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INSTITUTE OF HEALTH SCIENCES

KNOWLEDGE, ATTITUDES AND PRACTICES REGARDING BREAST CANCER AMONG AFGHAN WOMEN VISITING ISTIQLAL AND JUMHURIAT HOSPITALS IN KABUL CITY, AFGHANISTAN
A CROSS-SECTIONAL STUDY

MASTER'S THESIS

Mohammad Jawad MUDABER

PUBLIC HEALTH PROGRAM

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Knowledge, Attitudes and Practices Regarding Breast Cancer among Afghan Women Visiting Istiqlal and Jumhuriat Hospitals in Kabul city, Afghanistan

Mohammad Jawad MUDABER

Master's Thesis

22/06/2020

Thesis Supervisor

Assist. Prof. Dr. Nimetcan Mehmet YAĞMA

Jury members

Prof. Dr. Salih MOLLAHALİLOĞLU

Assist. Prof. Dr. Mağfiret Abdulveli BOZLAR

Assist. Prof. Dr. Nimetcan Mehmet YAĞMA

We declare that this thesis, which we have read and listened to, has met all the scope and quality requirements for a Master's Degree.

Institution Director

Prof. Dr. Seyfullah Oktay ARSLAN

I certify that this thesis meets all requirements for Master's Degree.

DECLARATION

I hereby declare that this master thesis entitled “Knowledge, attitudes and practices regarding breast cancer among Afghan women visiting Istiqlal and Jumhuriat hospitals” represents my own work which has been done after registration for my master degree at Ankara Yilidrim Beyazit University, Health Science Institute and Public Health Department, under the guidance and supervision of Assist. Prof. Dr. Nimetcan Mehmet YAĞMA. This thesis is presented in accordance with academic rules and ethical conduct without any ethical violation. I declare that I fully cited and referenced all sources and information that are not original to this work. I therefore accept all legal responsibility pertaining to this study.

28 May, 2020

Mohammad Jawad MUDABER

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God bless them all

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ÖZET

Afganistan Kabil'deki İstiqlal ve Jumhuriat Hastanelerine Başvuran Afgan Kadınların Meme Kanseri ile İlgili Bilgi, Tutum ve Uygulamaları

Meme kanseri insidansı gelişmekte olan ülkelerde artmaktadır, ancak hem gelişmiş hem de gelişmekte olan ülkelerde kadınlar arasında en yaygın ve en sık görülen kanser türüdür ve küresel olarak kadınlarda ikinci önemli ölüm nedenidir.

Afganistan'ın Kabil şehrindeki Istiqlal ve Jumhuriat hastanelerini ziyaret eden Afgan kadınları arasında meme kanseri ile ilgili bilgi, tutum ve uygulamaların düzeyini değerlendirmek için kesitsel bir çalışma yapılmıştır. Dahil etme ve hariç tutma kriterlerini karşılayan ve sadece çalışmaya katılmayı kabul eden 18 yaş ve üstü kadınlardan veri toplamak için uygun hale getirilmiş standart bir anket kullanılmıştır. Kolay örnekleme yöntemi kullanılarak, 410 kadından veri toplanmıştır.

Ortalama yaş 33.81 ve standart sapma 13.08 idi. Çalışmanın bulguları 410 katılımcıdan %40.7'sinin zayıf, %52.4'ünün orta ve katılımcıların sadece %6.8'inin meme kanseri hakkında iyi bilgiye sahip olduğunu ortaya koymuştur. Çalışmaya katılanların %70'i olumsuz, %30'u meme kanseri ve tarama yöntemlerine karşı olumlu tutum sergilemiştir. Tüm katılımcılardan %27.6'sı kendi kendine meme muayenesi uygulamış, %14.9'u son bir yıl içinde klinik meme muayenesi için bir doktora gitmiştir. Bunların %13.9'u son iki yılda mamografi yaptırmıştır. Katılımcılar arasında meme kanseri bilgisi, tutumları ve uygulamaları arasında anlamlı ilişkiler gözlenmiştir.

Genel olarak meme kanseri ve taramasının bilgi düzeyi, tutum ve uygulamaları katılımcılar arasında zayıftı. Devlet ve sağlık sektörleri, halk arasinda meme kanseri konusundaki farkındalığını artırmalı ve ülke genelinde sağlık merkezlerindeki tarama tesislerini çoğaltmalıdır. Bununla birlikte, meme kanseri hakkında bilgi düzeyi ile ilgili daha fazla araştırma yapılması ve genel nüfus arasında hastalık yükünün bulunması önerilmektedir.

Anahtar Kelimeler: Afganistan, Afgan kadınları, meme kanseri, bilgi, tutum, uygulama.

ABSTRACT

Knowledge, Attitudes and Practices Regarding Breast Cancer among Afghan Women Visiting Istiqlal and Jumhuriat Hospitals in Kabul city, Afghanistan

Breast cancer incidence is increasing in developing countries, however, it is the most common and frequently type of cancer among women both in developed and developing countries and it is the second major cause of death in women globally.

A cross-sectional study was conducted to assess the level of knowledge, attitudes and practices regarding breast cancer among Afghan women visiting Istiqlal and Jumhuriat hospitals in Kabul city, Afghanistan. A standard questionnaire which modified to suite the study was used to collect data from women aged 18 years and over, and from only those who agreed to participate in the study, and met the inclusion and exclusion criteria. By using convenience sampling method, data was collected from a sample of 410 women.

The mean age was 33.81±13.08. The findings of the study revealed that among 410 participants, 40.7% of them had poor, 52.4% of them had fair, and only 6.8% of participants had good knowledge about breast cancer. Among all participants to the study 70% of them had negative attitudes and 30% of them had positive attitudes towards breast cancer and its screening methods. From all participants, 27.6% of them practiced breast self-examination, 14.9% of them visited a doctor for clinical breast examination during the past one year. 13.9% of them performed mammogram in the past two years. There were significant associations observed between knowledge, attitudes and practices of breast cancer among participants.

Overall, the knowledge level, attitudes and practices of breast cancer and its screening was weak among participants. Government and health sectors need to raise people's awareness towards breast cancer and increase the screening facilities in healthcare centers across the country. However, it is recommended to conduct further researches regarding knowledge level on breast cancer and find disease burden among general population.

Keywords: Afghanistan, Afghan women, breast cancer, knowledge, attitude, practice.

LIST OF SYMBOLS AND ABBREVIATIONS

BSE	: Breast self-examination
BPHS	: Basic Packages of Health Services
CBE	: Clinical breast examination
CSB	: Care-Seeking Behavior
EHPS	: Essential Package of Hospital Services
HDI	: Human Development Index
KAP	: Knowledge, Attitude and Practice
MoPH	: Ministry of Public Health
PHC	: Primary Health Care
SPSS	: Statistical Package for Social Sciences
SD	: Standard Deviation
WHO	: World Health Organization

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1. INTRODUCTION

1.1. Research Background

This study was designed to assess the level of knowledge, attitudes and practices regarding breast cancer among Afghan women who visit Jumhuriat and Istiqlal hospitals in Kabul city, Afghanistan.

Breast cancer is the most common and frequent type of cancer among women both in developed and developing countries, however, breast cancer incidence is increasing in developing countries. Though, it is the leading cause of death in women globally. Also, breast cancer with one million new cases diagnosed annually results to 400 000 deaths each year, is known as global health concern. One out of eight women will be effected to breast cancer during her lifetime. In low and middle income countries breast cancer diagnoses in late stages and the key to improve breast cancer outcome and survival is awareness and its early detection by screening (1, 40).

Breast is made up of lobules including, glands that produce milk, ducts which curry milk to the nipple and connective tissue which holds and surrounds everything together. Breast cancer is a disease in which cells grow out of control, it starts in the ducts and lobules and it can also begin in different parts of the breast. Breast cancer cells are from a tumor and it can often be seen on an x-ray or felt as a lump. It spreads to other parts of the body through blood vessels and lymph vessels which is called metastasized. There are different types of breast cancer which depends on type of cells which turn to cancer, however, the most common type of breast cancer are:

Ductul Cancers: Begin in the ducts that carry milk to the nipple (2).

Lobular Cancer: Starts in the glands that make breast milk. However, there are some other less-common types such as phyllodes tumor and angiosarcoma (2).

According to WHO in 2018, cancer of lung, breast (in female), and colorectal are the top three frequent cancer types in terms of incidence, though, they are ranking among five top in terms of mortality. Breast cancer is impacting more than two million women annually and it is estimated that 627 000 women died from it in 2018, which

is 15% of all cancer deaths among women in the world. In recent decades its prevalence increased all over the world. In Asia breast cancer has a 5-year prevalence[1] of 2.6 million, 38% of world breast cancer in 2018, related to this, a mortality rate of 49.6% of all world breast cancer, 3.1 thousand people by 2018 (3).

In Asia, South Asian countries breast cancer incidence rate varies from 20.9 in Bhutan to 63.7 in Pakistan and 43.5 in Afghanistan (per 100 000 women).[2] Compared to other developed countries (based on HDI) Japan's breast cancer incidence was 83.5 and mortality rate of 13.5. However, it seems that South Asian low and lower-medium HDI countries have higher mortality and lower incidence rate (3).

The main aim of this study is to assess the level of knowledge, attitudes, and practices regarding breast cancer among Afghan women and will also determine the associations between their knowledge level, attitudes and practices with socio-demographic characteristics. As a result this study will help health decision makers in Afghanistan to conduct and initiate necessary programs and action plans in order to reduce breast cancer related mortality and morbidity. Moreover, this study will contribute to the existing literature regarding knowledge, attitudes, and practice of breast cancer.

1.2. Statement of Problem

The risk of death from breast cancer can be reduced by screening and early detection which can result to better treatment (4). Awareness about breast cancer, attitudes and screening practices of breast cancer are the key for early detection and survival from breast cancer. Breast cancer is almost completely curable at its early stages by seeking medical care in the course of disease. Breast self-examination (BSE), clinical breast examination (CBE) and mammography are three main options for early detection of breast cancer, however, that mammography is the most accurate option but BSE and CBE are also helpful and easy accessible (5).

In Afghanistan, breast cancer is the most common type of cancer among women, and as a consequence of lack of knowledge, awareness and limited resources breast

[1] People who are alive within 5years of cancer diagnosis
[2] GLOBOCAN database 2018. ASR (World) per 100 000 Women, Age +15

cancer results to very late stages diagnosis and death among women. However, that there has not been done any study and there is no accurate data available in regard to breast cancer and its burden in Afghanistan, but there are limited data and estimations from GLOBOCAN. As WHO estimated in 2012, Afghanistan had the highest number of breast cancer cases in comparison to its neighboring countries, except Pakistan. Moreover, it is estimated that there were 7 000 breast cancer patients out of 20 000 cancer patients in Afghanistan, however, more than 15 000 die every year from cancer (7, 41). From 40 000 cancer cases 3 000 women diagnosed with breast cancer in 2018 which more than half of them (1 700) lost their lives (41). At the public primary health-care level screening for early detection of breast, cervical, and colorectal cancers is not generally available. Similarly, radiotherapy or chemotherapy is not available at the public primary health-care level. Although some facilities existed in the past, the intervening war years destroyed most facilities which were able to treat patients with cancer. Consequently, patients travel outside of the country to receive cancer care. Afghanistan is among low-income countries in the world, where access to effective health care is limited and even not existed in some parts of the country (6). However, lack of knowledge and awareness, shortage of health care providers, lack of breast cancer diagnostic and treatment facilities, economic problems are common factors which contribute to higher cancer morbidity and mortality rates in Afghanistan. In addition, cultural and religious factors for instance feeling shy, not touching female's body by a man, not consulting the physician earlier, and some other factors also leads to higher cancer mortality rate (7, 41). However, the Ministry of Public Health has just started awareness on breast cancer during the month of October, as it is celebrated all around the world (41).

Studies in many other countries showed that lack of knowledge, awareness and disbelieve are leading cause of breast cancer. The level of knowledge, attitudes and practices of breast cancer among Afghan women is not known, and there has not been published any research yet. This is important to assess the knowledge, attitudes and practices of breast cancer and its screening among population which is an effective intervention to initiate and create more awareness regarding the prevention and management of the disease (8). In order to find and assess the level of knowledge, attitudes and practices regarding breast cancer among Afghan women in Kabul city, Afghanistan, this cross-sectional study was designed (3, 9).

1.3. Objectives

1.3.1. General Objective

The main objective of this research is to assess the level of knowledge, attitudes and practices regarding breast cancer among Afghan women, visiting Istiqlal and Jumhuriat hospitals in Kabul city.

1.3.2. Specific Objectives

1. To assess knowledge level on breast cancer in Afghan women visiting Istiqlal and Jumhuriat hospitals.
2. To assess the attitudes towards breast cancer in Afghan women visiting Istiqlal and Jumhuriat hospitals.
3. To assess practices of breast cancer in Afghan women visiting Istiqlal and Jumhuriat hospitals.
4. To determine associations between knowledge, attitudes and practices of breast cancer and socio-demographic characteristics of Afghan women visiting Istiqlal and Jumhuriat hospitals.

1.4. Hypothesis

1.4.1. Null Hypothesis

1. There is no significant association between level of knowledge, attitudes and practices on breast cancer among Afghan women visiting Istiqlal and Jumhuriat hospitals.
2. There is no significant association between knowledge, attitudes and practices regarding breast cancer and socio-demographic characteristics of Afghan women visiting Istiqlal and Jumhuriat hospitals.

1.4.2. Alternative Hypothesis

1. There is significant association between level of knowledge, attitudes and practices on breast cancer among Afghan women visiting Istiqlal and Jumhuriat hospitals in Kabul city.
2. There is significant association between knowledge, attitudes and practices regarding breast cancer and socio-demographic characteristics of Afghan women visiting Istiqlal and Jumhuriat hospitals.

1.5. Research Significance

To be able to make an action plan and to reduce the mortality and morbidity rate due to breast cancer among Afghan women it is essential to assess the level of knowledge, attitudes and practices on breast cancer. Since disease burden is not known in Afghanistan, accurate data and statistics on cancer is not available or it is limited. The result of this study will help policy makers and health sectors to draw action plan and policy guidelines and to reduce breast cancer prevalence, incidence and death rate among women in Afghanistan.

There was no previous study curried out to assess the level of knowledge, attitudes and practices regarding breast cancer among Afghan women visiting Istiqlal and Jumhuriat hospitals in Kabul city. For this reason, it is important to conduct a study to assess the level of knowledge, attitudes and practices on breast cancer among Afghan women in Kabul city and also the findings of this study will help future related researches.

1.6. Research Organization

Over all this research consist five chapters, of which the research background is discussed in the first chapter, focusing on prevalence, incidence and screening methods of breast cancer. The second chapter contains the literatures reviewed on knowledge, attitudes and practices of breast cancer among women in different population and in different countries.

The third chapter explains the research methods including study designs, research setting, sampling and data collection methods, inclusion and exclusion criteria, data analysis, and ethical consideration. The fourth chapter discusses on study results and data analysis. Chapter five discusses on results and outcomes of the study and chapter six discusses on the research conclusions and recommendations for further studies and policy formulations and also explains the limitations of the study.

2. GENERAL INFORMATION

The relevant studies on knowledge, attitudes and practices regarding breast cancer and outcomes were reviewed and discussed under this chapter to support the theoretical framework. The theory of care-seeking behavior is used for this study, which is a theory for early detection of cancer symptoms.

2.1. Theoretical Framework

2.1.1. Theory of Care-seeking Behavior

The theory of Care-Seeking Behavior (CSB) defines as any action undertaken by people who consider themselves to have a health problem or to be ill for the purpose of finding an appropriate cure. The theory of CSB developed by Diane Lauver in 1992, is based on theory of general behavior by Triandis and also by reviewing other theories such as Health Belief Model and Theory of Reasoned Action. The CSB theory is mostly applied in the situations of seeking care for cancer symptoms and early cancer detection in focus to increase survival from cancer for instance, a woman performing breast self-examination in case of discovering any lymph or abnormal condition in her breast, starts seeking treatment and visit a doctor. Prevention behavior consists primary and secondary prevention which the goal for primary preventions is to prevent disease in the absence of symptoms and in secondary preventions the goal is to diagnose disease, detect disabilities in early stages and to treat disease. However, that in the secondary preventions there is a possibility of discovering an abnormal condition that could have negative results, for instance being diagnosed with a lymph in the breast. Although, the CSB theory is developed with a focus on care-seeking behavior for secondary prevention but it is not limited to just secondary prevention it could be applied to other behaviors as well (10).

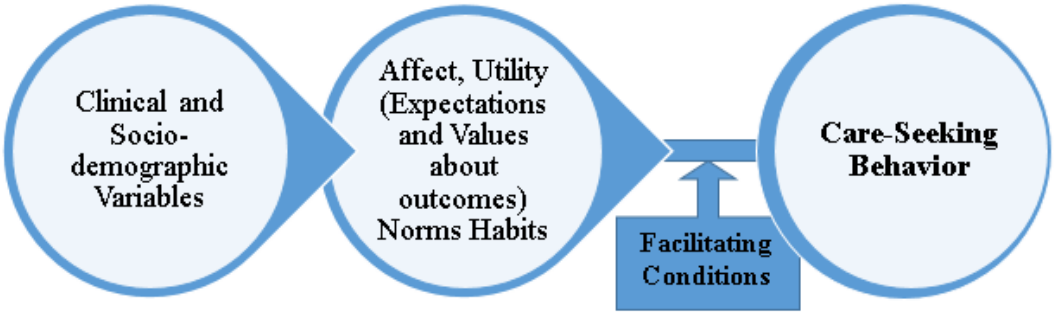

Figure 1. Care-seeking behavior model (10).

2.2. Related Studies

The cancer burden increased to 18.1 million new cases and 9.6 million deaths in 2018 across the world. According to global patterns about half of the new cases and more than half of cancer deaths are estimated to occur in Asia. Female breast cancer is among the top five cancers with high mortality and it is the second leading types of cancer in terms of new cases in the world. Breast cancer rates are higher among women in developing regions, however, rates are increasing in every region around the world. Breast cancer as the most common cancer in women is impacting 2.1 million women worldwide each year with highest number of cancer related deaths. One in 4 women diagnosed with new breast cancer cases worldwide. According to WHO in 2018, about 627 000 (15% of all cancer deaths among women) lost their lives from breast cancer globally (3, 11). In recent decades breast cancer prevalence increased all over the world. In Asia breast cancer has a 5-years prevalence of 2.6 million, 38% of world breast cancer in 2018, related to this, a mortality rate of 49.6 % of all world breast cancer, 3.1 thousand people died due to breast cancer by 2018. Early diagnosis and screening are the two early detection strategies for breast cancer. However, limited resource and weak health systems are the reasons which lead women to be diagnosed in late stages. Additionally, early detection, awareness of early signs and symptoms are critical to improve breast cancer by seeking diagnosis and treatment (3, 12).

2.3. Level of Knowledge, Attitudes and Practices Regarding Women Breast Cancer

Several researches conducted among different countries of the world to assess the level of knowledge attitudes and practices of breast cancer and their results shows that incidence of breast cancer is raising in developing and developed countries. However, in developing countries the mortality rates are higher than the developed countries and a primary reason for deaths due to breast cancer in developing countries is late diagnosis and lack of awareness and early detection (1).

A study to assess the level of knowledge, attitudes and practices regarding breast cancer was carried out among 371 Lebanese females in Beirut. Participants aged 18 years to 65. The result showed that 50 percent of the women had good overall knowledge of breast cancer and almost 75 percent had positive attitudes towards breast cancer, however, the result showed a weak screening practice and screening methods were less homogenous, with better mammography practices. Women with university degree showed 78% better practices than women with only school education. In this study knowledge, attitudes and practices were correlated positively with each other. Also, those women with higher education and none smoker found with better knowledge of breast cancer, however, that higher proportion of women in this study were educated (13).

In 2010 a study was conducted by Bhatt VR et al on 100 Nepalese women to assess the level of knowledge, attitudes and practices on breast cancer among gynecolgic inpatients who visited Tribhuvan University Teaching Hospital. The knowledge level of 65% of participants was significantly higher among highly educated women, professionals and women who were advised during medical visits. Most of participants 68% had low level of knowledge about CBE and mammography 56 percent, 10 percent of the participants had undergone breast evaluation in the past two years (14).

Another descriptive research exploring knowledge, attitudes and practices of women regarding breast cancer screening was done in southern Benin in 2017. The study was designed among 100 women attending Mother and Child Hospital who had 30 year and over. 51% of them had no knowledge about the risk factors of breast

cancer. The source of information for breast cancer was respectively the media nearly 53%, health staff 20%, friend about 16% and campaigns about 12%. 54% of participants knew that BSE is the best screening method. However, this study targeted only women that were attending with gynecological problem and not representing general population (15).

Semraya B et al conducted a cross-sectional descriptive study to assess the level of knowledge of breast cancer and its screening methods among 281 nurses in University Hospitals in Addis Ababa, Ethiopia, The study findings revealed that only 57.8 percent of participants were aware of breast cancer and its screening methods. Knowledge about breast cancer was significantly associated with regular course in nursing, family history of breast cancer, and working section (16).

A research was done among 1000 women in Nigeria, to assess the level of knowledge, attitudes and practices about breast cancer. Overall, most of participants had poor knowledge of breast cancer with a low BSE practice, just 43.2% were practicing BSE during one year period and 9% were practicing CBE. Women employed in professional jobs and with higher level of education had better knowledge about breast cancer (17).

A cross-sectional study was conducted to assess the level of knowledge, attitudes and practices on breast cancer and mammography among 100 women visiting Mulago hospital which is national referral hospital located in Kampala city in Uganda. The result of the study showed that more than half of women were aware about risk factors of breast cancer, 71% of women had no knowledge about mammography. Overall, women showed poor knowledge and inappropriate practice towards mammography. However, the sample size in this study was small and the study was restricted to only women visiting Radiology department (18).

A research was conducted regarding assessment of knowledge, attitudes and practices of breast cancer and BSE among a sample of 387 (302 females and 85 males) educated population in Iraq. About 50 percent of the participants had a low level of knowledge, only 14.3 percent had good knowledge and about 75 percent of the participants indicated that the best way to control breast cancer was through early detection and other possible preventive measures. Most respondents (90.9%) heard

about BSE. However, only 48.3% practiced BSE, the most common reason for not practicing BSE was lack of awareness about performing it. About 84 percent of the participants were wishing to teach others in the technique of BSE (19).

Another research was carried out by Tiba NH et al among 508 women aged 18 to 55 years to assess the level of knowledge and practices towards breast cancer among women selected from four non-governmental organizations in Baghdad city, Iraq. The study result demonstrated that 61.2% of participants had poor knowledge, 30.3% performed BSE. There was a significant association between overall knowledge, marital status and age but the association between education level and knowledge about breast cancer was not significant. The research also showed a significant relationship between age and practice, which younger age group had poor practice than older age group. However, the research was only among women from NGOs not representing general population (20).

Another study conducted in the outpatient setting of women's hospital at the Primary Health Care centers. Among 1200 sample of Qatari women in 2009 to assess knowledge, attitudes and practices of women toward breast cancer. The study findings indicated that Qatari women had adequate general knowledge (70.3%) about breast cancer, the screening rates of BSE (24.9%), CBE (23.3%), and mammography (22.5%) were low in women for early detection of cancer. Level of education was significant with knowledge of breast cancer and for practicing screening procedures, however, the age group was limited between 30-55 years (21).

A cross-sectional study was performed to evaluate breast cancer knowledge and screening practice and barriers among women in Madinah, Saudi Arabia in 2015 the study was conducted among 465 women (15 years and older) from five primary healthcare center. The study result revealed high level of poor knowledge about breast cancer among participants and those who never received a mammography. The most important predictors of the barriers to mammography were incorrect beliefs about mammography and its procedures (22).

A research was conducted among 395 health professional workers from different wards of Kindg Fahad Medical City in Riyadh, Saudi Arabia. The result demonstrated a low level of breast cancer knowledge among participants and only

1.5% of women showed a good level of knowledge of breast cancer. 26.8% of participants showed a fair knowledge of breast cancer. 74% of participants were practicing BSE, 24% were practicing CBE and 19% of participants have attended ever for a mammography. However, that this research was done among health professionals not including general population (23).

A study was conducted in Turkey to assess knowledge, Attitudes, and Behaviors regarding BSE and mammography among 369 female primary healthcare workers who were working in family health centers in Diyarbakir. The knowledge level about BSE was high among participants in this study, however, there was a low level of knowledge level of breast cancer and mammography screen. While, the female primary healthcare workers in this study had adequate knowledge of BSE, however, this study was only among healthcare workers not including general population (24).

Another study was conducted in Manisa city in Turkey, assessing knowledge and attitudes of breast self-examination and mammography among 244 women aged between 20–64 years. The findings revealed that 56.1% of women had good knowledge of breast cancer. 23.4% had no knowledge of breast cancer. 5.1% of women were practicing mammography annually or in every two years. 72.1% of women had knowledge of BSE. 59.1% of women stated that they have never performed BSE (25).

A cross-sectional descriptive, study was conducted by Gulendam K et al to evaluate awareness and practices regarding breast cancer and cervical cancer among 240 women aged from 15 to 65 years visiting gynecology-obstetrics outpatient setting of a private hospital in Gaziantep, Turkey. The majority (79.2%) stated that they never performed BSE and 49.5 percent of them said that they did not know how to do it. Also, 92.9% of participants have never performed mammography. The study result showed that most of the women had insufficient knowledge of breast cancer, while knowledge and practices increased with the education level (26).

Choudhry UK et al conducted a descriptive study to assess knowledge, attitude, believes and practices regarding breast cancer among 57 South Asian women (women from India and Pakistan) South Asian women living in Toronto Canada. The participants' age ranged 40 years and over. The finding revealed that 12 percent of the

participant were practicing BSE monthly, 49 percent had undergone at least once CBE in their lives and 47 percent never practiced mammography screening. 21 percent of the respondents indicated that it is important to symptoms of breast cancer early and only five percent indicated that cancer could be cured, however, this study was done only among women from only India and Pakistan aged 40 years and over and did not represent other south Asian women (27).

Another research was carried out among 200 women living in Coimbatore, India in 2011 to assess the level of knowledge about breast cancer among women aged 20-30 years. The study showed that most of the women (91%) were not aware about the risk factors of breast cancer and only 7.5% knew that less than 6 months breast feeding is an important risk factor for breast cancer. 89.5% were not aware about the symptoms of breast cancer. 92.5% were not aware about the preventive measures of breast cancer. None of participants were aware of BSE as an important early detection measure for breast cancer. There was a significant association ($P<0.001$) between education level and overall knowledge of participants on breast cancer. However, this study assessed only knowledge level of women towards breast cancer and was only among women aged 20-30 years not including other age groups (28).

Muhammad Zeeshan S. et al conducted a cross-sectional descriptive study among 1184 women who were visiting out-patients department and treated as inpatients at Mayo Hospital, in Lahore city of Pakistan in 2014. The study showed lack of knowledge regarding breast cancer and its screening. The knowledge and practices regarding BSE was poor and 87.7 percent of respondents never had BSE, thus, knowledge and practices regarding breast cancer screening, BSE and mammogram among women were not good. However, 13.2% of women participated in this study had positive family history of breast cancer (29).

Ahmed F. et al conducted a research regarding breast cancer risk factors knowledge among 609 nurses in teaching hospitals in Karachi city in Pakistan. Study result showed that 35 percent had good knowledge about breast cancer, 40 percent had fair knowledge, while 25% had poor knowledge of breast cancer risk factors. Majority (99%) of nurses demonstrated that breast cancer is a non-communicable disease and 96% indicated that breast feeding is not the cause of developing breast cancer. A relatively small proportion of the nursing population had good level of knowledge

about breast cancer risk factors. This knowledge is associated with education level of them. However, this study was conducted among only nurses to evaluate knowledge level of them towards breast cancer risk factors (30).

A cross-sectional descriptive study was done among 1410 women aged 20 years and over in north of Iran in 2016, assessing the level of knowledge, attitudes and practices on breast cancer. The mean for awareness towards breast cancer screening was (51±9.2). The relationship between awareness and attitudes of women towards breast cancer was significant but there was no significant relationship between awareness and demographic characteristics, family history of breast cancer and their experience of breast cancer. The result of the study indicated that general knowledge and attitude of women towards breast cancer and its screening methods were moderate but the practice level towards breast cancer screening was poor and it was demonstrating that increasing knowledge level and attitudes of women toward breast cancer brings a positive change, however, about half of women believed that screening is helpful in early diagnosis and treatment (31).

Arif S et al conducted a research in 2017 to assess knowledge level on breast cancer among 250 women visiting outpatient clinics, general surgery at civil hospital in Karachi, Pakistan. The research findings revealed that 42 % of women had adequate knowledge about breast cancer, 38 % of women had poor knowledge, 40.4 percent had fair knowledge and 22 % had good knowledge and there was significant association between age, monthly income, education level and occupation. However, one in every 9 Pakistani women is developing breast cancer which is the highest incidence rate in Asia (32).

In 2010 Shiryazdi SM et al conducted a cross-sectional descriptive research to assess knowledge, attitude and practice of breast cancer screening among 438 sample of women referring to Yazd city health centers in Iran. The study result showed that 86.8% participants had moderate to poor knowledge of breast cancer screening methods, 70.8% participants had moderate attitude, 65.8% participants had poor practice of breast cancer. The main reason for not practicing BSE was not being aware of the correct practice method of BSE. The relationship between knowledge level and education level was significant. In addition, the relationship between attitude, age and

job was significant. However, this study was carried out on a smaller sample size and specific group of women refereeing to health centers (33).

Another study was conducted by Haji Mahmoodi M. et al on 410 female health care workers in Tehran, Iran. to evaluate the knowledge of breast cancer, and the attitudes and practices towards BSE. The study findings revealed that 75% of the women were aware and new about the prevalence of breast cancer 27% were aware that breast pain is not a symptom of breast cancer. 63 percent believed that BSE was not difficult and 72% agreed that BSE was time consuming. Only six percent of the women performed BSE monthly on a regular basis. 50 percent were performing occasionally and 44 percent never practiced it. The research also revealed that women above 50 years old, with higher education and professional status had positive personal history about breast problems. Also, those who had more knowledge about BSE were more likely to practice BSE than other women, however, this study was designed only among health workers and not including general population (34).

A study conducted on 210 Iranian midwives participated in a breast prevention seminar in Tehran, Iran, to assess the level of knowledge, attitudes and practices regarding breast cancer. Participants were aged 20-62 years. About 70% of women had excellent knowledge about signs and symptoms of breast cancer. Only 13% had poor knowledge, 50% had moderate and about 66% had good knowledge about breast cancer. 30% of women performed BSE once per month. However, this study was performed among midwifery students and graduated midwives who may have higher knowledge of breast cancer (35).

Mehra S et al conducted a community based participatory research among a sample of 53 Afghan immigrant women in Northern California, USA to evaluate the knowledge and behaviors of them about breast cancer screening. The participants were aged 40 years and older. The findings of the study revealed that the level of awareness and knowledge about breast cancer is low and also there is a low practice of breast cancer screening among participants. 28.3% performed a clinical breast examination in less than 2 years. 65.9% ever had a mammogram which more than half of them reported performing mammogram in the past 2 years. Also, there was lack of awareness about breast cancer symptoms, risk factors, and its screening procedures. The study suggested that the healthcare workers to be trained in cultural and religious

awareness to increase knowledge of Afghan women towards breast cancer screening. However, this study was only targeted women 40 years and over and was only among Afghan immigrants (7).

In conclusion, there were several researches conducted among various population in different countries of the world to evaluate the level of knowledge, attitudes and practices of breast cancer and showed various results. Research findings in developing countries shown low level of knowledge, negative attitudes and weak practices. Though, studies focused on various groups, students or healthcare workers. There has not been any study publish to assess the level of knowledge, attitudes and practices of breast cancer among Afghan women in Kabul city, Afghanistan. This was important to conduct a research among Afghan women population in Afghanistan in order to find and assess the level of knowledge, attitudes and practices about breast cancer among them.

3. MATERIAL AND METHOD

In this chapter the methodology and research design is discussed. This section includes research design, research setting, sampling and sampling technique, population, data collection tool and procedure, inclusion and exclusion criteria, analysis of data and ethical clearance.

3.1. Research Design

This study is designed as cross-sectional study and quantitative methods were used.

3.2. Research Setting

This research was carried out in 2020 in Kabul city, Afghanistan. The data was collected from women attending Istiqlal and Jumhuriat hospitals, which both are providing tertiary health services.

Overall 134 hospitals government hospitals are active in Afghanistan, out of 26 hospitals which are located in Kabul, 18 of them are mostly referral hospitals and also patients are referring from other provinces and cities around the country to these hospitals. All these 18 referral hospitals has more than 2,669 beds, with bed occupancy rate of 58 and average length of stay of 8.1 days, however, the number of beds are increasing every year due to new establishments. Juhmhuriat and Istiqlal hospitals which are also referral hospitals, both are among the busiest hospitals in the country, and both hospitals are providing tertiary health care services (39).

Kabul city is the capital and the most populated city of Afghanistan, located in eastern part of the country with an estimated population of about 5.204 million out of about 32.9 million which include 51% males and 49% female (37). Kabul lies at about 5,900 feet (1 800 meters) above the sea level. Kabul River starts from Paghman Mountains and flows through the heart of city, Asmai and Sherdarwaza mountains situated in the center of the city. Kabul has a cold semi-arid climate with four season and summer has a very low humidity. However, air pollution is a serious problem in Kabul city, specifically during the winter, since people burn coal, wood and other low-quality fuels to warm their homes. Kabul province is divided into 15 districts and it forms municipality and the center is called Kabul city. Kabul is the most ethnically

diverse and people from major ethnic groups such as Pashtons, Tajiks, Hazaras, Uzbeks and other smaller communities are residing in this city. 99% of residence are Muslim (74% Sunni Islam and 25% Shiites) and only 1% are followers of Sikhism, Hinduism and Christian. Dari and Pashto are widely used in this city. The Presidential Palace (Arg), Parliaments, (Wulusi Jirga) and all ministries and other government offices are located in this city.

The health system in Afghanistan is governing by the Ministry of Public Health (MoPH). Since 2002, the government has made a considerable progress in developing healthcare such as initiating Basic Package of Health Services (BPHS), to provide primary health care (PHC) all over the country, and also Essential Package of Hospital Services (EPHS) to guide hospitals in terms of providing services. However, there is no national health insurance existed yet, just there are few private insurance companies which are not so efficient and are highly cost (38).

Figure 2. Afghanistan Map, indicating Kabul city's map

Jumhuriat hospital is a referral national hospital with the capacity of housing 320 patients, and is located in the center of Kabul city. It provides tertiary healthcare services and includes eight various wards as well as emergency section. Jumhuriat hospital also has the cancer diagnostics and treatment center. Daily 400 – 600 people are attending to receive healthcare services (45).

Istiqlal hospital is also a national hospital, with the capacity of 300 beds, located in the western part of Kabul city. It delivers tertiary healthcare services and including various sections such as general surgery, burn, gynecology, and obstetric department. Also, in recent years the mammography diagnostics service facilitated in this hospital. However, daily about 350 – 450 people visit Istiqlal hospital to seek healthcare services (45).

3.3. Target Group

The target population in this study was adult women 18 years and above, visiting Istiqlal and Jumhuriat national hospitals.

3.4. Exclusion and Inclusion Criteria

3.4.1. The inclusion criteria

- Women aged 18 years and above.
- Women attending outpatient setting of the hospitals.
- Women who could understand and speak in Pashto or Dari.
- Women who agreed to participate.

3.4.2. The exclusion criteria

- Women who were not able to participate due to mental or critically illness.
- Women diagnosed with breast complaints.
- Women with medical background (doctors, nurses, midwives) and hospital staffs.
- Women who have responded and took part once before in their previous visits.

3.5. Size of Sample and Sampling Technique

Convenience sampling method is used in this study to collect data. Sample size calculated with 50% proportion estimate, and margin of error α=5 with 95 % confidence level by using ($n=Z\alpha/2^2*p*(1-p)/E2$) formula (population proportion). As a result, total sample size was estimated 385, and data were collected from 410 women (43, 44).

3.6. Data Gathering Tool

A standard questionnaire (Appendix 1) was used and modified to suit this study. The questionnaire consisted of four parts: socio-demographic data, level of knowledge about breast cancer, attitudes towards breast cancer and practices regarding breast cancer (33). The questionnaire was translated from English language to Dari (Appendix 2) and Pashto (Appendix 3) languages which are the official and national languages and then they were translated back to English to compare both versions of the questionnaire. The questionnaire was translated by health professionals who were fluent in both languages (42, 46).

First part was consisted of six questions about socio-demographic characteristics such as age, education level, occupation, marital status, number of children and residence city.

Second part of the questionnaire was consisted of 12 questions to assess the level of knowledge about breast cancer. Participants could choose from predetermined options.

Third part of the questionnaire was consisted of seven questions about the attitudes towards breast cancer and three options were given, which participants could select one out of three options, and the fourth part was consisted of three questions with their sub items to examine the practices on breast cancer screening methods.

3.7. Data Gathering Procedure

Four trained female students were volunteered to collect data from both Istiqlal and Jumhuriat hospitals from February to March 2020.

All questions were phrased in such manner that respondents could understand and answer. All volunteered data collectors were trained before starting data collection. Two of the volunteered females could understand and speak fluently in Pashto and two of them could understand and speak fluently in Dari language. For each hospitals two data collectors were appointed to collect the data, which one of them could speak in Dari and one in Pashto. It took almost two months to collect and complete the survey for the target sample size.

The questionnaires were administered to any of women attending outpatient setting of different wards for receiving any health care (e.g., family planning, vaccination for their child, and other medical care) in Istiqlal and Jumhuriat hospitals and meeting the inclusion and exclusion criteria of the study.

Before distributing the questionnaire to the individuals and by considering the inclusion and exclusion criteria, the objectives of the study were explained to the participants and they were informed that their participation was voluntary and they were free to decline the research at any stage without any consequence. Also, the participants were notified that, it would take 15-20 minutes of them to complete the questionnaire and interview was only taken to those subjects who agreed to participate. For women who could not read and write, the interviewers were reading and explaining the purpose of the study and were interviewing face to face in simple and understandable language.

Each questionnaire had a code and did not contain identity of participants. The questionnaire was retrieved immediately after filling and interview. The data collected was placed in a safe place. After the data was entered in MS Excel file, it was protected with password.

The Coronavirus disease first identified on 31th December 2019 (COVID-19, pandemic), in Wuhan, China. The first case in Afghanistan was identified in 24th February 2020, in Herat city located in west of the country. The data collectors were advised from the beginning of March, 2020 to wear face masks and gloves and also to interview from a distance of 1.5 to 2 miters. The data collection was done by the end of March, however, Kabul city went into lockdown in 12th April, 2020 (47).

3.8. Analysis of Data

Data Analysis was done by Statistical Package for the Social Sciences (SPSS) version 24. The first part which was socio-demographic data was nominally scaled. To facilitate the data entry, for each question and answer the codes were specified and registered in the SPSS. In order to exclude data entry errors and inconsistency, and also to have a good quality criterion the double data entry method was used. To analyze the data, different tests such as, frequencies and percentages for categorical variables, Cross-tabulation, Chi-square, ANOVA and t-test were used. P-value≤0.05 have considered as significant level.

3.8.1. Scoring

The first part of the questionnaire which was about demographic variables that were calculated by frequencies and percentages. The demographic variables were including age, education level, occupation, number of children, marital status and residence city, and the questions were scaled nominally. Respondents were requested to choose only one from three options given “Yes or agree”, “No or disagree” and “Not sure or I do not know”. Each response was scored on the basis of knowledge, attitudes and practices regarding breast cancer on the number of correct answers “yes”, “true” and “agree” that were given one point for each correct answer and zero point for “No”, “not sure” or “I do not know”.

For the second part of the questionnaire there were a total of 14 questions including sub items, and investigating the overall knowledge level of participants on breast cancer. For each correct answer one score was considered. Scores were summed which equaled to 32(100%) correctly answered. Scores were categorized in three level, scores ranged between 1 – 15 considered as poor knowledge level, 16 – 25 as fair knowledge level, 26 and above as high knowledge level on breast cancer (23, 48).

Third part, included questions to examine attitudes towards breast cancer and for each correct answer one score was considered. The scores were totaled and scores above the mean (mean: 4.004 ±1.05) considered as positive attitude and below the mean considered as negative attitude towards breast cancer (48).

The last part, included three questions examining the practices on breast cancer screening methods. The first question was examining the breast self-examination,

which included 2 sub items. The second question was about clinical breast examination, which included one sub item and the last question was asking about mammography screening. For each answer which was “yes” one score was considered.

3.9. Ethical Considerations

The ethical clearance was obtained from the ethic board of Ankara Yildrim Beyazit University (Appendix 4) and also ethical approval was obtained from the Institutional Review Board of the Ministry of Public Health of Afghanistan (Appendix 5). Permission to conduct the study was obtained from both Istiqlal and Jumhuriat hospitals. Anonymity and confidentiality of the responses were assured to the participants. Oral and written informed consent was obtained from the participants aged 18 years and above before the questionnaires were given to be filled out.

3.10. Study variables and Operational Definitions

3.10.1. Dependent Variables and definition

Knowledge: Awareness, familiarity and information about breast cancer among individuals participated to the study. Also, to find out if participants heard or understand about breast cancer and its symptoms, risk factors, early detection and screening methods.

Attitude: It is women’s perceptions about breast cancer and its screening methods. It determines if women have positive perspective towards breast cancer and their intention towards practicing screening methods of breast cancer.

Practice: It is the practice and usage of screening methods for breast cancer detections, and there are three screening methods, breast self-examination, clinical breast examination and mammography for early detection of breast cancer.

3.10.2. Independent variables and definition

Age: A length of time that a person lived. It is measured by years from birth.

Education Level: It gives information about participants’ education background and whether they had the primary or high school, university (bachelor, masters or PHD), madrasa education background or they might not attended school.

Occupation: If the participants work and have a job.

Marital status: The women's civil status, whether she was married, unmarried or widowed.

Number of Children: The number of children and live births of a woman had during her life time.

Residence city: Women's current residing city. Whether they referred from other provinces or cities.

4. RESULTS

This chapter contains the results and findings of the research, assessing the level of knowledge, attitudes and practices of breast cancer among Afghan women visiting Istiqlal and Jumhuriat hospitals in Kabul city, Afghanistan. Cross tabulation, Chi-square test, t-test, and ANOVA were carried out to determine the association between independent variables and the knowledge, attitudes and practices of breast cancer among study participants. Though, $P \leq 0.05$ was considered as statistically significant.

4.1. Socio-demographic information of the participants

The demographic variables were including age, education level, occupation, number of children, marital status and residence city. From a total of 410 participants 216 (52.7%) of women were visiting Istiqlal hospital and 194 (47.3%) women attending Jumhuriat hospital and agreed to take part in this study. Table 4.1.1 presents the demographic data of the study. The minimum age of participants was 18 and the maximum age was 77, with a mean age (±SD) of 33.81 (±13.08), and the median age was 31 years. By age group, over 192 (46.8%) were aged between 18 – 29 years, 85 (20.7%) aged between 30 – 39 years and 133 (32.4%) of women aged 40 years and over. Most of participants 176 (42.9 %) were illiterate and could not read and write, while 79 (19.3%) attended religious Madrasa, 45 (11%) had primary school education, 43 (10.5 %) had high school education and 67 (16.3%) had tertiary education such as certificates from teacher training institutes, diploma from technical institutes, bachelors, masters or PhD degrees. Majority of participants 302 (73.7%) were housewives or unemployed, while 42 (10.2%) of them were students, 41 (10%) were self-employed and 25 (6.1%) of them were formally employed working with government or other organizations. Most of participants 208 (50.7 %) were married, 102 (24.9 %) of them were single, 51 (12.5 %) were divorced and 49 (12 %) of women were widowed. The maximum number of child (live birth) a women had was 11, while 170 (41.5%) of women had 1 to 5 child, 110 (26.8%) had more than 5 child and 130 (31.7%) did not have child yet. Most of participants 64.4% were speaking in Dari (Persian) and 35.6% were speaking in Pashto language. Majority 79.3% of the

participants attending the hospitals were from Kabul and only 20.7% of them were coming from other cities and provinces.

Table 4.1.1. Participants' demographic distribution.

N= 410	**Frequency**	**Percentage (%)**
Age group		
18 – 29 Years	192	46.8
30 – 39 Years	85	20.7
40 ≥ Years	133	32.4
Education background		
Illiterates	176	42.9
Madrasa	79	19.3
Primary school	45	11
High school	43	10.5
Tertiary education	67	16.3
Occupation		
Student	42	10.2
Self-employed	41	10
Formally employed	25	6.1
Unemployed & Housewife	302	73.7
Marital status		
Single	102	24.9
Married	208	50.7
Divorced	51	12.5
Widowed	49	12
Number of children (Max no of child = 11)		
Did not have child	130	31.7
1 – 5 child	170	41.5
5 < child	110	26.8
Residence city		
Kabul	325	79.3
Other provinces	85	20.7
Language		
Pashto	146	35.6
Dari (Persian)	264	64.4
Mean age (±SD): 33.81 (±13.08) **Median age: 31** **Minimum age: 18** **Maximum age: 77**		

4.2. Level of Knowledge

There were 14 questions assessing the overall knowledge of participants towards breast cancer. The question investing knowledge regarding symptoms of breast cancer included five sub items, the question about risk factors with 10 sub items, the question about protective factors of breast cancer with three sub items and the question about knowledge regarding early detection methods of breast cancer with three sub items. There were seven questions directly assessing the knowledge level about breast cancer. Another question was assessing the awareness level about treatment manners of breast cancer including three sub items, and the question about the preventive measure of breast cancer including three sub items. There was also a question to find the source of information about breast cancer among participants.

Table 4.2.1 presents the answers about symptoms of breast cancer. There were five questions related to symptoms of breast cancer. 216 (52.7%) of participants indicated pain in the breast as symptom of breast cancer, 263 (64.1%) responded lump in the breast as symptom of breast cancer, 117 (28.5%) nipple discharge other than breast milk, 94 (22.9%) skin changes and 82 (20%) of respondents indicated painless lump as a symptom for breast cancer.

Table 4.2.1. Participant's response on symptoms of breast cancer (N=410).

What are the symptoms of breast cancer?	True	False	Not Sure
	n (%)	n (%)	n (%)
Pain in the breast	217 (52.9)	60 (14.6)	133 (32.4)
Lump in the breast	263 (64.1)	43 (10.5)	104 (25.4)
Painless lump	83 (20.2)	327 (79.8)	0 (0)
Nipple discharge (other than breast milk)	117 (28.5)	130 (31.7)	163 (39.8)
Skin changes	95 (23.2)	149 (36.3)	166 (40.5)

Table 4.2.2 presents the answers on the question about risk factors of breast cancer among 410 participants. There were ten questions related to risk factors of breast cancer. From the total of participants, 265 (64.6 %) of them demonstrated family

history of breast cancer being a risk factor of breast cancer, 112 (27.3 %) agreed that never giving birth is risk factor of breast cancer, 196 (47.9 %) selected the correct answer and demonstrated that not having child is a risk factor breast cancer rather than having many children. 148 (36.1 %) agreed on aging as risk factor of breast cancer, more than half 224 (54.6 %) indicated that not to breast feed is a risk factor for breast cancer, 134 (32.7 %) of participants demonstrated that using oral contraceptive pills is a risk factor to breast cancer, 318 (77.6%) agreed that tobacco use and alcohol consumption is a risk factor to breast cancer, 124 (30.2%) of participants agreed on high dietary fat consumption as a risk factor of breast cancer, 144 (35.1%) responded obesity as risk factor of breast cancer and only 51 (12.4%) agreed on being underweight as risk factor of breast cancer.

Table 4.2.2. Participant's response on risk factors of breast cancer (N=410).

What are the risk factors of breast cancer?	True	False	Not Sure
	n (%)	n (%)	n (%)
Family history of breast cancer	265 (64.6)	60 (14.6)	85 (20.7)
Never given birth	112 (27.3)	164 (40)	134 (32.7)
Having many children	84 (20.5)	196* (47.8)	130 (31.7)
Advancing age (Getting older)	148 (36.1)	150 (36.6)	112 (27.3)
Breast feeding (if a woman feed her baby from the breast milk)	96 (23.4)	224* (54.6)	90 (22.0)
Oral contraceptive pills	134 (32.7)	127 (31.0)	149 (36.3)
Tobacco intake/alcohol consumption	317 (77.3)	40 (9.8)	53 (12.9)
High dietary fat intake	124 (30.2)	176 (42.9)	110 (26.8)
Obesity	144 (35.1)	145 (35.4)	121 (29.5)
Thin women (Underweight)	51 (12.4)	208 (50.7)	151 (36.8)

*Recoded as correct answer

From 410 participants answered to the questions about protective factors of breast cancer which presented in table 4.2.3. There were three questions related to protective factors of breast cancer. More than half 235 (57.3%) responded breast feeding as protective factor to breast cancer. 130 (31.7%) of participants demonstrated that having first child at old age is a risk factor to breast cancer. However, not to breast feed which the choosing false option was the correct answer and more than half 214 (52.2%) responded correctly.

Table 4.2.3. Participant's response on protective factors of breast cancer (N=410).

The following are the protective factors of breast cancer	True n (%)	False n (%)	Not Sure n (%)
Breast feeding (If a woman feed her baby from the breast milk)	235 (57.3)	95 (23.2)	80 (19.5)
Not to breast feed (if a woman does not feed her baby from the breast milk) *	83 (20.2)	214* (52.2)	113 (27.6)
Having first child at old age *	70 (17.1)	130* (31.7)	210 (51.2)

*Recoded false as correct answer

Table 4.2.4 presents the answer for the question on early detection methods of breast cancer. There were three questions related to early detection of breast cancer. Majority of participants 350 (85.4%) indicated clinical breast examination as early detection method, 258 (62.9%) indicated mammogram as early detection method and 229 (55.9%) responded breast self-examination as early detection method of breast cancer.

Table 4.2.4. Respondents' answers on early detection methods of breast cancer (N=410).

The following method can detect breast cancer early.	True	False	I don't know
	n (%)	n (%)	n (%)
Breast self-examination	229 (55.9)	68 (16.6)	113 (27.6)
Clinical breast examination	350 (85.1)	34 (8.3)	27 (6.6)
Mammogram	258 (62.9)	41 (10.0)	111 (27.1)

Table 4.2.5 contains the descriptive data on questions regarding knowledge of respondents about breast cancer. 186 (45.4%) of participants indicated that BSE is recommended from above the age of 20 years. 128 (31.2%) indicated that breast cancer is recommended to be performed 7 – 10 days after the first day of menstruation. More than half 226 (55.1%) demonstrated BSE should be done monthly. Most of respondents 354 (86.4%) indicated that CBE should be part of routine checkup. 264 (64.4%) indicated that Mammogram is the most accurate screening method, though, less than half 159 (38.8%) responded that Mammogram can detect breast cancer before feeling the cancer on the breasts. Half of participants 208 (50.7%) demonstrated that breast cancer can be cured if detected early.

Table 4.2.5. Respondents' distribution on knowledge about breast cancer (N=410).

Questions about knowledge level on breast cancer	True	False	I don't know
	n (%)	n (%)	n (%)
BSE is recommended from age 20 and above.	186 (45.4)	79 (19.3)	145 (35.4)
It is recommended to perform BSE about 7 – 10 days from the first day of menstruation.	128 (31.2)	80 (19.5)	202 (49.3)
Breast self-examination should be routinely done monthly.	226 (55.1)	40 (9.8)	144 (35.1)

CBE should be part of the routine checkup.	354 (86.3)	23 (86.3)	33 (8)
Mammogram is the most accurate test for breast cancer.	264 (64.4)	31 (7.6)	115 (28)
Mammogram can detect breast cancer even before it is felt.	159 (38.8)	50 (12.2)	201 (49.0)
Breast cancer can be cured if detected early.	208 (50.7)	47 (11.5)	155 (37.8)

The table 4.2.6 below presents the responses on treatment manners of breast cancer. There were three questions related to treatment methods of breast cancer. More than half 215 (52.4%) indicated chemotherapy as the right method for treating breast cancer, 308 (75.1%) indicated surgery as a right method for breast cancer treatment and less than half 150 (36.6%) of participants knew that radiation therapy is a treatment method of breast cancer.

Table 4.2.6. Respondents' distribution on treatment manners of breast cancer (N=410).

Breast Cancer can be treated in the following manners?	True n (%)	False n (%)	I don't know n (%)
Chemotherapy	215 (52.4)	91 (22.2)	104 (25.4)
Surgery	308 (75.1)	40 (9.8)	62 (15.1)
Radiation therapy	150 (36.6)	131 (32.0)	129 (31.5)

Table 4.2.7 presents the respondents distribution on preventive measures of breast cancer. There were three questions related to preventive measures of breast cancer. Most of participants 340 (82.9%) indicated regular check up by a doctor as preventive measure of breast cancer. Almost half 208 (50.7%) indicated breast cleanliness as a right preventive measure and more than half 274 (66.8%) demonstrated regular BSE as preventive measure of breast cancer.

Table 4.2.7. Respondents' distribution on preventive measures of breast cancer (N=410).

Followings are the preventive measures for the breast cancer	True n (%)	False n (%)	I don't know n (%)
Regular check up by a doctor	340 (82.9)	26 (6.3)	44 (10.7)
Breast cleanliness	208 (50.7)	96 (23.4)	106 (25.9)
Regular breast self-examination	274 (66.8)	56 (13.7)	80 (19.5)

There was a significant association (P<0.001) between age group and overall knowledge level of Afghan women on breast cancer as presented in *table 4.2.8* below. Majority 116 (60.4%) of women aged between 18 – 29 years had a fair knowledge level on breast cancer while only 16 (12%) of women aged over 40 had good knowledge about breast cancer. In addition, there was also a significant association (P=0.007) between overall knowledge level and age of participants.

Table 4.2.8. Association between age group and knowledge of respondents on breast cancer (N=410).

Age group	**Overall knowledge level**			**Total**	**P-Value**
	Poor	**Fair**	**Good**		
	n (%)	**n (%)**	**n (%)**		
18 – 29 Years	64 (33.3)	116 (60.4)	12 (6.3)	192 (46.8)	**P <0.001**
30 – 39 Years	34 (40.0)	51 (60.0)	0 (0.0)	85 (20.7)	
40 and over	69 (51.9)	48 (36.1)	16 (12.0)	133 (32.4)	
Total	167 (40.7)	215 (52.4)	28 (6.8)	410 (100.0)	

The association between overall knowledge on breast cancer and their education level was significant (P<0.001) as presented in table 4.2.9 below. From 176 (42.9%) who were illiterate, 91 (51.7%) of them had poor knowledge about breast cancer while only 10 (5.7%) of them had good knowledge level. From 67 (16.3%) of women who had tertiary education, 37 (55.2%) had fair knowledge and only 2 (3.0%) of them demonstrated good knowledge level about breast cancer.

Table 4.2.9. Association between overall knowledge level and education level of respondents on breast cancer (N=410).

Education Level	Overall Knowledge Level			Total	P-value
	Poor	Fair	Good		
	n (%)	n (%)	n (%)		
Illiterate	91 (51.7)	75 (42.6)	10 (5.7)	176 (42.9)	P<0.001
Madrasa	15 (20.0)	54 (68.4)	10 (12.7)	79 (19.3)	
Primary school	21 (46.7)	20 (44.4)	4 (8.9)	45 (11.0)	
High school	12 (27.9)	29 (67.4)	2 (4.7)	43 (10.5)	
Tertiary education	28 (41.8)	37 (55.2)	2 (3.0)	67 (16.3)	
Total	163 (40.5)	212 (52.7)	27 (6.7)	410 (100.0)	

There was a significant association (P<0.001) between overall knowledge level and occupation of participants on breast cancer table 4.2.10, most of women who were unemployed or housewives 133 (44%) had poor knowledge and 145 (48%) of them had fair knowledge. 3 (7.1%) of students showed good knowledge and 27 (64.3%) had fair knowledge. However, from 25 (11%) of respondents who were formally employed, 25 (96%) of them had fair knowledge level and none of them had good knowledge level on breast cancer.

Table 4.2.10. Association between overall knowledge level and occupation of respondents on breast cancer (N=410).

Occupation	Overall knowledge level			Total	P-value
	Poor	Fair	Good		
	n (%)	n (%)	n (%)		
Student	12 (28.6)	27 (64.3)	3 (7.1)	42 (10.2)	P<0.001
Self-employed	21 (51.3)	19 (46.3)	1 (2.4)	41 (10.0)	
Formally employed	1	24	0	25	

	(4.0)	(96.0)	(0.0)	(11.0)	
Unemployed	133 (44.0)	145 (48.0)	24 (7.9)	302 (73.7)	
Total	167 (40.7)	215 (52.4)	28 (6.8)	410 (100.0)	

Association between knowledge level and marital status of respondents was significant (P=0.019), table 4.2.11. From the majority 208 (50.7%) of women who were married, 107 (51.4%) of them had fair knowledge level. Among 102 (24.9%) participants who were single 66 (64.7%) of them had fair knowledge level and only 7 (6.9%) had good knowledge good knowledge level towards breast cancer.

Table 4.2.11. Association between overall knowledge level and marital status of respondents on breast cancer (N=410).

Marital Status	**Overall Knowledge Level**			**Total**	**P-value**
	Poor	**Fair**	**Good**		
	n (%)	**n (%)**	**n (%)**		
Single	29 (28.4)	66 (64.7)	7 (6.9)	102 (24.9)	**P=0.019**
Married	85 (40.9)	107 (51.4)	16 (7.7)	208 (50.7)	
Divorced	30 (58.8)	18 (35.3)	3 (5.9)	51 (12.4)	
Widowed	23 (46.9)	24 (49.0)	2 (4.1)	49 (12.0)	
Total	167 (40.7)	215 (52.4)	28 (6.8)	410 (100.0)	

There was a significant association (P=0.001) between overall knowledge level about breast cancer and number of children, though, the association between knowledge level of participants and the number of children by group was also significant (P=0.007) as presented in table 4.2.12. Among the majority 170 (41.5%) of participants who had 1 – 5 child and 88 (51.8%) had fair knowledge and only 6 (3.5%) had good knowledge. Among 130 (31.7 %) who did not have child 81 (62.3%) of them had fair knowledge about breast cancer. Furthermore, among 110 (26.8%) who had more than 5 child, 49 (44.5%) of them had poor knowledge, 46 (41.8%) had fair knowledge and 15 (13.6%) had good knowledge about breast cancer.

Table 4.2.12. Association between overall knowledge level and number of children (by group) of respondents on breast cancer (N=410).

Number of children (By group)	Overall Knowledge Level			Total	P-value
	Poor	Fair	Good		
	n (%)	n (%)	n (%)		
No child	42 (32.3)	81 (62.3)	7 (5.4)	130 (31.7)	**P=0.007**
1 – 5 child	76 (44.7)	88 (51.8)	6 (3.5)	170 (41.5)	
More than 5 child	49 (44.5)	46 (41.8)	15 (13.6)	110 (26.8)	
Total	167 (40.7)	215 (52.4)	28 (6.8)	410 (100.0)	

As the table 4.2.13 presents, the mean (±SD) for overall knowledge level of participants was 16.8 (±5.5), more than half 215 (52.4%) of Afghan women participating in this study had fair knowledge level and 167 (40.7%) of them had poor knowledge level, only 28 (6.8%) of women had good knowledge level about breast cancer.

Table 4.2.13. Overall knowledge level of respondents on breast cancer (N=410).

Knowledge Level	Frequency	Percentage (%)
Poor	167	40.7
Fair	215	52.4
Good	28	6.8
Total	410	100
Mean: 16.8 ±5.5		

From 410 participants who responded the question about the source of their information about breast cancer as presented in table 4.2.14. For 146 (35.6%) television, 75 (18.3%) from hospital staffs (Doctors, nurses, midwives), 44 (10.7%) radio, 35 (8.5%) print materials, 25 (6.1%) neighbors and relatives were the source of their information about breast cancer. However, for 85 (20.7%) none of sources mentioned were their source of information.

Table 4.2.14. Source of information on breast cancer (N=410).

	Frequency	**(%)**
Radio	44	10.7
TV	146	35.6
Neighbors and relatives	25	6.1
Print materials	35	8.5
Hospitals staff	75	18.3
None	85	20.7

4.3. Attitudes towards breast cancer

There were seven questions to assess the attitudes of participants towards breast cancer and its screening methods.

Table 4.3.1 below presents the descriptive data about attitudes of participants on breast cancer. Most of participants 390 (95.1%) agreed on breast cancer as a frightful disease. Less than half 167 (40.7%) agreed that there is no cure for breast cancer and only 3 (0.7%) disagreed which a correct answer. 186 (45.4 %) indicated that breast cancer can be prevented. 360 (87. 8%) believed that best approach for breast cancer care is to visit a doctor. 279 (68%) responded that they will have a mammogram if they do not have a problem. More than half 224 (54.6%) agreed that to seek care for the knowledge of breast cancer is important.

Table 4.3.1. Respondent's distribution on attitudes of breast cancer (N=410).

Questions regarding attitudes towards breast cancer	Agree	Disagree	Not Sure
	n (%)	n (%)	n (%)
Breast cancer is a frightful disease.	390 (95.1)	3 (0.7)	17 (4.1)
There is no cure for breast cancer.	167 (40.7)	3* (0.7)	240 (58.5)
Breast cancer can be prevented.	186 (45.4)	3 (0.7)	221 (53.9)
The best manner for breast cancer care is visiting doctor.	360 (87.8)	6 (1.5)	44 (10.7)
I will not have a mammogram unless I have a problem.	279 (68.0)	4 (1.0)	127 (31.0)

It is important to seek care for the knowledge of BSE.	224 (54.6)	145 (35.4)	41 (10.0)
It is difficult to practice BSE.	195 (47.6)	3* (0.7)	212 (51.7)

*Recoded as correct answer

Table 4.3.2 presents the association between attitudes and education level of participants towards breast cancer and its early detection. The education level was not statistically significant (P=0.169) with attitudes of participants towards breast cancer. Among 176 (42.9%) of women who were illiterate 114 (64.8%) of them had negative attitudes and 62 (35.2%) showed positive attitudes towards breast cancer. 17 (21.5%) of women who had Madrasa education showed positive attitudes, 15 (12.2%) of women with primary school education showed positive attitudes, 13 (10.6%) of women with high school education and 16 (13%) of women with tertiary education showed positive attitudes towards breast cancer. However, 51 (76.1%) of them had negative attitudes towards breast cancer and its early detection methods.

Table 4.3.2. Association between attitudes and education level of participants towards breast cancer (N=410).

Education Level	**Attitudes**		**Total**	**P-value**
	Negative	**Positive**		
	n (%)	**n (%)**		
Illiterate	114 (64.8)	62 (35.2)	176 (42.9)	**P=0.169**
Madrasa	62 (78.5)	17 (21.5)	79 (19.3)	
Primary school	30 (66.7)	15 (33.3)	45 (11.0)	
High school	30 69.8 %	13 (30.2)	43 (10.5)	
Tertiary education	51 (76.1)	16 (13.9)	67 (16.3)	
Total	287 (70.0)	123 (30.0)	410 (100.0)	

Table 4.3.3 shows the association between age group and attitudes of participants towards breast cancer. The association between age group and attitudes

towards breast cancer was not significant (P=0.988) among participants. From 192 (46.8%) of women aged 18 – 29 years, 135 (70.3%) of them had negative attitudes and 57 (29.7%) of them showed positive attitudes towards breast cancer. From 85 (20.7%) of women aged 30 – 39 years 26 (30.6%) showed positive attitudes and from 133 (32.4%) of women aged 40 years and over 40 (30.1%) showed positive attitudes towards breast cancer.

There was a significant association (ANOVA, P<0.001) between attitudes and age of participants towards breast cancer.

Table 4.3.3. Association between attitudes and age group of participants towards breast cancer (N=410).

Age group	**Attitudes**		**Total**	**P-value**
	Negative	**Positive**		
	n (%)	**n (%)**		
18 – 29 Years	135 (70.3)	57 (29.7)	192 (46.8)	**P=0.988**
30 – 39 Years	59 (69.4)	26 (30.6)	85 (20.7)	
40 and over	93 (69.9)	40 (30.1)	133 (32.4)	
Total	287 (70.0)	123 (30.0)	410 (100.0)	

Association between attitudes and marital status of participants towards breast cancer is presented in table 4.3.4. The association between marital status and attitudes of participants was not significant (P=0.124). Among 208 (50.7%) of women who were married 139 (66.8%) of them had negative attitudes and 69 (33.2%) of them showed positive attitudes towards breast cancer. From 102 (24.9%) of women who were single 29 (28.4%) showed positive attitudes, from 51 (12.4%) of divorced women 17 (33.3%) showed positive attitudes, and from 49 (12%) of women who were widowed, only 8 (16.3%) showed positive attitudes towards breast cancer and its early detection methods.

Table 4.3.4. Association between attitudes and marital status of participants towards breast cancer (N=410).

Marital Status	Attitudes		Total	P-value
	Negative	Positive		
	n (%)	n (%)		
Single	73 (71.6)	29 (28.4)	102 (24.9)	P=0.124
Married	139 (66.8)	69 (33.2)	208 (50.7)	
Divorced	34 (66.7)	17 (33.3)	51 (12.4)	
Widowed	41 (83.7)	8 (16.3)	49 (12.0)	
Total	287 (70.0)	123 (30.0)	410 (100.0)	

Additionally, the association between attitudes and occupation was not statistically significant (P=0.502) as presented in table 4.3.5 below. From the majority of participants 302 (73.7%) who were unemployed 211 (69.9%) had negative attitudes towards breast cancer, however, only 6 (25%) of women who were formally employed had positive attitudes towards breast cancer.

Table 4.3.5. Association between attitudes of participants towards breast cancer and variable occupation (N=410).

Occupation	Attitudes		Total	P-value
	Negative	Positive		
	n (%)	n (%)		
Student	26 (61.9)	16 (38.1)	42 (10.2)	P=0.502
Self-employed	31 (75.6)	10 (24.4)	41 (10)	
Formally employed	19 (76)	6 (24)	25 (6.1)	
Unemployed	211 (69.9)	91 (30.1)	302 (73.7)	
Total	287 (70.0)	123 (30.0)	410 (100.0)	

There was a significant association (P=0.019) between overall knowledge level about breast cancer and attitudes of participants towards breast cancer. From 167(40.6%) of women with poor knowledge level, most of them 129 (77.9%) negative attitudes towards breast cancer. Among 215 (52.4%) of women with fair knowledge level towards breast cancer, higher proportion 142 (66%) of them had negative attitudes and 73 (34%) of them had positive attitudes, and from 28 (6.8%) of women with good knowledge level, 16 (57.1%) of them had negative attitudes while 12 (42.9%) of them had positive attitudes towards breast cancer as indicated in table 4.2.6.

Table 4.3.6. Association between knowledge level about breast cancer and attitudes of participants towards breast cancer (N=410).

Knowledge Level	**Attitudes**		**Total**	**P-value**
	Negative	**Positive**		
	n (%)	**n (%)**		
Poor	129 (77.9)	38 (22.8)	167 (40.7)	**P=0.019**
Fair	142 (66)	73 (34)	215 (52.4)	
Good	16 (57.1)	12 (42.9)	28 (6.8)	
Total	287 (70.0)	123 (30.0)	410 (100)	

There were seven questions investigating the participants' attitudes toward breast cancer and its early detection methods, one score considered for each correct answer and the mean (±SD) for attitudes was 4.004 (±1.05). From 410 participants, majority 287 (70%) of them showed negative attitudes towards breast cancer and 123 (30%) demonstrated positive attitudes towards breast cancer as presented in table 4.3.7.

Table 4.3.7. Attitudes towards breast cancer among participants (N=410).

Attitudes	**Frequency**	**(%)**
Negative attitudes	287	70.0
Positive attitudes	123	30.0
Mean (±SD): 4.004 (±1.05)		

4.4. Level of Practices

There were three questions investigating about practices on breast cancer screening and early detection methods among participants. The first questions was about breast self-examination including two sub items, the second question was about clinical breast examination including one sub item and the third question was about mammogram practices table 4.4.1.

From 410 participants only 113 (27.6%) of them were practicing breast self-examination, though, from women who practiced BSE, 36 (8.8%) of them were practicing monthly. From 297 (72.4%) who never practiced BSE, most of them 151(36.8%) of them never taught how to perform BSE, while 39 (9.5%) indicated that it is difficult to perform BSE.

Table 4.4.1. Descriptive data of respondents on practices regarding breast cancer (N=410).

Questions on practices of breast cancer	**Answer**	**n**	**(%)**
Have you ever practiced BSE?	Yes	113	27.6
	No	297	72.4
If yes how often?	Monthly	36	8.8
	Every six months	35	8.5
	Yearly	42	10.2
	Never practiced	297	72.4
If you never practiced BSE give reasons why?	Forgetting	36	8.8
	Not sure how to do it	71	17.3
	Difficult to perform	39	9.5
	Never taught how to do it	151	36.8
Have you ever visited a doctor for clinical breast exam in the past one year?	Yes	61	14.9
	No	349	85.1
If no give reasons for not visiting a doctor for clinical breast examination	Never taught it is important	26	6.3
	Staying far from clinic	60	14.6
	Too busy	78	19
	Too shy to be examined	94	22.9
	It is painful to be examined	6	1.5
	Other	85	20.7
	No answer	61	14.9
	Yes	57	13.9

Have you done a mammogram in the past 2 years?	No	353	86.1

Among 410 participants, only 61 (14.9%) of them visited a doctor for CBE during the past one year. While, from 349 (85.1%) who did not visit a doctor for CBE, 60 (14.6%) indicated living far from clinic is the reason for not performing CBE. 94 (22.9%) responded that they were too shy to be examined.

From 410 participants 113 (27.6%) of them were practicing breast self-examination, 36 (8.8%) were practicing monthly, 35 (8.5%) were practicing every six months, and 42 (10.2%) of them were practicing breast self-examination. Those who never practiced BSE, 151 (27.6%) of them stated that they have never taught how to do BSE, 71 (17.3%) responded that they are not sure how to do it, 39 (9.5%) of them stated that it is difficult to do BSE, and 36 (8.8%) responded that they are forgetting to do BSE. However, from all 410 study participants, only 57 (13.9%) of them performed mammogram in the past two years.

Education level and screening practices of breast cancer was significantly associated (P=0.001), (P=0.031) with breast self-examination and clinical breast examination, respectively. However, there was no significant association (P=0.315) between education level and mammogram practices among the participants observed in this study, as shown in the table 4.4.2 below.

Table 4.4.2. Association between education level and screening practices of breast cancer among participants (N=410).

Practices (Screening methods)	BSE	CBE	Mammogram
	Yes	Yes	Yes
	N (%)	n (%)	n (%)
Illiterate	33 (18.8)	21 (11.9)	17 (9.7)
Madrasa	29 (36.7)	21 (26.6)	13 (16.5)
Primary school	9 (20)	6 (13.3)	8 (17.8)
High school	16 (37.2)	5 (11.6)	7 (16.3)
Tertiary education	26 (38.8)	8 (11.9)	12 (17.9)
Total	113 (27.6)	61 (14.9)	57 (13.9)
P-value	P=0.001	P=0.031	P=0.315

Table 4.4.3 illustrates the association between overall knowledge level and practices of screening methods of breast cancer among participants. From 113 (27.6%) of participants who were practicing breast self-examination, 78 (69%) of them had fair knowledge level and 13 (11.5%) had good knowledge level. Among 61 (14.9%) who were practicing clinical breast examination, 15 (24.6%) had good knowledge level, and 31 (50.8%) had fair knowledge level. From 57 (13.9%) of participants who were practicing mammography only 8 (14%) had good knowledge level and 29 (50.9%) had fair knowledge level. There was a significant association (P<0.001) between overall knowledge level and practices of breast cancer among participants observed among participants.

Table 4.4.3. Association between overall knowledge level and practices of breast cancer screening methods (N=410).

Practices (Screening methods)	Overall knowledge level			Total	P-value
	Poor	Fair	Good		
	n (%)*	n (%)*	n (%)*		
Breast self-examination	22 (19.5)	78 (69.0)	13 (11.5)	113 (27.6)	P<0.001
Clinical breast examination	15 (24.6)	31 (50.8)	15 (24.6)	61 (14.9)	P<0.001
Mammogram	20 (35.1)	29 (50.9)	8 (14)	57 (13.9)	P<0.001

*Percentage of correct responses

Table 4.4.4 presents the association between attitudes towards breast cancer and practices of breast cancer screening methods among participants. From 113 (27.6%) of participants who were practicing BSE, most of them 89 (78.8%) had negative attitudes towards breast cancer and 24 (21.2%) had positive attitudes towards BSE. 9 (14.8%) of participants who were practicing CBE had positive attitudes, and from 57 (13.9%) of participants who were practicing mammogram, only 7 (12.3%) of them had positive attitudes while 50 (87.7%) of them had negative attitudes towards breast cancer.

The associations between practices of breast cancer (BSE, CBE and Mammogram) and age of participants were significant (ANOVA, P<0.001, P<0.001, P<0.001), respectively. Moreover, there was a significant association between attitudes of participants towards breast cancer and practices of breast cancer screening methods (P=0.017), (P=0.005) and (P=0.002) breast self-examination, clinical breast examination and mammogram, respectively.

Table 4.4.4. Association between attitudes and practices of breast cancer among participants (N=410).

Practices (Screening methods)	**Attitudes**		**Total**	**P-value**
	Negative	**Positive**		
	n (%)	**n (%)**		
Breast self-examination	89 (78.8)	24 (21.2)	113 (27.6)	P=0.017
Clinical breast examination	52 (85.2)	9 (14.8)	61 (14.9)	P=0.005
Mammography	50 (87.7)	7 (12.3)	57 (13.9)	P=0.002

5. DISCUSSION

The current study was assessing the level of knowledge, attitudes and practices towards breast cancer and its early detection methods with their association with demographic characteristics of the participants. The results of the study that were presented in chapter four is discussed under this chapter. Based on objectives of the study and reviewed literatures. The findings were analyzed and drew a conclusion.

5.1. Demographic Data

The present cross-sectional study was conducted among 410 Afghan women 18 years and over, visiting Istiqlal and Jumhuriat hospitals. More than half (52.7%) of participants were visiting Istiqlal hospital and (47.3%) of participants were visiting Jumhuriat hospital. The age of women participated in this study ranged between 18 to 77 years with a mean age of 33.81 and standard deviation of 13.08. From all participants, only (16.3%) of them had tertiary education (Bachelors, Certificates from technical schools and institutes, Masters and PhD), while a high percentage of participants (42.9 %) were illiterate, (11%) had primary school education and (10.5%) had high school education. About half of participants (50.7%) were married and most of women (41.5%) had one to five child and (26.8%) of them had more than five child.

5.2. Knowledge level regarding breast cancer

Knowledge and awareness is an important factor in early detection and to seek care and optimal treatment of breast cancer. The findings of this study revealed that overall knowledge level of participants in this study was poor towards breast cancer. The mean knowledge level of participants in this study was 16.8 with a standard deviation of 5.5, more than half 52.4% of Afghan women participated in this study had fair knowledge level and 40.7% of them had poor knowledge level, only 6.8% of women had good knowledge level about breast cancer. In similar study done by Arif S et al (2018) among 250 women visiting a civil hospital in Karachi, Pakistan, indicated that 38% of women had poor knowledge level, 40.4 % with fair knowledge level and 21.6 % had good knowledge level which is slightly higher that the findings of this study. In the study by Arif S et al (2018) was with similar social and cultural

background to this study. Though, in the study by Arif S et al (2018) there was a significant association between breast cancer knowledge and age (P=0.028), education status (P<0.001) and occupation (P<0.001) of participants, however, the association between knowledge level and marital status was not significant (32).

Ahmed F et al (2006) conducted a similar to current study among nurses in teaching hospitals in Karachi, Pakistan which revealed that 35% of participants had good level of knowledge, 40 percent had fair level of knowledge and 25% had poor knowledge about breast cancer. However, the findings of the study by Ahmed F et al (2006) are higher than findings of this research which indicates that only 6.8% of women had good knowledge about breast cancer and 40.7% had poor knowledge on breast cancer. Though, the reason might be the target population that in the study by Ahmed F et al (2006) were nurses. Another study conducted by Heena H et al (2019) in Riyadh, Saudi Arabia among female health care workers in King Fahad Medical City, the findings revealed that only 1.5% of participants had good knowledge and 26.8% with a fair knowledge level about breast cancer (23). While, the results of the current study indicated that only 6.8% of Afghan women participated in this study had good knowledge level. Also, the result of this study is similar to the study done by Mehra S et al (2012) among Afghan immigrant women in Northern California, USA which showed a low level of knowledge about breast cancer among Afghan immigrant women.

In the study done by El Asmar et al (2018) among Lebanese females in Beirut, showed that 50% of women had good overall knowledge about breast cancer which contradicts the result of current study. However, in the study by El Asmar et al (2018) education level was significantly associated with overall knowledge level of participants (P=0.002) which is in line with this study. Also, Elsie KM et al (2010) conducted a similar study among 100 women in Kampala city, Uganda and the findings were similar to this study, more than half of women did know about risk factors of breast cancer and showed overall poor knowledge level. Another study by Pinar E et al (2006) among primary healthcare workers in family health centers in Diyarbakir, Turkey shown a higher knowledge level of breast cancer, 56.1% of participants had good knowledge about breast cancer which contradicts the findings of this study, the reason could be the difference in target population which Pinar E et al (2006) conducted the study only among healthcare workers.

In addition, Tiba NH et al in 2015 conducted a similar study among 508 women in Baghdad city, Iraq and found that 61.2% of participants had poor knowledge level. However, there was a significant association between knowledge, marital status and age which is in line with the findings of this study, which indicated a significant association between overall knowledge with marital status and age of participants (P=0.019, P=0.007), respectively. Also, there was a significant association (p<0.001) between knowledge level and occupation of participants on breast cancer.

In the study by Lakshmi M et al (2017) among women aged 20 – 30 years in Coimbatore, India. 92.5% of participants were not aware of preventive measures of breast cancer, however, education level of participants had a significant association (P<0.001) with the knowledge about breast cancer which is in line with the current study. The study by Atashi HA et al (2020) in Tehran, Iran. 13% of participants had poor knowledge, 50% had moderate knowledge and 66% had good knowledge, which contradicts the finding of this study, however, the study by Atashi HA et al (2020) was conducted among midwives who participated in a breast prevention seminar, which could be the reason for the higher good knowledge level about breast cancer among the participants. Moreover, the findings of the study by Shiryazdi M et al (2014) among women referring to Yazd city health centers in Iran were in line with this study which revealed that 86.8% had poor to moderate knowledge level about breast cancer.

Additionally, the findings of this study revealed that most of participants 35.6% said that the source of information about breast cancer was television, while 18.3% believed that hospital staff was the source of information on breast cancer. However, the findings were in line with the study by Shiryazdi SM et al (2014) which showed that the most important information source was television. The findings of the study by Sara IG et al (2010) contradicts the findings of this study and indicates that for 69.2% of participants the source of information was relatives, friends and neighbors and only for 7.2% the source of information was health care providers. Also, in this study there was a significant association (P=0.001) between knowledge level and number of children (36).

In addition, there was a significant relationship (P=0.019) between overall knowledge level of participants on breast cancer and their attitudes towards breast cancer that is similar to the result of the study by Naghibi SA et al (2016) in North of Iran. However, the finding rejected the null hypothesis in this study and indicated that

there was a significant association between knowledge level and attitudes of participants towards breast cancer. 40.6% of women with poor knowledge level, most of them 77.9% had negative attitudes towards breast cancer and among 6.8% of women with good knowledge level, more than half 57.1% of them had negative attitudes towards breast cancer.

5.3. Attitudes towards breast cancer

The findings of this study indicated that among 410 participants in this study 70% of them showed negative attitude towards breast cancer and 30% demonstrated positive attitude towards breast cancer. 95.1% of participants believed that breast cancer is a frightful disease, 45.7% agreed that breast cancer can be prevented, 87.8% indicated that the best method to seek care for breast cancer is visiting a doctor and 47.6% of participants believed that performing BSE is difficult. The results of the study conducted by Heena H et al (2019) was similar to findings of this study, however, some results by Heena H et al (2019) contradicts the findings of the current study in which 9.4% believed that breast cancer can be prevented and 53.4% believed that they could not detect abnormalities in their breasts by BSE. The findings by Shiryazdi SM et al (2014) was in line to the results of this study in which 21% had weak attitudes, 70.8% had moderate attitude and only 8.2% had good attitudes towards breast cancer screening methods and also the associations between attitudes of participant towards breast cancer with age and occupations was also significant. The result of the study by Sara IG et al (2010) contradicts the result of this study and found that more than 90% of participants had positive attitude indicating that they will see a doctor if they felt any breast lump.

In addition, the results of this study demonstrated a significant association between attitudes and age of participants (ANOVA, P=0.001) which is similar to the findings by Shiryazdi SM et al (2014). However, according to the findings of this study, the associations between attitudes of participants towards breast cancer and their education level, marital status, occupation (P=0.169, P=0.124 and P=0.502), respectively, were not significant. The findings of the study by Naghibi SA et al (2016) in North of Iran revealed the similar findings except for the relationship between knowledge of participants towards breast cancer and variable employment that was

significant (P=0.003) and contradicts the findings of this study on the same variables relationship.

Also, according to the results of this study 76.1% of women who had tertiary education had negative attitudes while only 13.9% of them had positive attitudes towards breast cancer which showed that women with higher education still have negative attitudes towards breast cancer. In the study by El Asmar et al (2018) in Lebanon, 75% of respondents had positive attitudes towards breast cancer and women with higher education level were more aware of breast cancer, however, the results contradicts the findings of this study.

5.4. Practices on breast cancer

The study results found a weak screening practice of breast cancer among participants. From 410 participants, 27.6% of them practiced breast self-examination, 14.9% of them visited a doctor for CBE during the past one year. 13.9% of them performed mammogram in the past two years. The study findings were similar to the study by Mehra S et al (2012) among Afghan women immigrants in Northern California, USA, in which 28.3% had a clinical breast examination in the course of two years. However, Mehra S et al (2012) 65.9% of women had mammogram which contradicts the findings of this study on practicing mammogram the reason could be knowledge and availability of better health care facilities such as mammography for participants in the study by Mehra S et al (2012).

In the study by Heena H et al (2019), 75% of participants were practicing breast self-examination and 18.7% of participants practiced mammography, which the results contradicts the findings of this study. However, a possible reason could be being the health care workers as participants in the study by Heena H et al (2019).

Moreover, in this study respondents who were practicing BSE only 8.8% of them were practicing monthly which is close to findings by Naghibi SA et al (2016) in North Iran in which among 46% of participants who were practicing BSE, 14.3% of women were practicing BSE monthly. Thus, the result of the study by Gulendam K et al (2013) in Turkey, revealed that 79.2% have never practiced BSE and 49.5% of them said that they did not know how to do it, also 92.9% of participants have never performed mammography. A similar study by Abdulbari B et al (2009) among women in Qatar revealed that 24.9% of participants were practicing BSE, 23.3% CBE and

22.5% of them were performing mammography, however, that Qatar has better health facilities.

In this study From 72. 4% who never practiced BSE, most of them 36.8% of them never taught and did know how to examine their breasts and perform BSE, while 9.5 % mentioned that it is difficult to perform BSE. Moreover, from the total of participants in this study only 14.9% performed clinical breast examination during the past one year. 85.1% who did not practiced CBE, for 14.6% living far from clinic and health center, and for 22.9 % shying to be examined was the reason for not performing CBE.

In addition, education level is significantly associated (P=0.001, P=0.031) with BSE and CBE, respectively, except for mammography (P=0.315). This finding is in line with the study by Tiba NH et al (2015) which indicated 30.3% of women performed BSE, also the association between education level and BSE practices was significant (P<0.01), however, in the study by Tiba NH et al (2015) participants were associated with higher education level than the participants in this study. Also, in the study by El Asmar et al (2018) in Lebanon, which showed a weak screening practice, and those who had university degree showed 78% better practices of breast cancer.

In addition, in this study the associations between practices of breast cancer (BSE, CBE and Mammogram) and age of participants were also significant (ANOVA, P<0.001), for all screening methods. This finding is in line with the study by Shiryazdi SM et al (2014) in Iran, which indicated that 65.8% of women had weak practice of breast cancer and the relationships between practices of breast cancer the education level, age, occupation of participants were also significant. Also, in the study by Shiryazdi SM et al (2014) not knowing how to perform BSE correctly was the reason for not practicing BSE for 59.4% of participants which is similar to the findings in this study.

There was a significant association (P<0.001) between overall knowledge level on breast cancer and practices of breast cancer among participants observed. Also, there was a significant association between attitudes of participants towards breast cancer and practices of breast cancer screening methods (P=0.017, P=0.005 and P=0.002) BSE, CBE and mammogram, respectively. These findings rejects the null hypothesis in this study and accept that there was significant association observed

between level of knowledge, attitudes and practices on breast cancer among participants in this study.

6. CONCLUSIONS AND RECOMMENDATIONS

The conclusions, recommendations and limitations of the study is presented in this chapter.

6.1. Conclusion

This cross-sectional study was conducted to assess the level of knowledge, attitudes and practices of breast cancer among Afghan women visiting Istiqlal and Jumhuriat hospitals in Kabul city, Afghanistan. Total of 410 women aged 18 years and over with a mean age of 33.81 and standard deviation of 13.08 participated in this study. The findings of this research indicated that from all women participated in the study, 40.7% of them had poor knowledge, more than half 52.4% of them had fair knowledge, and only 6.8% of participants had good knowledge about breast cancer. Among all 410 participants in this study 70% of them had negative attitudes and 30% of them had positive attitudes towards breast cancer and its screening methods. Among all participants, 27.6% of them practiced breast self-examination, 14.9% of them visited a doctor for clinical breast examination during the past one year. 13.9% of them performed mammogram in the past two years. The commonest reasons for not practicing breast cancer screening were not knowing how to perform, shyness and living far from clinic. There were significant associations exist between knowledge, attitudes and practices of breast cancer among participants.

6.2. Recommendations

Overall, the knowledge level, attitudes and practices of breast cancer and its screening was weak and inadequate among Afghan women participated in this study. Most of Afghan women are housewives and illiterate and restricted with their cultural believes. Therefore, it is important to create awareness programs and campaigns appropriate to culture, through TV, radio, printed and other visual materials. However, educating female health care workers is also the key to raise awareness and educate women about breast cancer and its screening methods, signs and symptoms.

Also, it is recommend to the Ministry of Public Health of Afghanistan in collaboration with other health related sectors, the Ministry of Higher Education and the Ministry of Education to implement health education programs on breast cancer in high schools, institutes and universities. The MoPH in collaboration with international organizations and nongovernmental organizations should establish the policy and guidelines to disseminate easily the awareness and information regarding breast cancer reachable to all women in all provinces and cities of the country. However, since there is lack of mammography and screening tools across the healthcare centers over the country, it is recommended to raise capacity and facilitate mammography, and other screening tools.

In addition, the burden of disease is not available and data about breast cancer is limited. It is necessary to conduct more researches on breast cancer in the country and to find out necessary measure to be done in order to decrease the incidence and death rates of breast cancer.

6.3. Research Limitations

There were several limitations to this study. First, this research was limited and only targeted women visiting two hospitals and did not represent general population and different regions of the country. Second, the time was limit and there was no financial resource and facility to be able to collect data from general population and from different regions of the country. Third, the war and insecurity situation in the country, were not allowing to conduct research in the other regions. Also, another limitation was that this study was designed and translated in Pashto and Dari languages only, and was not including other ethnic groups who speak other languages such as Uzbeki.

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8. APPENDICES

APPENDIX-1. English Questionnaire

PUBLIC HEALTH DEPARTMENT
INSTITUTE OF HEALTH SCIENCES
ANKARA YILDIRIM BEYAZIT UNIVERSITY, TURKEY

CONFIDENTIAL

Type of research: Master thesis (Consent Form)

Knowledge, attitudes and practices regarding breast cancer among Afghan women who visit Jumhuriat and Istiqlal hospitals in Kabul city: A cross-sectional study.

Instructions for the Interviewer:

The following is to be read verbatim to the respondent prior to the interview. If the subject then agrees to participate, you must sign on the line marked "Witness to Consent Procedures" at the end of this form. Also mark the date on the appropriate line.

Purpose of the Study
Dear participant, this study belongs to Mohammad Jawad Mudaber who is doing his masters of Public Health at Ankara Yildrim Beyazit University. As his master's thesis he is conducting this study to assess the knowledge, attitudes and practices regarding breast cancer among Afghan women over 18 years old who visit Jumhuriat and Istiqlal hospitals in Kabul city. However, there is no immediate or direct benefit to you for participation.

Procedures
To obtain the necessary information, you have been chosen to participate. If you consent, you will be asked to respond to a series of questions regarding breast cancer.

Risks /Discomforts
This survey will take about 15 to 20 minutes.

Confidentiality
Please write down the information on the form. The record of this information will not have any information that can be used to identify you.

Voluntary Consent
Dear participant, it is your decision whether or not to be in this study. You can stop participating in the study at any time without consequence. If you do not want to be in this study, it will not have any consequence for you.

If you have questions or problems, please contact: +93 789121819
Do you agree to participate in this research?

Witness to consent procedures: (to be signed by interviewer after subject has verbally consented)

Questionnaire No: ( )

Location/Hospital: 1.Istiqlal: ( ) 2. Juhmhuriat: ( )

Interviewer _____

Language: 2.Pashto ( ) 1. Dari ( )

Part I: Demography

1. Age (years): ----------:

2. Education level:

1. Primary education (School) ( )
2. Secondary education (High School) ( )
3. Tertiary education ( )
4. Other (Madrasa) ( )
5. None (Not able to read and write) ( )

3. Occupation:

1. Student ( )
2. Self-employed ( )
3. Formally employed ( )
4. Unemployed (Housewife) ( )

4. Marital status:

1. Single ( )
2. Married ( )
3. Divorced ( )
4. Widowed ( )
5. Separated ( )

5. Number of children: ( )

6. Residence City – Currently:

1. Kabul ( )
2. Other province ( )

Part II: Knowledge

Tick (√) True/False/Not sure

7. What are the symptoms of breast cancer?

7.1) Pain in the breast	True ( )	False ( )	Not Sure ( )
7.2) Lump in the breast	True ( )	False ( )	Not Sure ( )
7.3) Painless lump	True ( )	False ( )	Not Sure ( )
7.4) Nipple discharge (other than breast milk)	True ( )	False ( )	Not Sure ( )
7.5) Skin changes	True ( )	False ( )	Not Sure ( )

8. What are the risk factors of breast cancer? Tic (√) True/False

8.1) Family history of breast cancer	True ( )	False ( )	Not Sure ( )
8.2) Never given birth	True ( )	False ( )	Not Sure ( )
8.3) Having many children *	True ( )	False ( )	Not Sure ( )
8.4) Advancing age	True ( )	False ( )	Not Sure ( )
8.5) Breast feeding *	True ( )	False ( )	Not Sure ( )
8.6) Oral contraceptive pills	True ( )	False ( )	Not Sure ( )
8.7) Tobacco intake/alcohol consumption	True ( )	False ( )	Not Sure ( )
8.8) High dietary fat intake	True ( )	False ( )	Not Sure ( )
8.9) Obesity	True ( )	False ( )	Not Sure ( )
8.10) Thin women (Underweight)	True ( )	False ( )	Not Sure ( )

9. The following are the protective factors of breast cancer.

9.1) Breast feeding	True ( )	False ( )	Not Sure ( )
9.2) Not to breast feed	True ( )	False ( )	Not Sure ( )
9.3) Having first child at old age	True ( )	False ( )	Not Sure ( )

10. The following method can detect early breast cancer.

10.1) Breast self-examination	True ( )	False ( )	Not Sure ( )
10.2) Clinical breast examination	True ( )	False ( )	Not Sure ( )
10.3) Mammogram	True ( )	False ( )	Not Sure ( )

(Tick the correct answer).

11. Breast self-examination is recommended from above the age of 20.

Yes ( ) No ( ) Not sure ( )

12. It is recommended to perform breast self-exam about 7 to 10 day from the first day of menstruation.

Yes ( ) No ( ) Not sure ( )

13. Breast self-examination should be routinely done monthly.

Yes ( ) No ( ) Not sure ( )

14. Clinical breast examination should be part of the routine checkup.

Yes ( ) No ( ) Not sure ( )

15. Mammogram is the most accurate test for breast cancer.

Yes ( ) No ( ) Not sure ( )

16. Mammogram can detect breast cancer even before it is felt.

Yes ( ) No ( ) Not sure ( )

17. Breast cancer can be cured if detected early.

Yes ( ) No ( ) Not sure ( )

18. Breast Cancer can be treated in the following manner:

18.1) Chemotherapy	True ( )	False ( )	Not Sure ( )
18.2) Surgery	True ( )	False ( )	Not Sure ( )
18.4) Radiation therapy	True ( )	False ( )	Not Sure ( )

19. Preventive measures for the breast cancer are as follows

19.1) Regular check up by a doctor	True ( )	False ( )	Not Sure ( )
19.2) Breast cleanliness	True ( )	False ( )	Not Sure ( )
19.3) Regular breast self-examination	True ( )	False ( )	Not Sure ( )

20. Source of information on breast cancer.

1. Radio ( ) 2. Television ( )

3. Neighbors and relatives ( ) 4. Print materials ( )

5. Hospital staff ( ) 6. None ( ) 7. Other ( )

Part III: Attitude

21. Breast cancer is a frightful disease.

Agree ( ) Disagree ( ) Uncertain ( )

22. There is no cure for breast cancer.

Agree ( ) Disagree ( ) Uncertain ( )

23. Breast cancer can be prevented.

Agree ( ) Disagree ( ) Uncertain ( )

24. The best approach for breast cancer care is to visit a Doctor.

Agree ( ) Disagree ( ) Uncertain ( )

25. I will not have a mammogram unless I have a problem.

Agree ( ) Disagree ( ) Uncertain ( )

26. It is important to seek care for the knowledge of breast self-examination.

Agree ( ) Disagree ( ) Uncertain ( )

27. It is difficult to practice breast self-examination.

Agree ( ) Disagree ( ) Uncertain ( )

Part IV: Practice:

28. Have you ever practiced breast self-examination?

Yes ( ) No ( )

28.1) If yes how often?

1. Monthly ( ) 2. Every six months ( )

3. Yearly ( ) 4. Never practice ( )

28.2) If you never practiced breast self-examination give reasons why:

1. Forgetting ( ) 2. Not sure how to do it ( )

3. Difficult to perform ( ) 4. Never taught how to do it ( )

29. Have you ever visited a doctor for clinical breast exam in the past one year?

Yes ( ) No ( )

29.1) If no give reasons for not visiting a doctor for clinical breast examination

1. Never thought it was important ( ) 2. Staying far from the clinic ( )

3. Too busy ( ) 4. Too shy to be examined ( )

5. It is painful to be examined ( ) 6. Others……. ( )

30. Have you done a mammogram in the past 2 years?

Yes ( ) No ( )

--Thank you very much for taking the time to complete this survey--

APPENDIX 2. Dari Questionnaire

رضایت نامه

بررسی آگاهی، نگرش و عملکرد نسبت به سرطان ثدیه (پستان) نزد خانم های افغان که در شفاخانه های استقلال و جمهوریت شهر کابل مراجعه میکنند: مطالعه مقطعی - توصیفی

<u>رهنمائی ها برای مصاحبه کننده:</u>

شرح زیر برای پاسخ دهنده قبل از مصاحبه خوانده شود. اگر مخاطب به اشتراک نمودن موافقت کرد، در پایان این فرم در بخش "شاهد رضایت" امضاء نمائید. همچنان تاریخ را در محل مناسب درج نمائید.

<u>هدف مطالعه</u>

اشتراک کننده گرامی: این مطالعه مربوط محمد جواد مدبر محصل ماستری صحت عامه در دانشگاه یلدریم بایزیت انکارا میباشد، پایان نامه خویش را که جهت بررسی آگاهی، نگرش و عملکرد نسبت به سرطان ثدیه (پستان) نزد خانم های افغان که بالاتر از سن ۱۸ سال بوده و در شفاخانه های استقلال و جمهوریت شهر کابل مراجعه مینمایند طرح نموده است، با این حال، هیچ سود و تاثیری مستقیم به شما در اشتراک نمودن وجود ندارد.

<u>عملکرد</u>

برای بدست آوردن معلومات ضروری، شما برای اشتراک در این مطالعه انتخاب شده اید. اگر موافق هستید، از شما در مورد سرطان ثدیه (پستان) یک سلسله سوالات پرسیده میشود.

<u>خطرات/ناراحتی ها</u>

این مطالعه ۱۵ الی ۲۰ دقیقه وقت شما را خواهد گرفت.

<u>محرمیت</u>

لطفا معلومات را درج این فورم نمائید و این مطالعه شامل هیچگونه معلوماتی که شما را شناسائی نماید نمیشود.

<u>رضایت داوطلبانه</u>

این تصمیم شما است که در این مطالعه اشتراک کنید یا خیر. شما میتوانید در هر مقطع زمان این مطالعه را بدون کدام پیامد متوقف سازید. اگر نمیخواهید در این مطالعه حضور داشته باشید، هیچ کدام پیامدی برای شما ندارد.

آیا شما موافقید که در این مطالعه شرکت کنید؟ بله ( ) نخیر ( )

شاهد موافقت (باید توسط مصاحبه کننده بعد از رضایت شفاهی مخاطب امضاء گردد)

تاریخ:

پرسشنامه

کود پرسشنامه [ ]
مکان [ ]
مصاحبه کننده [ ]
زبان: پشتو[ ] دری [ ] دیگر [ ]

بخش اول: دیموگرافی

۱:سن (به سال): ----------

۲. سطح تحصیل:

مکتب ابتداییه ( ) مکتب متوسطه ( ) لیسه/فارغ صنف دوازده ( ) دانشگاه ( ) دیگر) (هچکدام ( )

۳. وظیفه

محصل ( ) وظیفه رسمی ( ) وظیفه شخصی ( ) بیکار ( ) خانم خانه ( )

۴. حالت مدنی

مجرد( ) متاهل ( ) بیوه ( ) طلاق ( )

۵. تعداد اطفال: ( )

۶. ولایت فعلی

کابل ( ) دیگر ولایت ( )

بخش دوم: آگاهی

۷. علایم سرطان پستان کدام ها اند؟

درد در پستان ها	درست ( )	اشتباه ( )	مطمین نیستم ( )
موجودیت غده در ناحیه پستان ها	درست ( )	اشتباه ( )	مطمین نیستم ( )
غده دردناک در پستان ها	درست ( )	اشتباه ( )	مطمین نیستم ( )
ترشح از نوک پستان (بجز ترشح شیری)	درست ( )	اشتباه ( )	مطمین نیستم ( )
ترشح جلدی(بجز ترشح شیری)	درست ( )	اشتباه ( )	مطمین نیستم ( )

۸. عوامل خطر سرطان پستان کدام اند؟

سابقه فامیلی سرطان پستان	درست ( )	اشتباه ( )	مطمین نیستم ( )
نداشتن طفل (حمل نگرفتن)	درست ( )	اشتباه ( )	مطمین نیستم ( )
داشتن تعداد اطفال زیاد	درست ( )	اشتباه ( )	مطمین نیستم ( )
بالا رفتن سن	درست ( )	اشتباه ( )	مطمین نیستم ( )
تغذیه طفل با شیر مادر	درست ( )	اشتباه ( )	مطمین نیستم ( )
استفاده تابلیت فمی زد حمل (از طریق دهن)	درست ( )	اشتباه ( )	مطمین نیستم ( )
استفاده تنباکو/ مصرف الکول	درست ( )	اشتباه ( )	مطمین نیستم ( )
استفاده مواد غذای پرچرب	درست ( )	اشتباه ( )	مطمین نیستم ( )
چاقی	درست ( )	اشتباه ( )	مطمین نیستم ( )
لاغری	درست ( )	اشتباه ( )	مطمین نیستم ( )

۹. فکتور های وقایع کننده سرطان پستان شامل موارد زیر میباشند

تغذیه طفل با شیر مادر	درست ( )	اشتباه ( )	مطمین نیستم ( )
تغذیه نکردن طفل با شیر مادر	درست ( )	اشتباه ( )	مطمین نیستم ( )
داشتن اولین طفل در سن بالا	درست ( )	اشتباه ( )	مطمین نیستم ( )

۱۰. شیوه های ذیل باعث تشخیص قبل از وقت سرطان پستان میگردد

آزمایش خودی پستان	درست ( )	اشتباه ( )	مطمین نیستم ( )
آزمایش کلینیکی پستان	درست ( )	اشتباه ( )	مطمین نیستم ( )
ماموگراف	درست ( )	اشتباه ( )	مطمین نیستم ( )

۱۱. آزمایش خودی پستان بعد از سن ۲۰ سالگی توصیه میگردد

بله ( ) نخیر( ) مطمین نیستم ( )

۱۲. ۷ الی ۱۰ روز بعد ازاولین روز دوره قاعدگی (عادت ماهوار) آزمایش خودی سرطان پستان توصیه گردیده است

بله ( ) نخیر( ) مطمین نیستم ( )

۱۳. آزمایش خودی پستان بطور منظم هر ماه صورت گیرد

بله ( ) نخیر( ) مطمین نیستم ( )

۱۴. آزمایش کلینیکی پستان باید بطور منظم صورت گیرد

بله ( ) نخیر( ) مطمین نیستم ( )

۱۵. ماموگرام دقیق ترین معاینه برای سرطان پستان میباشد

بله ( ) نخیر( ) مطمین نیستم ( )

۱۶. ماموگرام سرطان پستان را حتی قبل از اینکه احساس گردد تشخیص میتواند

بله ( ) نخیر( ) مطمین نیستم ( )

۱۷. سرطان پستان در صورتی که زودهنگام تشخیص گردد قابل تداوی است

بله ( ) نخیر( ) مطمین نیستم ( )

۱۸. سرطان پستان به شیوه های ذیل تداوی میگردد

کیموتراپی	درست ( )	اشتباه ( )	مطمین نیستم ( )
جراحی	درست ( )	اشتباه ( )	مطمین نیستم ( )
رادیشن	درست ( )	اشتباه ( )	مطمین نیستم ( )

۱۹. فکتور های ذیل باعث وقایع سرطان پستان میگردد

معاینه منظم توسط داکتر	درست ( )	اشتباه ( )	مطمین نیستم ( )
معاینه خودی پستان بشکل منظم	درست ( )	اشتباه ( )	مطمین نیستم ( )
نظافت (پاک بودن) پستان	درست ( )	اشتباه ( )	مطمین نیستم ( )

۲۰. منبع معلومات در مورد سرطان پستان

۱. رادیو ( ) ۲. تلویزیون ( ) ۳. اقوام و یا همسایه ها ( ) ۴. مجله و اخبار( )

۵. کارمندان شفاخانه و کلینیک( ) ۶. سایر ( ) ۷. هیچکدام

بخش سوم: نگرش

۲۱. سرطان پستان یک مریضی خطرناک میباشد

الف: موافق ( ) ب: غیرموافق ( ) ج: نامطمین ( )

۲۲. سرطان پستان غیر قابل تداوی میباشد

الف: موافق ( ) ب: غیرموافق ( ) ج: نامطمین ( )

۲۳. سرطان پستان قابل وقایه میباشد

الف: موافق ( ) ب: غیرموافق ( ) ج: نامطمین ( )

۲۴. بهترین شیوه تداوی سرطان پستان مراجعه به داکتر میباشد.

الف: موافق ( ) ب: غیرموافق ( ) ج: نامطمین ( )

۲۵. تا کدام مشکلی در ناحیه پستانم نداشته باشم ماموگرافی نیمکنم.

الف: موافق ( ) ب: غیرموافق ( ) ج: نامطمین ( )

۲۶. برای آگاهی در مورد آزمایش خودی پستان باید توجه کرد.

الف: موافق ( ) ب: غیرموافق ( ) ج: نامطمین ( )

۲۷. آزمایش خودی پستان مشکل است برایم.

الف: موافق ( ) ب: غیرموافق ( ) ج: نامطمین ( )

بخش چهارم: عملکرد

۲۸. آیا تا بحال آزمایش خودی پستان را انجام داده اید؟

بله: ( ) نخیر:( )

۲۸-۱. اگر بله چند بار(به کدام تکرار)

الف: ماهانه ( ) ب: هر شش ماه یکبار( )

ج: سالانه ( ) د: هرگز انجام ندادم ( )

۲۸-۲. اگر هرگز آزمایش خودی پستان را انجام نداده اید، دلیل آن چه بوده؟

الف: فراموش کردن ( ) ب: مطمین نبودن در مورد روش انجام دادن ( )

ج: مشکل بودن ( ) د: هرگز آموزش ندیده بودم که چطور انجام دهم ( )

۲۹. آیا در مدت یک سال گذشته جهت آزمایش کلینیکی سرطان پستان به داکتر مراجعه نموده اید؟

بله ( ) نخیر ( )

۲۸-۱. اگر نخیر، دلیل آن چه بوده است؟

الف: هرگز اهمیت آن برایم گفته نشده بود ( ) ب: از مرکز صحی فاصله زیاد داشتیم ( )

ج: مصروف بودن ( ) د: شرم از معاینه شدن ( )

ی: فکر میکنم معاینه آن درد آور است ( ) ط: دلیل دیگر ( )

۳۰. آیا در مدت دو سال گذشته ماموگرافی انجام داده اید؟

بله ( ) نخیر ( )

== تشکر از وقت و اشتراک تان در این مطالعه ==

APPENDIX-3. Pashto Questionnaire

رضایت نامه

د تیونو سرطان په اړه د هغو افغان میرمنو د پوهې، انګېرنو او کړنو ارزول، چې د کابل ښار استقلال او جمهوریت روغتونونو ته مراجعه کوي

مرکه کوونکی لپاره لاربښوونې:

لاندې شرحه باید ځواب ورکوونکي ته له مرکې مخکې ولوستل شي، که مخاطب له اشتراک کولو سره موافقه وکړه، د دې فورم په پای کې دې د" له طرزالعمل سره موافق شاهد " په ځای کې لاسلیک وکړي. همدارنګه دې په مناسب ځای کې تاریخ ولیکي.

د مطالعې موخه

ښاغلی ګډون کوونکیه: دا د محمد جواد مدبر، د آنکارا یلدریم بایزید پوهنتون په عامې روغتیا ځانګه کې د ماسټرۍ محصل، د خپل مونوګراف لپاره دغه مطالعه طرحه کړې، چې د تیونو سرطان په اړه د هغو افغان میرمنو پوهه، انګېرنې او کړنې ارزوي، چې د کابل ښار استقلال او جمهوریت روغتونونو ته مراجعه کوي، په دې ډول، په دې ګډون کې تاسو ته هیڅ فوري یا مستقیمه ګټه وجود نه لري.

طرزالعمل

د ضروري معلوماتو د ترلاسه کولو په خاطر تاسو د ګډون لپاره ټاکل شوي یاست، له تاسو څخه به د تیونو د سرطان په اړه یو لړ پوښتنې کېږي.

خطرونه/ناراحتی

دا مطالعه به له ۱۵ تر ۲۰ دقیقو پورې ستاسو وخت ونیسي.

محرمیت

مهرباني وکړئ معلومات په دې فورم کې ثبت کړئ، د دې معلوماتو ریکارډ به داسې معلومات نه وي چې تاسو په نښه کړي.

داوطلبانه رضایت

دا ستاسو تصمیم دی چې په دې مطالعه کې اوسئ که نه، تاسو کولای شئ دا مطالعه هر وخت پرتله له کوم پایلې ودروئ، که تاسو نه غواړئ په دې مطالعه کې و اوسئ، دا به تاسو ته هیڅ راز عواقب ونه لري.

ایا تاسو موافق یاست چې په دې مطالعه کې ګډون وکړئ؟ هو ( ) نه ( )

له طرزالعمل سره موافق شاهد (د مخاطب له شفاهي رضایت نه وروسته باید د مصاحبه کوونکي په واسطه لاسلیک شي)

نېټه:

پوښتنليک

د پوښتنليک کوډ: ( )
ځای: ( )
مرکه کوونکی: ( )
ژبه: پښتو ( ) دری ( ) بله ( )

لومړی برخه: ډيموګرافي

۱. د زيږېدو نېټه (سن): ----------

۲. د زده کړو کچه:

لومړنی ښوونځی ( ) منځنی ښوونځی ( ) ليسه/له دولسم ټولګي فراغت ( ) پوهنتون ( ) بل( ) هيڅ يو ( )

۳. وظيفه

الف: محصل ( ) ب: رسمي دنده ( ) ج: شخصي دنده ( ) د: وزګار ( ) ی: د کور مېرمن ( )

۴. مدني حالت: الف: مجرد( ) ب: متاهل ( ) ج: کونده ( ) د: طلاقه شوې ( )

۵. د اولادونو شمېر ( )

۶. اوسنی اوسېدنه: کابل ( ) بل ولايت ( )

دويمه برخه: پوهاوی

۷. د سينې (تيونو) د سرطان نښې کومې دي؟

د تيونو درد	سمه ده ( )	غلط ( )	مطمين نه يم ( )
د تيونو په ناحيه کې د غدو شتون	سمه ده ( )	غلط ( )	مطمين نه يم ( )
په تيونو کې دردناکه غده	سمه ده ( )	غلط ( )	مطمين نه يم ( )
د تيونو له څوکو افرازات (دغه افرازات مايع وي خو شيده نه وي)	سمه ده ( )	غلط ( )	مطمين نه يم ( )
جلدي ترشحات	سمه ده ( )	غلط ( )	مطمين نه يم ( )

۸. د تيونو سرطان د خطر عوامل کوم دي؟

د تيونو د سرطان کورنی سابقه	سمه ده ( )	غلط ( )	مطمين نه يم ( )
د اولاد نه لرل (حمل نه اخيستل)	سمه ده ( )	غلط ( )	مطمين نه يم ( )
د ډېرو اولادونو لرل	سمه ده ( )	غلط ( )	مطمين نه يم ( )
د عمر لوړېدل	سمه ده ( )	غلط ( )	مطمين نه يم ( )

د مور پر شېدو د کوچني تغذيه	سمه ده ( )	غلط ( )	مطمين نه يم ( )
له ميندوارۍ ضد تابليټونو استفاده (د خولې له لارې)	سمه ده ( )	غلط ( )	مطمين نه يم ( )
له تنباکو ګټه اخېستل	سمه ده ( )	غلط ( )	مطمين نه يم ( )
د ځربې (غوړيني) غذا ځخه استفاده	سمه ده ( )	غلط ( )	مطمين نه يم ( )
چاغي	سمه ده ( )	غلط ( )	مطمين نه يم ( )
ډنګري (کم وزن)	سمه ده ( )	غلط ( )	مطمين نه يم ( )

۹. د تيونو د سرطان وقايوي فکتورونه په لاندې ډول دي:

د مور پر شېدو د کوچني تغذيه	سمه ده( )	غلط( )	مطمين نه يم ( )
د مور پر شېدو د کوچني نه تغذيه کول	سمه ده( )	غلط( )	مطمين نه يم ( )
په لوړ عمر کې د لومړني کوچني راوړل	سمه ده( )	غلط( )	مطمين نه يم ( )

۱۰. لاندې چلندونه (مېتودونه) مخکې له وخته د تيونو د سرطان د تشخيص باعث ګرځيږي:

په خپله د تيونو معاينه کول	سمه ده( )	غلط( )	مطمين نه يم ( )
د تيونو کلينيکي معاينه	سمه ده( )	غلط( )	مطمين نه يم ( )
ماموګراف	سمه ده( )	غلط( )	مطمين نه يم ( )

۱۱. ايا ستاسو په نظر پخپله د تيونو معاينه تر شلو کلونو وروسته توصيه کېږي، درسته ده؟

هو ( ) نه( ) مطمئن نه يم ( )

۱۲. ايا ستاسو په نظر د مياشتيني عادت د لومړۍ ورځې نه وروسته د ۷ تر ۱۰ ورځو پورې پخپله د تيونو معاينه توصيه شوې ده؟

هو ( ) نه( ) مطمئن نه يم ( )

۱۳. پخپله د تيونو معاينه هره مياشت په منظم ډول ترسره کېږي:

هو ( ) نه( ) مطمئن نه يم ( )

۱۴. د تيونو کلينيکي معاينه بايد په منظم ډول ترسره شي:

هو ( ) نه( ) مطمئن نه يم ( )

۱۵. ماموګرام د تيونو د سرطان لپاره تر ټولو دقيقه معاينه ده:

هو ( ) نه( ) مطمئن نه يم ( )

۱۶. مخکې له دې چې د تيونو سرطان احساس شي، ماموګرام يې تشخيصولای شي:

هو ( ) نه( ) مطمئن نه يم ( )

۱۷. په هغه صورت کې چې د تیونو سرطان زر تشخیص شي، د درملنې وړ دی:

هو ( ) نه( ) مطمئن نه یم ( )

۱۸. د تیونو سرطان په لاندې طریقو تداوي کېږي:

کیموتراپي	سمه ده( )	غلط( )	مطمین نه یم ( )
جراحي	سمه ده( )	غلط( )	مطمین نه یم ( )
رادیشن (د وړانګو په واسطه تداوي)	سمه ده( )	غلط( )	مطمین نه یم ( )

۱۹. لاندې فکتورونه د تیونو د سرطاني پېښو باعث ګرځي:

د ډاکټر په واسطه منظمه معاینه	سمه ده( )	غلط( )	مطمین نه یم ( )
په منظم ډول پخپله د تیونو معاینه	سمه ده( )	غلط( )	مطمین نه یم ( )
د تیونو پاکوالی (د تیونو د نظافت مراعتول)	سمه ده( )	غلط( )	مطمین نه یم ( )

۲۰. د تیونو د سرطان په اړه ستاسو د معلوماتو منبع څه شی دی؟ (تاسو د تیونو د سرطان عواملو، پېښو او تداوۍ په اړه معلومات له کومې منبع ترلاسه کوئ؟)

الف: رادیو ( ) ب: تلویزیون ( ) ج: قومونه او همسایه ګان ( ) د: مجله او اخبار( )

ی: د کلینیک او روغتون کارکوونکي( ) ط:نور ( ) ی: هیڅ یو ( )

دریمه برخه: انګېرنې

۲۱. ایا ستاسو په نظر د تیونو سرطان یوه خطرناکه مریضي ده؟

الف: موافق ( ) ب: ناموافق ( ) ج: نامطمین ( )

۲۲. د تیونو سرطان د درملنې وړ نه دی:

الف: موافق ( ) ب: ناموافق ( ) ج: نامطمین ( ) د نه پوهېږم

۲۳. د تیونو سرطان د وقایې وړ دی

الف: موافق ( ) ب: ناموافق ( ) ج: نامطمین ( )

۲۴. د تیونو د تداوۍ بهترینه لاره ډاکټر ته تلل دي:

الف: موافق ( ) ب: ناموافق ( ) ج: نامطمین ( )

۲۵. تر څو چې کوم مشکل ونه لرم ماموګرافي نه کوم:

الف: موافق ( ) ب: ناموافق ( ) ج: نامطمین ( )

۲۶. پخپله د تیونو معاینه معلومات او پوهی لټول مهم دی.

الف: موافق ( ) ب: ناموافق ( ) ج: نامطمین ( )

۲۷. پخپله د تیونو معاینه راته مشکله ده

الف: موافق ( ) ب: ناموافق ( ) ج: نامطمین ( )

څلورمه برخه: کړنې

۲۸. ایا تر اوسه مو پخپله د تیونو معاینه ترسره کړې ده؟

هو: ( ) نه:( )

۲۸-۱. که هو، نو څو ځل (پر کوم تکرار)

الف: میاشتینی ( ) ب: هرو شپږو میاشتو کې یو ځل( )

ج: کلنی ( ) د: هیڅکله مې نه ده تر سره کړې

۲۸-۲. که مو هیڅکله پخپله د تیونو معاینه نه ده کړې، دلیل یې څه دی؟

الف: هیریدل ( ) ب: د ترسره کولو طریقې په اړه نه مطمئن کېدل ( )

ج: ترسره کول یې ستونزمن دي ( )

د: هیڅکله مې روزنه نه وه اخېستې چې څه رنګه یې ترسره کړم ( )

ی: هیڅکله مې یې په اړه نه وو اوریدلي ( )

۲۹. ایا د تېر یوه کال په موده کې مو د تیونو د سرطان کلینیکي معاینې په اړه ډاکټر ته مراجعه کړې ده؟

هو ( ) نه ( )

۲۹-۱. که نه، دلیل یې څه دی؟

الف: هیڅکله یې اهمیت راته ویل شوی نه دی ( )

ب:روغتیایي مرکز زیاته فاصله لرله ( )

ج: مصروف وم ( ) د: له معاینه کېدو شرمېدم ( )

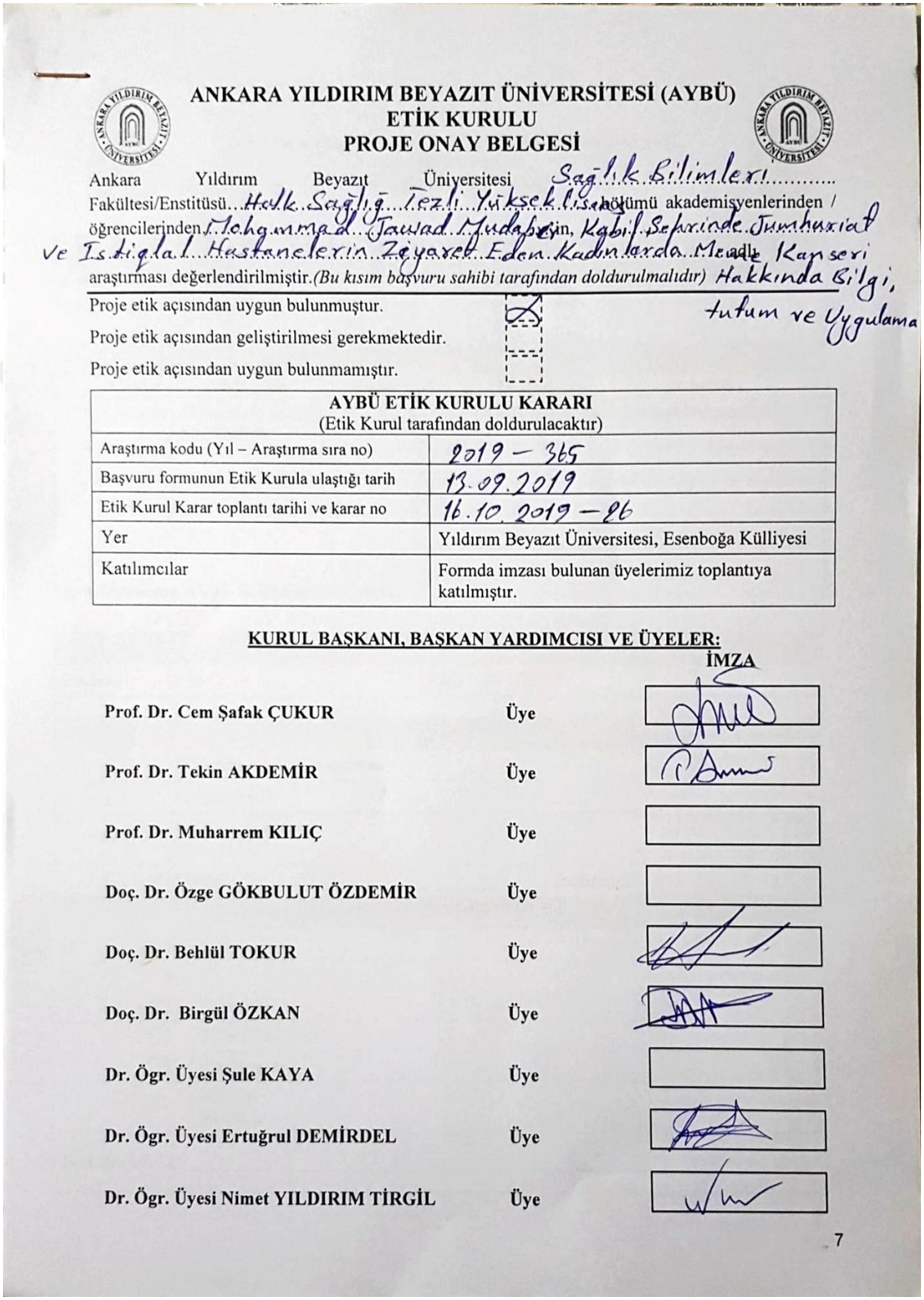
ی: معاینه کول یې درد لري ( ) ط: بل دلیل ( )

۳۰. د تېرو دوه کلونو په موده کې مو ماموګرافي ترسره کړې؟

هو ( ) نه ( )

== له تاسو وخت او اشتراک کی مننه ==

APPENDIX-4. Ethical clearance – Turkey



ANKARA YILDIRIM BEYAZIT ÜNİVERSİTESİ (AYBÜ)
ETİK KURULU
PROJE ONAY BELGESİ

Ankara Yıldırım Beyazıt Üniversitesi Sağlık Bilimleri
Fakültesi/Enstitüsü Halk Sağlığı Tezli Yüksek Lisans bölümü akademisyenlerinden / öğrencilerinden Mohammad Jawad Mudaber'in, Kabil Şehrinde Cumhuriat ve Istiqlal Hastanelerin Ziyaret Eden Kadınlarda Meme Kanseri Hakkında Bilgi, tutum ve Uygulama araştırması değerlendirilmiştir. *(Bu kısım başvuru sahibi tarafından doldurulmalıdır)*

Proje etik açısından uygun bulunmuştur.	☑
Proje etik açısından geliştirilmesi gerekmektedir.	☐
Proje etik açısından uygun bulunmamıştır.	☐

AYBÜ ETİK KURULU KARARI (Etik Kurul tarafından doldurulacaktır)	
Araştırma kodu (Yıl – Araştırma sıra no)	2019 – 365
Başvuru formunun Etik Kurula ulaştığı tarih	13.09.2019
Etik Kurul Karar toplantı tarihi ve karar no	16.10.2019 – 26
Yer	Yıldırım Beyazıt Üniversitesi, Esenboğa Külliyesi
Katılımcılar	Formda imzası bulunan üyelerimiz toplantıya katılmıştır.

KURUL BAŞKANI, BAŞKAN YARDIMCISI VE ÜYELER:

		İMZA
Prof. Dr. Cem Şafak ÇUKUR	**Üye**	
Prof. Dr. Tekin AKDEMİR	**Üye**	
Prof. Dr. Muharrem KILIÇ	**Üye**	
Doç. Dr. Özge GÖKBULUT ÖZDEMİR	**Üye**	
Doç. Dr. Behlül TOKUR	**Üye**	
Doç. Dr. Birgül ÖZKAN	**Üye**	
Dr. Ögr. Üyesi Şule KAYA	**Üye**	
Dr. Ögr. Üyesi Ertuğrul DEMİRDEL	**Üye**	
Dr. Ögr. Üyesi Nimet YILDIRIM TİRGİL	**Üye**	

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APPENDIX 5. Ethical clearance - Afghanistan

Islamic Republic of Afghanistan
Ministry of Public Health
Afghanistan National Public Health Institute
Institutional Review Board

د افغانستان اسلامی جمهوریت
د عامی روغتیا وزارت
د افغانستان دعامي روغتیا ملی انستیتوت
د اخلاقیات بررسی بورد

جمهوری اسلامی افغانستان
وزارت صحت عامه
انستیتوت ملی صحت عامه افغانستان
بورد بررسی اخلاقیات

Date: February 7, 2020

IRB Code No: A.0220.0150

To: Dr. Mohammad Jawad Mudaber
Masters' student in Public Health
Ankara Yildrim Beyazit University

Subject: Approval for proposal entitled, **"Knowledge, Attitude and Practice regarding breast cancer among Afghan women who visit Jumhuriat and Istiqlal Hospitals in Kabul city".**

Dear Dr. Mudaber,

Institutional Review Board, Ministry of Public Health has examined and reviewed your proposal entitled, **"Knowledge, Attitude and Practice regarding breast cancer among Afghan women who visit Jumhuriat and Istiqlal Hospitals in Kabul city".**

We are pleased to note satisfactory response therefore; your study is approved. However, we reserve the rights to monitor and audit your study and any violation of ethical norms during the course of study shall lead to withdrawal of given approval.

The duration of approval for a study to begin the research project is valid for one year and the implementation plan and monitoring plan should be shared to IRB secretary (irb.afg@gmail.com).

You are bound to share the result of your study with MoPH prior any dissemination plan.

Sincerely,

Bashir Noormal *MD, MPH*
Director General
Afghanistan National Public Health Institute (ANPHI) &
Chairman, Institutional Review Board (IRB)
Ministry of Public Health

Telephone No.: +93202109101-3
Email Address: irb.afg@gmail.com
Postal Address: 5th& 6th Floors of the Central Blood Bank, building Cinema Pamir area, Kabul-Afghanistan

نمبر تیلفون: +93202109101-3
آدرس الکترونیکی: irb.afg@gmail.com
آدرس پستی: منزل پنجم و ششم تعمیر بانک خون مرکزی عقب پولی کلینیک مرکزی، واقع سینمای پامیر، کابل افغانستان

APPENDIX-6. Curriculum Vitae

PERSONAL INFORMATION	
Name, Surname	: Mohammad Jawad MUDABER
Date of Birth	: 12/12/1992
Place of Birth	: Bamyan
Marital Status	: Single
Nationality	: Afghan
Address	: Ankara Yıldırım Beyazıt University, Institute of Health Sciences, Department of Public Health, Ankara
Tel	: +90 5367070054, +41779541662
E-mail	: jawad.modaber@gmail.com
EDUCATION	
High School	: Abdul Rahim Shahid High School
Undergraduate	: Kabul Medical University, Faculty of Health Science
FOREIGN LANGUAGE	
English	: Advanced
Spanish	: Beginner