practices ($n=173$) within the Jizan region will be generated and using local knowledge to select areas not situated within conflict zones, 20 centres will be randomly selected. Data collection will consist of two concurrent stages; Stage one will involve face-to-face semi-structured interviews with 12 nurses and GPs who are currently working PHCCs in Jizan. Stage two will involve face-to-face semi-structured interviews with 12 women who attended the associated PHCCs.

Procedure

The office of the Ministry of Health will liaise with the relevant health care managers in each PHCC taking part in the study. Health care managers in each PHCC will be requested to identify potential staff participants (GPs and nurses), and women who meet the eligibility criteria. The health care manager will provide potential participants with user-friendly information sheets and consent forms that will allow them to decide whether to participate in the study. If participants are willing to take part in the interview, they are requested to complete a consent and contact form, and return it to their primary health care centre. Alternatively, they can contact the researcher directly using the phone number included on the participants' information

sheet. The researcher will then arrange a suitable time and venue to conduct the interview. (Figure 1).

Data collection

An individual interview guide that reflects the aims of the study has been developed from a review of the literature. The importance of using the right types of interview questions has been highlighted in the literature (Mishler 1986, Reisman 1993). All interviews will be digitally recorded and transcribed verbatim by the researcher. All interviews will be conducted in Arabic and transcribed into English by the researcher, who is bilingual in Arabic and English. A random sample of ¼ of these translated transcripts (women, GPs and nurses) will be validated by a third party, who is also bilingual in Arabic and English, to confirm the transcriptions independently.

Data analysis

In relation to Symbolic interactionism, the researcher will provide in-depth exploration and understanding about participants' perspectives and experiences of breast health awareness, breast health education and examination service provision in Jizan region of KSA. In order to do this direct quotations from participants will be used. Subjectivity is important in allowing the researcher to be transparent and explicit in all aspects of the research process. Additionally, the researcher will offer interpretations of the data. Through the application of symbolic interactionism, the researcher is in a position to explore these in conjunction with meaning attachment to occurrences such as breast health awareness, early diagnosis of BC and its early detection methods and to how meaning and interactions create the culture in which it exists (Blummer 1969). Namely, a Symbolic interactionism approach aims to gain insight of how meaning of the phenomena under study is created and modified by participants through their social actions, reactions and interactions.

The data from the recorded interviews will be transcribed verbatim and translated into English by the researcher, and the transcriptions will then be studied to identify common themes in the data. The dataset will be analysed via inductive thematic analysis (Braun & Clark 2006). This will involve the identification of categories and themes in the data; that is, patterns involving views, meanings, and feelings discussed by the interviewees, and organised in a way that allows for the interpretation of meaning in the text. Thematic analysis allows the themes to 'emerge' from the data; thus, the themes are not predetermined. A coding framework will be developed iteratively by the research team by reading, coding and discussing the texts. The level of agreement among the researchers regarding the coding of categories and potential themes will be assessed and discussed after the analysis of each transcript, ensuring that the category allocated to a section of the data was fitting. These findings will also be verified by a supervisory team as a means of validating the accuracy of the interpretations to explore the degree of inter-rater reliability, and to improve the rigour of this qualitative study (Mays & Pope 1995, Power 2001).

Ethical considerations

This study has been approved by the School of Nursing and Midwifery Ethics' committee, and the Ministry of Health Office in KSA. The protocol was independently peer reviewed a number of times including specific review for ethics and review funders as part of the funding process. To ensure the safety of the researcher in Jizan, and in accordance with the KSA's culture, a family member will accompany the researcher to all interview locations and wait outside the interview location during the interview process. The family member will sign a non-discloser form to ensure the confidentiality of participants. The crucial process of obtaining informed consent from the participants consists of three components: the potential participants must fully understand what is required from them, including the risks and benefits and provided with an information sheet detailing the purpose of the study, who is conducting it, the advantages and disadvantages of taking part, and the researcher's contact details. Potential participants must be informed that taking part in the study is voluntary. Participants will be given at least 24 hours to consider their invitation and it is stated in the information sheet they are under no obligation to participate; no incentives will be given to encourage potential participants to partake in the study (McIlfatrick *et al.* 2006). Once they agree to take part, the participants and the researcher will sign a consent form and a copy retained by each. Participants will be informed of their right to decline or withdraw from the interview at any point.

Justice

All participants will be informed of the procedures in the study that will help to protect their privacy during and after the research. A Participant Identification Number will be allocated to each participant, and all documentation will be numbered. Only the researcher will have access to the list that identifies the PIN of each participant. Pseudonyms will be used for verbatim quotations, and access to the raw data will be restricted to the researcher and the supervisory team. Data that are stored on a personal laptop will be doubly encrypted in terms of both the data and access to the laptop. At the end of the study, the tape recordings will be destroyed, and all paperwork generated will be kept securely for five years.

Despite the ethical procedures identified, it will be important to employ the Research Governance Framework and Research Ethics committee to handle ethical challenges that surpass the abilities of the research team. All interviews will be conducted in the KSA, and downloaded as voice files onto a personal, password-protected laptop. This laptop will be accompanied by the PhD candidate to QUB to complete the data analysis.

Validity and reliability/rigour

Lincoln & Guba (1985) proposed four essential criteria according to which the rigour of qualitative data may be scrutinised, namely credibility, transferability, dependability and confirmability. In this study, credibility will be strengthened via

various steps: Firstly, during the analysis stage, transcripts will be reviewed by the supervisory team to validate the accuracy of the interpretations and to explore the degree of inter-rater reliability. Also, a random sample of ¼ of these translated transcripts (women, GPs and nurses) will be validated by a third party, who is also bilingual in Arabic and English, to confirm the transcriptions independently. Secondly, the researcher will reflect on their interpretation of the participants' answers, throughout the interviews, in an attempt to capture the meaning participants were hoping to convey. Thirdly, space triangulation which is the collection of data at more than one study site (Denzin 1989) will occur, as data concerning the same phenomenon will be collected across eight states in the Jizan region (Denzin 1989). Finally, data triangulation will also occur by utilising multiple data sources (women, general practitioners and nurses) (Gerrish & Lacey 2010). Transferability of the results will be achieved through 'thick description' (Lincoln & Guba 1985). This will entail the researcher providing explicit accounts of each step of this study and rich descriptions of the data from which the conclusions were drawn (Lincoln & Guba 1985). The dependability and confirmability of this study will be achieved through the provision of a transparent audit trail (Lincoln & Guba 1985).

DISCUSSION

By accessing international literature, we have research to help us to understand the enablers and barriers to breast health awareness and breast health education outside the Saudi culture. However, there is currently very limited information on Saudi culture and a paucity of information regarding rural Saudi culture. This study will contribute to the international body of literature concerned with breast health awareness. Fear, a lack of knowledge, a lack of information and motivational sources, embarrassment, misconceptions and the stigma of BC often hinder women from educating themselves about BC, its risk factors and early detection methods, as well as from performing BCS – all of which lead to a delay in seeking medical advice (Yakout *et al.* 2014, Ravichandran *et al.* 2011, Al-Shehri *et al.* 2011, Habib *et al.* 2010). HCPs are supposed to have accurate information and to play a crucial role in early BC detection and health promotion and education, but this is not the case with some HCPs in KSA, as they appear to be poor sources of health information (Yousuf *et al.* 2012, Ravichandran *et al.* 2011, Al-Amoudi *et al.* 2010, Abdel Hadi, 2000). Lack of training and communication skills, and cultural and social circumstances could hinder HCPs from performing BCS at their clinics (Saeedi *et al.* 2014, Al-Foheid *et al.* 2013). Poor breast health awareness among women, coupled with a lack of knowledge and interest on the part of HCPs in providing breast health education and performing BCS, results in BC cases presenting at an advanced stage in the KSA, which impacts negatively on prognosis (Al-Basri 2014, Al-Shehri *et al.* 2011, Al-Amoudi *et al.* 2010).

The KSA occupies a vast area, as well as having a high population density and cultural diversity, but only five regional oncology centres are available in KSA in the central regions (Al-Diab *et al.* 2013, Al-Sayed *et al.* 2010). This results in Saudi

women in Jizan, undergoing a long referral process to reach a cancer centre, thus experiencing deterioration in their health status, or even death, before accessing cancer services (Al-Shehri *et al.* 2011, Abdelhadi 2008). At present, there are no national BC education and screening programmes in the KSA. There is no cancer centre or cancer services in the Jizan region. There is a very limited evidence base in the KSA regarding women's experiences of breast cancer, and very little primary care centre evidence from GPs and none from nurses in PHCCs settings where staff members have regular contact with women, even though they constitute the first step in educating women and understanding their experiences in the context of BC and early detection methods. GPs and nurses at PHCCs are also the primary point of contact for women in the KSA when they first detect a breast irregularity. All studies conducted in the KSA to date are quantitative in nature, and share a key limitation of using questionnaires that have not been validated. Therefore, it is difficult to draw conclusive evidence from previous studies. Furthermore, there have not been in-depth explorations in relation to this topic. No qualitative evidence can be found to explore the factors important to women and HCPs in relation to breast health awareness or to BC early detection methods, such as BSE, CBE and mammograms in KSA. Thus, this novel research will be the first exploration aimed at understanding women's and HCPs' experiences and perspectives of breast health awareness, the early diagnosis of BC, and its early detection methods from their points of view. Culturally sensitive health education messages, such as BCS practice, should be tailored to fulfil the knowledge gap among all population groups in the KSA. This may have a positive impact on how women experience their breast health and BC early detection methods, as well as how they interpret its meaning for their male family members, as they play an essential part in female health. Appropriate breast health education, via establishing good communication and a trusting relationship between HCPs and women in clinical settings in the KSA, can help women and their relatives to raise their breast health awareness and to accept attendance at BCS if national BCS programmes are developed; thus, they will receive optimal health care services, in addition to following a healthy lifestyle and breast health behaviour. The study is also likely to reveal the role of males in their female relatives' health, a cultural perspective not previously investigated in this population group.

Limitations of study

We perceived some a few limitations. Firstly, we are restricted by the confines of time, and as only Arabic-literate participants will be eligible to take part, this will limit the diversity of perspectives explored. Finally, it is also recognised that the current conflict zones between the Saudi government and Yemen restricts access to all states in the Jizan region reducing generalisability of findings.

CONCLUSION

Currently, no qualitative research can be found which explores breast health awareness and BC early detection methods in the KSA. While we understand the

enablers and barriers to breast health awareness in terms of policy and practices outside of Saudi culture within the KSA, particularly in rural populations such as Jizan, little is known. The findings of this study will contribute to an international knowledge base. We cannot compare the international knowledge base of breast health awareness and BC early detection methods to a Saudi knowledge base in relation to this topic because Saudi cultural roles and customs as well as the Saudi health care system differs to other parts of the world, particularly the West where most research has been produced. Thus, this novel research is the first exploration aimed at understanding women's and HCPs' experiences and perspectives of breast health awareness, and the early diagnosis of BC and detection methods in KSA. The study is also likely to highlight social customs which create barriers to adequate breast health in the KSA and Arab world. It has implications for Saudi women and HCPs living in or outside KSA as well as for Arab women and health care providers across the world

References

- Abdel Hadi MS (2000) Breast cancer awareness among health professionals. *Annals of Saudi medicine* 20(2), 135-136.
- Abdelhadi, M.S. (2008) Breast cancer management delay-time for improvement: A reflection from the eastern province of Saudi Arabia. *Journal of family & community medicine* 15(3), 117.
- Al Diab, A., Qureshi, S., Al Saleh, K.A., Al Qahtani, F.H., Aleem, A., Alghamdi, M.A., Alsaif A., Bokhari, A.A., Qureshi, V.F. & Rehan Qureshi, M. (2013) Review on Breast Cancer in the Kingdom of Saudi Arabia. *Middle-East Journal of Scientific Research* 14(4): 532-543.
- Al Sayed, A., Shoukri, M., Al-Eid, H., Al-Tweigeri, T., Al-Dalee, A., Al-Shabanah, M., Al-Malik, O., Ezzat, A., Ajarim, D. & Bazarbashi, S. (2010) Breast cancer in the Kingdom of Saudi Arabia: A review of all female breast cancer cases from the Saudi Cancer Registry (SCR) from 1994-2004. 28(15_suppl), e12042.
- Al-Alaboud, L. & Kurashi, N. (2006) The barriers of breast cancer screening programs among PHHC female physicians. *Middle East J Fam Med* 4(5), 11-14.
- Alam AA (2006) Knowledge of breast cancer and its risk and protective factors among women in Riyadh. *Annals of Saudi medicine* 26(4), 272-277.
- Al-Amoudi SM, Abduljabbar HS. (2012) Men's knowledge and attitude towards breast cancer in Saudi Arabia a cross-sectional study. *Saudi medical journal* 33(5), 547-550.

- Al-Amoudi SM, Sait WA & Abduljabbar HS. (2010) Health care provider's role in facing the future burden of breast cancer in Saudi. *Saudi medical journal* 31(12), 1359-1362.
- Al-Amoudi,S.M. Eldeek, B.S. Ayoub,N.A. Alzhrani, W & Alahwal, S. (2012) knowledge about breast cancer among male medical students, Jeddah. *Saudi medical journal* 9(3): 166-170.
- Al-Amri, A. M. (2005). Prevention of breast cancer. *Journal of Family & Community Medicine*, 12(2): 71–74.
- Al-Basri, A., Hussainy, A.S., Sundkji, I. & Alhujaily, A. (2014) Histopathological features of breast cancer in Al-Madinah region of Saudi Arabia. *Saudi medical journal* 35(12), 1489-1493.
- Al-daihan, S. & Shafi, R. (2012) Breast Cancer in Saudi Arabia: A Review. *International Journals of Biotechnology and Biochemistry* 8(1), 71-77.
- Al-Foheidi, M., Al-Mansour, M., Ibrahim, E., Al-Foheidi, M., Al-Mansour, M., Ibrahim, E., Al-Foheidi, M., Al-Mansour, M.M. & Ibrahim, E.M. (2013) Breast cancer screening: review of benefits and harms, and recommendations for developing and low-income countries. *Medical Oncology* 30(2), 471.
- Alghamdi, I. G., Hussain, I. I., Alghamdi, M. S., & El-Sheemy, M. A. (2013). The incidence rate of female breast cancer in Saudi Arabia: an observational descriptive epidemiological analysis of data from Saudi Cancer Registry 2001–2008. *Breast Cancer: Targets and Therapy*, 5, 103.
- AlMunajjed, M. (1997). *Women in Saudi Arabia Today*. UK: Macmillan.
- AL-Rudaini, F. A., & Selim M. E. D. A. (2010). Breast Cancer Screening in Primary Health Care: Barriers and Predictors of Physicians' Adherence to Screening Guidelines. *The Medical Journal of Cairo University*, 78(2).
- Al-Saggaf, Y., & Williamson, K. (2004). Online communities in Saudi Arabia: Evaluating the impact on culture through online semi-structured interviews. In *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*.5(3). Available online <http://www.qualitative-research.net/index.php/fqs/article/view/564/1226>
- AlShehri, S. Abulkhair, O, A. M. Al Kushi, A. Musaad,, S. Al Olayan, S. Jazieh, A. R. (2011) Clinical and pathologic profile of breast cancer in a tertiary cancer center in Saudi Arabia. *Journal of Clinical Oncology: official journal of the American Society of Clinical Oncology* 29(15 SUPPL. 1). Abstract.
- Altaf, FJ. (2004) Breast cancer screening. *Saudi medical journal* 25(8), 991-997.
- Al-Zahrani A, Baomer A, Al-Hamdan N & Mohamed G (2003) Completeness and validity of cancer registration in a major public referral hospital in Saudi Arabia. *Annals of Saudi medicine* 23(1-2), 6-9.

- Anderson, B. O et al. (2008). Guideline implementation for breast healthcare in low-income and middle-income countries: overview of the Breast Health Global Initiative Global Summit 2007. *Cancer*, 113: 2221–2243.
- Azaiza, F. and Cohen, M. (2006) Health beliefs and rates of breast cancer screening among Arab women. *Journal of Women's Health* 15(5), 520-530.
- Banning, M. (2011) Black women and breast health: a review of the literature. *European Journal of Oncology Nursing* 15(1), 16-22.
- Benson, J. R. & Jatoi, I. (2012). The global breast cancer burden. *Future oncology*, 8(6), 697-702.
- Benzies and Allen (2001) Symbolic Interactionism as a theoretical perspective for multiple method research. *Journal of Advanced Nursing* 33(4): 541 – 547.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101.
- Cauley, J. A., Norton, L., Lippman, M. E., Eckert, S., Krueger, K. A., Purdie, D. W. & Jordan, V. C. (2001). Continued breast cancer risk reduction in postmenopausal women treated with raloxifene: 4-year results from the MORE trial. *Breast cancer research and treatment*, 65(2), 125-134.
- Chiedozi, L. C., El-Hag, I. A., & Kollur, S. M. (2003). Breast diseases in the Northern region of Saudi Arabia. *Saudi medical journal*, 24(6), 623-627.
- Coleman, M.P., Quaresma, M., Berrino, F., Lutz, J., De Angelis, R., Capocaccia, R., Baili, P., Rachet, B., Gatta, G. & Hakulinen, T. (2008) Cancer survival in five continents: a worldwide population-based study (CONCORD). *The lancet oncology* 9(8), 730-756.
- Denzin N.K. (1989) Enhancing Quality and Integrity in Qualitative Research. In: Polit D.F. & Beck C.T. (2008) *Nursing Research: Generating and Assessing Evidence for Nursing Practice*, 8th edn. Lippincott Williams and Wilkins, Philadelphia, PA.
- Dohman, A. (2012) Poverty in the kingdom of gold. Available online : <http://www.al-monitor.com/pulse/culture/2012/10/poverty-rising-issue-in-saudi-society.html#>
- Donnelly, T.T. and Hwang, J. (2013) Breast Cancer Screening Interventions for Arabic Women: A Literature Review. *Journal of Immigrant and Minority Health*, 1-15.
- Elkum, N., Dermime, S., Ajarim, D., Al-Zahrani, A., Alsayed, A., Tulbah, A., Al Malik, O., Alshabanah, M., Ezzat, A. & Al-Tweigeri, T. (2007) Being 40 or younger is an independent risk factor for relapse in operable breast cancer patients: the Saudi Arabia experience. *BMC cancer* 7, 222. Available online: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2222639/pdf/1471-2407-7-222.pdf>

- Gerrish, K., & Lacey, A. (2010). *The research process in nursing*. John Wiley & Sons.
- Habib, F., Salman, S., Safwat, M. & Shalaby, S. (2010) Awareness and knowledge of breast cancer among university students in Al Madina Al Munawara Region. *Middle East Journal of Cancer* 1(4), 159-166.
- Ibrahim, E., Zeeneldin, A., Sadiq, B., Ezzat, A., Ibrahim, E.M., Zeeneldin, A.A., Sadiq, B.B. & Ezzat, A.A. (2008) The present and the future of breast cancer burden in the Kingdom of Saudi Arabia. *Medical Oncology* 25(4), 387-393.
- Kawar, L.N. (2009) Jordanian and Palestinian Immigrant Women's Knowledge, Affect, Cultural Attitudes, Health Habits, and Participation in Breast Cancer Screening. *Health care for women international* 30(9), 768-782.
- Latif, R. (2014) Knowledge and attitude of Saudi female students towards breast cancer: A cross-sectional study. *Journal of Taibah University Medical Sciences*. 9(4). Available online
http://ac.els-cdn.com/S1658361214000614/1-s2.0-S1658361214000614-main.pdf?_tid=0e9f9760-307a-11e5-b42d-00000aab0f26&acdnat=1437573829_63455aa7e4c5166434506fa52c81d1ad
- Lincoln, Y & Guba, E. (1985). *Naturalistic Inquiry*. Newberry Park, Sage publications.
- Mays, N & Pope, C. (1995) Rigour and qualitative research. *BMJ*, 311(6997): 109–112.
- Mishler, E. G. (1986). *Research interviewing: context and narrative*. Cambridge, Harvard University Press.
- Muss, H. B. (2010). Coming of age: breast cancer in seniors. *The oncologist*, 15(Supplement 5), 57-65.
- Najjar, H. & Easson, A. (2010) Age at diagnosis of breast cancer in Arab nations. *International journal of surgery* 8(6), 448-452.
- Pope, C. & Mays, N. (2006) *Qualitative Research in Health Care*. 3rd Edition. London, Blackwell Publishing.
- Power, R. (2001) checklist for improving rigour in qualitative study. *BMJ*, 323(7311): 514.
- Price, B. (2002). Laddered questions and qualitative data research interviews.
- Ravichandran, K., Al-Hamdan, N.A. & Mohamed, G. (2011) Knowledge, attitude, and behavior among Saudis toward cancer preventive practice. *Journal of family & community medicine* 18(3), 135-142..
- Reisman, C. K. (1993). *Narrative analysis*. London, Sage Publications.
- Ritchie, J., and Lewis, J. (2003). *Qualitative Research Practice*. London, SAGE.

- Rizwan, M.M. & Saadullah, M. (2009) Lack of awareness about breast cancer and its screening in developing countries. *Indian journal of cancer* **46**(3), 252-253.
- Rudat, V., Brune-Erbe, I., Noureldin, A., Bushnag, Z., Almuraikhi, N. & Altuwaijri, S. (2012a) Epidemiology of breast cancer patients at a tertiary care center in the Eastern Province of Saudi Arabia. *The Gulf journal of oncology* (11)(11), 45-49.
- Rudat, V., El-Sweilmeen, H., Fadel, E., Brune-Erber, I., Nour, A.A., Bushnag, Z., Masri, N., Altuwaijri, S., Rudat, V., El-Sweilmeen, H., Fadel, E., Brune-Erber, I., Ahmad Nour, A., Bushnag, Z., Masri, N., Altuwaijri, S., Rudat, V., El-Sweilmeen, H., Fadel, E., Brune-Erber, I., Ahmad Nour, A., Bushnag, Z., Masri, N. & Altuwaijri, S. (2012b) Age of 40 Years or Younger Is an Independent Risk Factor for Locoregional Failure in Early Breast Cancer: A Single-Institutional Analysis in Saudi Arabia. *Journal of oncology* (1), 1. Available online: <http://www.hindawi.com/journals/jo/2012/370385/>
- Saadat, S., 2008. Can We Prevent Breast Cancer?, *International Journal of Health Science*, 2(2), pp.167–170. Available online: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3068727/pdf/ijhs-2-2-0167.pdf>
- Saeedi, M.Y., Al Amri, F., Ibrahim, A.K. & Kassim, K. (2014) Knowledge, attitude and practice of breast cancer screening among female general practitioners in Riyadh, Saudi Arabia. Available online: <http://article.sciencepublishinggroup.com/pdf/10.11648.j.crj.20140206.13.pdf>
- Salam, A.A (2014). Population and Household Census, Kingdom of Saudi Arabia 2010: Facts and Figures
- Salman, K.F. (2012) Health beliefs and practices related to cancer screening among Arab Muslim women in an urban community. *Health care for women international* 33(1), 45-74.
- Saudi Cancer Registry (2007). Saudi Arabia Cancer Incidence and Survival Report 2007. Riyadh, Saudi Arabia: Saudi Cancer Registry. available at <http://www.chs.gov.sa/Ar/HealthRecords/CancerRegistry/CancerRegistryReports/Incidence%20Report%202007.pdf>
- Saudi Cancer Registry (2008) Cancer Incidence Report 2008. Riyadh, Saudi Arabia: Saudi Cancer Registry available at: <http://www.chs.gov.sa/Ar/HealthRecords/CancerRegistry/CancerRegistryReports/Incidence%20Report%202008.pdf>
- Saudi Health Statistic year book (2011) available at: <http://www.moh.gov.sa/en/Ministry/Statistics/book/Documents/1433.pdf>
- Saumure, K. & Given L. M. (2008). Convenience Sample. In *The SAGE Encyclopedia of Qualitative Research Methods*. Thousand Oaks, CA: Sage.

- Siahpush, M. and Singh, G.K. (2002) Sociodemographic variations in breast cancer screening behavior among Australian women: results from the 1995 National Health Survey, *Prev Med*.35(2):174-80.
- Squires, A. (2008). Language barriers and qualitative nursing research: methodological considerations. *International nursing review*, 55(3), 265-273.
- Yakout, S.M., El-shatbyMoursy, A.M., Moawad, S. & Salem, O. (2014) Awareness, Knowledge and Practice of Breast self-examination among groups of Female nursing students, Riyadh, Kingdom of Saudi Arabia. 3(2), 58-63.
- Yousuf SA, Al Amoudi SM, Nicolas W, Banjar HE & Salem SM (2012a) Do Saudi nurses in primary health care centres have breast cancer knowledge to promote breast cancer awareness? *Asian Pacific Journal of Cancer Prevention* 13(9), 4459-4464.
- Yousuf, S.A. (2010) Breast cancer awareness among Saudi nursing students. *Medicine Science* 17, 67-78.