

Aus dem Fachbereich Medizin
Universitätsklinikum Gießen und Marburg GmbH, Standort
Marburg
In Zusammenarbeit mit dem St. Bonifatius-Hospital Lingen,
Akademisches Lehrkrankenhaus der Medizinischen Hochschule Hannover,
Fachbereich Geriatrie
(Direktor Prof. Dr. Dr. Gerald Kolb)

Verhalten älterer Frauen bezüglich der Vorsorge des Mammacarcinoms

Inaugural-Dissertation
zur Erlangung des Doktorgrades der gesamten Humanmedizin

dem Fachbereich Medizin der

Philipps-Universität
Marburg

vorgelegt von

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Marburg, 2012

Angenommen vom Fachbereich Medizin der
Philipps-Universität Marburg am: 11.06.2012
Gedruckt mit Genehmigung des Fachbereichs.

Dekan: Prof. Dr. Matthias Rothmund
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Teildaten aus dieser Arbeit wurden bereits veröffentlicht:

Als Poster anlässlich des 13. Jahreskongresses der deutschen Gesellschaft für Geriatrie,
Fulda, 03.11.-05.11.2005.

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List of Abbreviations

NCI:	National Cancer Institute
CBE:	Clinical Breast Examination
BRCA:	Breast Cancer Antigen
BSE:	Breast Self-Examination
ACS:	American Cancer Society
MRI:	Magnetic Resonance Imaging
SEER:	Surveillance, Epidemiology and End Results
USPSTF:	U.S. Preventive Services Task Force
DACH:	Deutsche Arbeitsgruppe Chemoprävention
CAWAC:	Caring About Women And Cancer
HBM:	Health Belief Model
SPSS:	Statistical Package for the Social Sciences

Introduction

1.1 Incidence and public health importance of Breast cancer

Breast cancer appears to be a disease of both the developing and developed worlds. It is by far the most frequent cancer of women (23% of all cancers), with estimated 1.15 million new cases in 2002, ranking second overall when both sexes are considered together. More than half of the cases are in industrialized countries. About 361,000 in Europe (27, 3% of cancers in women) and 230,000 in North America (31, 3%). Incidence rates are high in most of the developed areas (except for Japan, where it is third after colorectal and stomach cancers).⁽³⁸⁾

In part, the high incidence in the more affluent world areas is likely because of the presence of screening programs that detect early invasive cancers, some of which would otherwise have been diagnosed later or not at all.⁽³⁷⁾

The incidence is more modest in Eastern Europe, South America, Southern Africa, and western Asia, but it is still the most common cancer of women in these geographic regions. The rates are low (<30 per100, 000) in most of Africa (with the exception of South Africa) and in most of Asia.⁽⁷⁰⁾

In Egypt, breast cancer is the most common cancer among women, representing 18.9% of total cancer cases (35.1% in women and 2.2% in

men) among the Egyptian National Cancer Institute (NCI) series of 10556 patients during the year 2001.⁽²⁰⁾

In Germany, breast cancer is also the most common cancer among women with more than 57,000 new cases yearly diagnosed, representing 27.8% of total cancer cases.⁽⁴³⁾

However, for some nations, mortality rates for breast cancer are improving. Comparing data collected between 1985 and 1989, and 1995 and 1998, among women 65-84 years, total breast cancer mortality declined 8% in the United States and 14% in the United Kingdom. Breast cancer mortality declined 3% in the European Union but rates rose from 80 to 90 per 100,000 in Eastern Europe, from 50 to 67.7 per 100,000 in the Russian Federation and from 19 to 24 in Japan.⁽⁴⁵⁾ These decreases in mortality rates in the United States and Western Europe reflect major improvements in screening, early diagnosis and treatment, widespread use of adjuvant systemic endocrine and chemotherapy.

In a report of the American Cancer Society (ACS) (*Breast cancer fact and figures 2007-2008*), 178,480 new cases of invasive breast cancer was diagnosed among women, as well as 62,030 additional cases of in situ breast cancer.⁽³⁹⁾ The expected number of new breast cancer in 2007 is markedly lower than the estimate for 2005 in the previous report due to the use of a new, more accurate estimation method and a small decline in the breast cancer incidence rate.

1.2 Risk Factors

The risk of breast cancer increases with age. The primary factors that increase risk of breast cancer in women include certain inherited genetic mutations, a personal or family history of breast cancer, and biopsy-confirmed hyperplasia. ⁽⁵⁾ Other factors that increase breast cancer include a long menstrual history (menstrual periods that started early and / or ended late in life), obesity after menopause, recent use of oral contraceptives, postmenopausal hormone therapy, never having had children or having the first child after age 30, ethnicity characteristics, exposure to radiation, or consumption of one or more alcoholic beverages per day. ^{(5), (48)} Sociodemographic risks have been also established. High breast tissue density (which is a mammographic measure of the amount of glandular breast tissue relative to fatty tissue in the breast) is a known feature that reduces the breast cancer detection rates in CBE and mammogram.

Factors that decrease breast cancer risks include breastfeeding, moderate or vigorous physical activity, and the maintenance of a healthy body weight. ⁽⁵⁾

Clinical models can now be employed to predict the risk of breast cancer. Among those in common use are the Gail and Claus models (Table1). ^{(24), (16)} Although they have been widely used in the African American and other minority populations, they have not been validated sufficiently.

Beyond classification of risk based on Family history, the identification of genetic mutations that are passed in an autosomal-dominant fashion has been an important scientific breakthrough. Among the most significant was the identification of mutations at BRCA1, localized to chromosome 17q21, and BRCA2 on chromosome 13q12-13, both of which confer a risk for breast cancer as high as 80% among carriers. ^{(58), (93)}

Table (1): Models for estimating risk for breast Cancer

	<i>Gail</i>	<i>Claus</i>
Source	Breast Cancer Detection Demonstration Project (n=284,780)	Cancer and Steroid Hormone Study (n=9,418)
Personal risk factors	Age Age at menarche Prior breast biopsies Age at first live birth	Age
Family History	Number of maternal first-degree relatives with breast cancer	Number of relatives with breast cancer (beyond first degree relatives) and ages of onset
Calculations	Absolute risk at 5 years Lifetime risk up to 90 years old	Lifetime risk up to 80 years old
Limitations	Excludes parental history -Excludes ovarian cancer history --Does not use pathologic findings from breast biopsy. -Does not account for age of onset of breast cancer among family Not valid in other ethnic groups	Excludes other risk factors May underestimate risk in families with more family members with breast cancer

1.3 Early Detection of breast cancer

1.3.1 BSE and Clinical Breast-examination

Early detection and prompt treatment offer the greatest chance of long-term survival. ⁽⁷³⁾ Mammography, CBE and BSE (BSE) are the secondary preventive methods used for screening in the early detection of breast cancer. ⁽²³⁾ Cancer screening tests play a pivotal role in reducing breast cancer related mortalities. ⁽⁸⁷⁾ The ACS recommends CBE and mammography in the early detection of breast cancer. ⁽⁸⁶⁾

According to ACS recommendations, women should know how their breasts normally feel and report any breast changes promptly to their health care providers. BSE is an option for women starting from the early 20s. ⁽⁵⁾⁽⁴⁹⁾ However, ACS no longer recommends BSE as there is reliable data that breast cancer detection through BSE does not increase survival rates. But, BSE seems to be an important viable optional substitute available in rural areas, where access to CBE and mammograms is difficult and might still detect breast cancer early enough for treatment which can be offered to prolong women's lives and reduce suffering. For younger women, BSE training and adherence is a gateway health promotion behavior provides women with the knowledge that sets the stage for adherence to CBE and mammography screening guidelines later in life.

Screening is linked to perceptions of risk, benefit, and barriers through a reasoning process that includes personal and social influences and attitudes. ⁽⁹⁶⁾

Women in their 20s and 30s should have a CBE as part of a periodic (regular) health examination by health professionals preferably every 3 years. After the age of 40, women should have a CBE every year, as recommended by the ACS. ⁽⁵⁾

1.3.2 Mammography

Annual mammography is considered the most valuable tool for detecting breast cancer in the earliest possible stages, before the cancer has metastasized and when interventions are most effective and least invasive and debilitating. The decline in breast cancer mortality has been largely attributed to regular mammography screening practice. ⁽⁹⁴⁾ The ACS recommends that women aged 40 and over should have a screening mammogram every year and should continue to do so for as long as they are in good health. ⁽⁵⁾ Mammography screening can lower the mortality risk but it is still under-used among minorities. ⁽⁸⁴⁾

Mammography plays a major role in early detection of breast cancers, detecting about 75% of cancers at least a year before they can be felt. There are 2 types of mammography examinations: screening and diagnostic. Screening mammography is done in asymptomatic women. Early detection of small breast cancers by screening mammography greatly

improves a woman's chances for successful treatment. Screening mammography is recommended every 1-2 years for women once they reach 40 years of age and every year once they reach 50 years of age. In some instances, physicians may recommend beginning screening mammography before age 40 if the woman has a strong family history of breast cancer. Studies have shown that regular mammograms may decrease the risk of late-stage breast cancer in women 80 years of age and older. ^{(78), (9)} Diagnostic mammography is performed in symptomatic women, when a breast lump or nipple discharge is found during self-examination or an abnormality is found during screening mammography.

Diagnostic mammography is more involved and time-consuming than screening mammography and is used to determine exact size and location of breast abnormalities and to image the surrounding tissue and lymph nodes.

Mammography is known to have a certain false-negative rate(s). According to data from the Breast Cancer Detection Demonstration Project, the false-negative rate of mammography is approximately 8-10%. Approximately 1-3% of women with a clinically suspicious abnormality, a negative mammogram, and a negative sonogram may still have breast cancer. Possible causes for missed breast cancers include dense parenchyma obscuring a lesion, poor positioning or technique, perception error, incorrect interpretation of a suspect finding, subtle features of malignancy and slow growth of a lesion. ⁽⁴²⁾

1.3.3 Ultrasonography

Ultrasonography has been playing an increasingly important role in the evaluation of breast cancer. Breast ultrasound is the preferable method in the case of a symptomatic patient, after clinical examination. In the case of a patient without symptoms, breast ultrasound is ascribed higher sensitivity for detecting breast cancer in women with dense breast tissue, women under the age of 50 and high-risk women.

Ultrasound has long been used as an effective diagnostic tool in the evaluation of palpable and mammography abnormalities. Ultrasonography is more sensitive than mammography in detecting lesions in women with dense breast tissue. In young women and women with dense breasts, ultrasound appears superior to mammography. Dense fibroglandular tissue is the most important inherent limitation of mammography in the diagnosis of breast cancer. Mammographically occult cancers can be detected by ultrasound in 10 to 40% of the cases depending on the patient's breast density and age. ^{(32), (89), (14)}

1.3.4 Breast MRI

MRI of the breast has evolved over the past 2 decades from a research tool to the most sensitive imaging modality in the detection of invasive breast cancer. Contrast-enhanced breast MRI is increasingly being incorporated in the clinical evaluation of breast cancer. ⁽⁴⁴⁾

Recently the ACS published new guidelines for high-risk screening with MRI, based on scientific evidence and expert opinion. According to the new guidelines, high risk is defined as a life time risk of 20% to 25% or more, BRCA gene mutation carrier or first degree relative of BRCA carrier, women treated at an early age with chest radiation, and hereditary syndromes that put women at high risk for breast cancer. Breast MRI also serves to screen the contralateral breast in women with recently diagnosed breast cancer. ⁽⁷⁴⁾

The current recommendations regarding breast cancer screening by major organizations are listed in the following table.

Table (2) Current recommendations regarding breast cancer screening by major organizations

<i>Organization</i>	<i>“Start” Age</i>	<i>Frequency</i>	<i>“Stop” Age</i>
ACS ⁽⁸⁵⁾	40	Annual	Not specified (individualized)
USPSTF ⁽⁸⁸⁾	40	1-2 y	*
American Medical Association (AMA) ⁽⁸⁾	40	Annual	Not specified
American College of Radiologists (ACR) ⁽⁷⁾	40	Annual	Not specified (individualized)
ACOG ⁽⁶⁾	40	1-2 y (age 40-50) Annual (>age 50)	Not specified
American Academy of Family Physicians (AAFP) ⁽⁴⁾	40	1-2 y	Not specified
American College of Preventive Medicine (ACPM) ⁽²²⁾	50-69	1-2 y	Not specified (>70: depends on health status)

* For women >70 y of age, screening is to be considered unless illness are present that will likely reduce life expectancy.

1.4 Breast cancer in the Elderly

Although a comprehensive review of breast disease in the female geriatric population is beyond the scope of this section, several aspects regarding breast disease in women in this age group deserve attention.

Breast cancer is primarily a disease of older women and the risk increases with age. In aging populations, breast cancer among the elderly is a major public health concern.

In Switzerland, the Canton of Geneva presents the highest incidence rates of breast cancer in Europe. The life expectancy is particularly high among Swiss women (82.5 years); women aged ≥ 80 years represent 5% of the female population. ⁽⁵⁶⁾ More than 500 new breast cancers are diagnosed yearly among these women, representing approximately 12% of all breast cancer cases. ⁽⁶⁹⁾ Despite the increasing number of elderly cancer patients, treatment recommendations for this group are often inconsistent and quite different from those for younger women. ^{(29), (28)} Elderly patients are usually excluded from clinical trials, and treatment approaches are therefore influenced by unclear considerations such as the uncertainty about the natural history of disease or even the physician's preference. ^{(83), (52)}

With the increasing life expectancy in women, the proportion of elderly women is rising. As breast cancer primarily affects women in the postmenopausal years, the number of cases of breast cancer in women in

this age group is also increasing. Although women over age 75 comprise, only a small percentage of the female population, according to the NCI Surveillance, Epidemiology, and End Results (SEER) statistics, for the time period of 2000 to 2003, 22.2% of breast cancers occur in women over the age of 75, and 5.4% occur in women over 85 years of age. ⁽⁷¹⁾ Therefore, it is imperative that issues relevant to breast cancer, including screening, diagnosis, and treatment, are addressed for women in this age group.

A significant amount of the research regarding breast cancer screening and therapy has not included elderly women, and epidemiologic studies of screening in elderly women demonstrate that screening is not consistently used. In a population-based survey of over 800 women age 80 years or older, 50.8% received a screening mammogram within prior 2 years. ⁽⁷⁷⁾ For women considered to “benefit” from mammography (women in reasonable health and/or those with a life expectancy ≥ 10 y) 61.5% underwent screening, and an additional 19% of women received a recommendation to do so. ⁽⁷⁷⁾ In contrast, of those whom screening was considered unlikely to be beneficial, 39.4% of the women still underwent screening. This study illustrates that for women in this age group, “universal” screening may not be the optimal recommendation; a number of considerations must be taken into account. At some point, the risk of screening may exceed benefits owing to a shorter life expectancy. ⁽⁷⁷⁾ The risks are not trivial; mammography may cause discomfort, false-positive results may lead to invasive procedures and patient’s anxiety, and

comorbidities may increase the risk of complications associated with therapy.

Understanding a woman's life expectancy, and the risks of breast cancer in this age group, are important factors to consider when recommending screening.⁽⁷⁷⁾ Although, as described, women in this age group represent a sizeable portion of breast cancer, decrease with age.⁽⁷¹⁾ In fact, the risks of death secondary to colon or lung cancer are greater than for breast cancer.⁽⁷¹⁾ Thus, it is important to discuss screening with patients in this age group, including risks and benefits, and whether the patient would undergo treatment of breast cancer was diagnosed.^{(77), (91)} This approach may be different for women with signs or symptoms, in whom determining a diagnosis may impact their decision regarding treatment, particularly if cancer is identified. Finally, for those providers inclined to consider screening on a broader scale, tools are available to enable providers to estimate the number needed to screen to prevent a cancer-related death, which includes estimates on the basis of the individual patient's health.⁽⁹¹⁾

Other factors to consider when contemplating screening are tumor biology, effectiveness of the screening method, effects of hormone use, and cost-effectiveness. Older reports suggested that older women fared worse when diagnosed with breast cancer, primarily due to these women being diagnosed at later stages compared with younger women.^{(30), (35)} However, other studies demonstrate that elderly women are diagnosed at

stages comparable to younger women.^{(46), (95), (75)} This difference in stage at diagnosis is likely due to inconsistent use of mammography. McCarthy et al,⁽⁵⁵⁾ demonstrated that for women > 85 years of age, prior mammography was strongly associated with stage at diagnosis of breast cancer in elderly women. In this study, the odds ratio for being diagnosed at \geq stage 2 in non-previously screened versus previously screened women was 6.84 (95% confidence interval: 3.97, 11.90). Randolph and colleagues⁽⁶⁸⁾ identified similar results, noting that in women over age 75 years, advanced stage and larger cancers were not likely to be present if at least 2 screening mammograms had been performed in the preceding 2 years. Thus, it would seem that age in and of itself is not associated with a prognostically different tumor, and that patients are identified at similar stage compared with younger women, if screened.

Actual tumor biology must also be considered, and whether cancers in elderly women are of different histology that may be associated with a worse prognosis. The most common type of cancer is infiltrating ductal cancer; this applies to all ages. The incidence of papillary and mucinous cancer increase with age, whereas other types, including lobular carcinoma in situ, and comedo-, medullary, and inflammatory carcinomas, decrease with age.^{(46), (3), (10), (72)} Importantly, most cases occurring in women in this age group are well-differentiated and receptor-positive.^{(18), (25), (57)} Tumors in these women are also less likely to over express HER-2/neu.⁽¹⁸⁾ Therefore, the actual tumor type diagnosed in elderly women is not typically associated with worse prognosis.

The use of treatment, and treatment options, may also have a role in prognosis in these women. Some authors suggest that elderly women may undergo inadequate or inconsistent therapy.⁽⁵⁷⁾ There is a significant potential for under-treatment in this age group of women, even when controlled for comorbid illness, functional status and available support.^{(31), (82), (59), (79)} In one study, elderly women with breast cancer were much more likely to be referred for non-curative therapy compared with younger patients, regardless of performance status.⁽⁹⁰⁾ In a registry study, women over the age of 85 years were less likely to undergo surgical intervention than women 80 to 84 years of age, even when comorbidities were considered.⁽¹³⁾ In another report, elderly women underwent less surgical intervention and less adjuvant radiation therapy compared with younger women.⁽¹¹⁾ Older age has also been associated with less referral for adjuvant chemotherapy, even in patients considered eligible for further therapy.⁽¹⁷⁾ In yet another study, approximately 20% of those with favorable early stage cancers had inferior therapy and resultant worsened survival.⁽⁹²⁾ However, recent data have demonstrated that appropriate therapy can be provided to elderly women, with comorbidities being the main factor associated with surgical morbidity, not age.^{(95), (17)} Surgery, including extensive as well as breast-conserving procedures, and radiation, can be effective and well-tolerated in the very elderly population. Lumpectomy has been shown to be effective in elderly women,⁽⁶⁰⁾ although others have identified increased recurrences after lumpectomy alone.⁽⁷⁶⁾ Alternative in radiation treatment regimens and under

investigation to possibly achieve similar efficacy while reducing radiation-related morbidity.⁽³¹⁾

The evidence regarding use of chemotherapy in elderly women is lacking. Most trials involving adjuvant chemotherapy in women with breast cancer included a very small percentage of women ≥ 70 years of age.⁽⁶⁶⁾ Efficacy of therapy, and toxicities, need to be considered. There is also limited data regarding toxicity of chemotherapeutic regimens in this age group of women. Treatment recommendations regarding chemotherapy must, therefore, be individualized. Nonetheless, Patients with a high-risk cancer for whom adjuvant chemotherapy may be indicated will also have a poor prognosis secondary to the cancer itself. Thus, consideration of chemotherapy, even without a sizeable pool of evidence regarding efficacy or toxicity, is reasonable.⁽³⁴⁾

Hormonal therapy (not hormone replacement) has been proven to be of benefit in appropriate patients with breast cancer; this has also been demonstrated in the elderly female population.⁽³⁴⁾ However, it is important to note that primary endocrine therapy in women with operable disease is inferior. In a Cochrane Review of primary endocrine therapy versus surgery plus endocrine therapy in women capable of undergoing surgical management, primary endocrine therapy was associated with poorer outcomes.^{(34), (33)} It is recommended that primary endocrine therapy should only be offered to women with estrogen-receptor positive tumors who are not candidates for, or refuse surgery.⁽³³⁾ Aromatase inhibitors have also

been shown to be of benefit in postmenopausal women with advanced breast cancer; however, data directly addressing the very elderly patient was not detailed.⁽²⁷⁾

As described, cost-effectiveness must also be considered, particularly considering the increasing size of this population of women. In a systematic review prepared for the USPSTF, Mandelblatt et al.⁽⁵³⁾ evaluated 10 studies that met inclusion criteria for their review. The authors concluded that biennial screening in women over age 65 was cost-effective in reducing mortality of women without significant comorbidities.⁽⁵⁴⁾ The authors also noted that screening was more costly, and that harms outweighed benefits, in women in whom dementia or comorbid illness limited life expectancy to approximately 5 years.⁽⁵⁴⁾ In a later study involving a model to estimate cost and benefits of screening with varied “stopping” ages or continuing throughout the woman’s lifespan, Mandelblatt et al.⁽⁵⁴⁾ determined that the benefit of screening after age 79 was too low to recommend continuation of screening relative to cost. However, for women with significant life expectancy (top 25% for their age) screening beyond age 79 could be considered as an option.⁽¹⁵⁾ Thus, the age at which to stop mammographic screening is not well established.

Finally, hormone replacement therapy, as opposed to hormonal treatment for breast cancer, may impact mammographic interpretation. The literature is replete with studies demonstrating the impact of hormone

replacement therapy on the sensitivity and specificity of screening mammography.^{(15), (67), (47)} This potential impact of hormone therapy must also be taken into account when counseling patients.

The aim of each population based Mammography-Screening-Program is to reduce the mortality of breast cancer through early detection of malignant tumors as early as possible as well as detection of the disease in a better prognostic stage. This way it won't be only possible to achieve a better healing process but it will be also possible to apply therapeutic methods with lesser disease suffering and subsequently reduced Morbidity and better life quality.

The Health Belief Model (HBM) was one of the first models to adapt theories from the behavioral sciences in order to examine health related problems. It is still one of the most widely recognized and used models in health behavior applications. This model was originally introduced by a group of psychologists in the 1950s to help explain why people would or would not use available preventive services, such as chest x-rays for tuberculosis screening and immunizations for influenza.

Many investigators studying beliefs related to cancer screening practices have used the HBM as a theoretical framework to study breast cancer screening behavior such as BSE or mammography screening.⁽⁹⁴⁾

The HBM has frequently been applied to breast cancer screening. The model stipulates that health-related behavior is influenced by a

person's perception of the threat posed by a health problem and by the value associated with his or her action to reduce that threat.

According to the HBM, a woman who perceives that she is susceptible to breast cancer and that breast cancer is a serious disease would be more likely to perform regular examinations.

The HBM consist of 6 concepts:

1. Perceived susceptibility to an illness
2. Perceived seriousness of the illness
3. Perceived benefits for the presumed action
4. Perceived barriers for the presumed action
5. Confidence in one's ability
6. Health motivation

Behavior is also a result of that a certain action will benefit the individual and that this Benefit will outweigh any barriers.

The investigation of attitudinal components of health-related behavior has been important. If attitudes related behavior can be identified, health protection interventions for attitudinal change can be developed, and an increase in desirable health behavior would result.⁽⁶¹⁾

Since June 2002, the organization of a population based Mammography-Screening-Program started in Germany. At the time we accomplished our study in Germany, The Screening-Program was still in the pilot phase and our study group was still not included. In other words, the early diagnosis of breast cancer was mainly based on the yearly gynecological visits which comprised the CBE, and any further diagnostics was only indicated in suspicious cases for malignancy.

The acceptance of these screening methods in Germany was previously examined by Paepke et al. ⁽⁶³⁾ and the reasons for the reduced acceptance in his studied population varied from ignorance about these screening methods till active avoidance from some patients at risk because of fear. However the general acceptance for a screening program concerning breast cancer in Germany it is still not sufficiently examined and above all whether age is an influencing factor on the knowledge level and consequently the attitudinal behavior towards such a screening is still not in focus.

In Egypt, till now there is no established Program for a population based national screening. Only few educational campaigns started recently. As well as few pilot projects directed for certain population groups. Therefore the early detection of breast cancer is mainly hazardous and the presentation of the disease in late stages is often. Our study is considered to be the first one to examine the knowledge, practice and attitude of the Egyptian women towards the breast cancer screening.

1.5 Aim of the Study

The aim of our work is to study the knowledge, behavior and attitude of women toward the breast cancer screening actually existing in Egypt and Germany and to assess if age influences the above mentioned components.

Materials and methods

Study type:

This study is a cross sectional descriptive comparative study.

Study setting:

This study was conducted in two different settings. The first setting was conducted in Alexandria city, Egypt. The second one was conducted in Emsland county, lower Saxony, Germany. In Alexandria all women included were chosen from family health facilities and due to the poor attendance of women above 69 years elderly caring facilities were included.

In Emsland, Germany all women included were selected from the attendees of a gynecological clinic which has many branches in various well distributed locations in the county.

The individuals were identified randomly and care was taken to obtain an equal number of subjects in both age categories.

Study sample:

The total of two hundred women was included in this study, one hundred from each region. According to age, the subjects were further subdivided in two groups above and below 69 years.

Administrative regulations:

The study was approved by the ethical committee board at the University of Hannover and the High Institute of Public Health, Alexandria University.

Official letters were accordingly directed to the family health facilities in Alexandria and to the gynecological clinics in Emsland.

Study tools:

Questionnaire

The questionnaire was designed for data collection based on a comprehensive review of the literature.

Collection of data was done by the investigator through filling the questionnaire in an Interview. The Investigator was bilingual and used both Arabic and German language in the interview.

Eligible participants were given assurance through the investigator about the confidentiality and the purpose of this research before getting a verbal consent to participate in the study. The questionnaire used to collect the required information from the respondent consists of four broad categories as below:

Personal data:

- Name, Age and marital status.
- Living situation: Alone, with partner or in a family.
- Religion.
- Monthly income (Egypt=in Egyptian pound, Germany=in Euro)
- Educational level.
- Social conditions.

Medical and health data:

- Body height and weight.
- History of previous pregnancies and deliveries.
- History of breast feeding.
- Menstrual history and hormonal therapy.
- History of breast cancer and familiar predisposition.

Knowledge about breast cancer:

Items for knowledge about breast cancer were covered in fourteen questions.

These questions were designed to be short and clear and to contain only one idea in each statement. Three of these questions were open ended questions. The answers needed for these questions used a percentage analysis; these questions were included to figure the accuracy of knowledge about breast cancer. They also helped in the informative educational part conducted at the

end of the Interview. The rest were closed ended questions with multiple choice answers. They contained recognition items (e.g. yes/no), four point scale response (1=very important, 2=important, 3=less important, 4=not important).

The questions included covered the following items for Knowledge on breast cancer:

- Common cancer forms affecting women.
- Incidence of breast cancer in the different age groups.
- Risk for getting breast cancer in the different age groups.
- Methods for diagnosis, treatment, and early detection and their acceptance.
- Main source of information about breast cancer.

Attitude and Practice of screening:

In this part of the questionnaire five questions with multiple choice answers covered the different practices and women attitudes towards breast cancer screening. The different screening methods including BSE and Mammography as well as the frequency of their applications were considered. Possible barriers toward screening modalities were also explored.

Confrontation:

At the end of the Interview the real incidence of breast cancer worldwide and its increasing tendency with age as well as the better

prognosis and the better quality of life after early detection and after adequate treatment were presented to and discussed with the participating women.

This part of the Interview was also carried out in questions form with an immediate confrontation using graphs and tables showing the actual data concerning the correct answers.

After this confrontation the participants was asked about their intention to participate in a well-organized screening program.

Data analysis:

Completed questionnaires were coded and entered into a database using the SPSS software (Statistical Package for the Social Sciences version 10.0). The quality was assured by using double data entry procedures and a system for detecting data entry errors. Categorical variables were expressed as numbers and percentages. The association between the variables was evaluated by the Chi square test, Monte Carlo test and Fischer Exact test. Any P value less than 0.05 was considered statistically significant.

RESULTS

A cross sectional study was conducted on one hundred Egyptian women and one hundred German women; they were interviewed through a questionnaire to fulfill the objective of this study. The obtained data showed:

Table (3) showed the sociodemographic profile of the Egyptian women. Among the women aged less than 69 years old 80% were married, 12% widowed and 4% were single.

On the other hand, from those above 69 years old 8% were still married, 72% widowed and 20% single.

Regarding the living situation 28% of older women above 69 years lived alone compared to only 6% in the younger group.

As regard the monthly income, 10% of the women less than 69 years had an income less than 500 EGP/month compared to 66% of the women aged more than 69 years.

Among the women less than 69 years 34% had a university degree education and 4% were not educated while no women above 69 years in our sample had a university degree and 42% were not educated.

Table (4) showed the sociodemographic profile of the interviewed German women.

In the group of women less than 69 years 62% were married, 2% widowed and 16% single. In the other group of women above 69 years 68% were still married, 24% widowed and 8% single.

As regard the living situation in Germany 16% of older women above 69 years lived alone compared to only 6% in the younger group.

The monthly income of 28% of the women aged less than 69 years was less than 500 EUR and this ratio increased to 38% in the group above 69 years.

In Germany the percentage of the non-educated women in the two groups below and above 69 years was only 2% while the percentage of university educated women was 6% and 8% respectively.

Table (3): Sociodemographic profile of Egyptian women

	Egypt			
	< 69		≥ 69	
	No.	%	No.	%
Marital status				
Single	2	4.0	10	20.0
Married	40	80.0	4	8.0
Partnership	0	0.0	0	0.0
Widow	6	12.0	36	72.0
Divorced	2	4.0	0	0.0
Living apart	0	0.0	0	0.0
MCp	<0.001			
Living situation				
Alone	3	6.0	14	28.0
Not alone	47	94.0	36	72.0
FEP	0.006			
How much is your monthly income				
< 500 EGP	5	10.0	33	66.0
500 - 1000	11	22.0	7	14.0
1000 – 2000	13	26.0	3	6.0
2000 – 3000	10	20.0	3	6.0
Over 3000 EGP	11	22.0	4	8.0
MCp	<0.001			
Education				
Not educated	2	4.0	21	42.0
Primary school	4	8.0	10	20.0
Preparatory school	5	10.0	9	18.0
Secondary school (Thanaweyah Amah)	5	10.0	7	14.0
Technical education	8	16.0	3	6.0
University	17	34.0	0	0.0
Other, which is:	9	18.0	0	0.0
MCp	MCp<0.001			

MCp: p for Mont Carlo test

FEP : p value for Fisher Exact test

* Significant at $p \leq 0.05$

Table (4): Sociodemographic profile of German women

	Germany			
	< 69		≥ 69	
	No.	%	No.	%
Marital status				
Single	8	16.0	4	8.0
Married	31	62.0	34	68.0
Partnership	4	8.0	0	0.0
Widow	1	2.0	12	24.0
Divorced	5	10.0	0	0.0
Living apart	1	2.0	0	0.0
MCp	<0.001			
Living situation				
Alone	3	6.0	8	16.0
Not alone	47	94.0	42	84.0
FEp	0.200			
How much is your monthly income				
< 500 Euro	14	28.0	19	38.0
500 - 1000	15	30.0	19	38.0
1000 – 2000	18	36.0	5	10.0
2000 – 3000	3	6.0	7	14.0
Over 3000 Euro	0	0.0	0	0.0
MCp	0.017			
Education				
Not educated	1	2.0	1	2.0
Primary school	17	34.0	33	66.0
Preparatory school	19	38.0	10	20.0
Secondary school (Thanaweyah Amah)	6	12.0	2	4.0
Technical education	3	6.0	0	0.0
University	3	6.0	4	8.0
Other, which is:	1	2.0	0	0.0
MCp	MCp=0.012			

MCp: p for Mont Carlo test

FEp : p value for Fisher Exact test

* Significant at $p \leq 0.05$

Table (5) showed the family history of breast cancer in both countries. In Egypt the ratio in both age groups was quiet similar (16% and 14%) but in Germany the presence of a positive family history was higher (28% and 22%). These results were statistically significant.

In Table (6) the incidence of breast cancer in the anamensia was considered.

In Egypt no women less than 69 years gave a history of presence of breast cancer but 8% of the women aged more than 69 years had breast cancer in their lifetime.

In Germany 4% gave a positive history of breast cancer in the group of women less than 69 years compared to 22% in the other group.

Table (7) showed the history of breast operations among studied women.

In Egypt no women aged less than 69 years were operated, while 8% in the group of women aged above 69 years were operated. On the other hand in Germany 6% of the women less than 69 years and 20% of the women aged more than 69 years were operated in their breast.

Table (5): Family history of breast cancer among studied women

	Egypt				Germany				χ^2 (p)	
	< 69		≥ 69		< 69		≥ 69		< 69	≥ 69
	No.	%	No.	%	No.	%	No.	%		
Family history of breast cancer										
Yes	8	16.0	7	14.0	14	28.0	11	22.0	2.098	1.084
No	42	84.0	43	86.0	36	72.0	39	78.0	(0.148)	(0.298)
χ^2 (p)	0.078 (0.779)				0.480 (0.488)					

Table (6): Incidence of breast cancer among studied women

	Egypt				Germany				Test of sig.	
	< 69		≥ 69		< 69		≥ 69		< 69	≥ 69
	No.	%	No.	%	No.	%	No.	%		
Presence of breast cancer										
Yes	0	0.0	4	8.0	2	4.0	11	22.0	0.495	0.091
No	50	100.0	46	92.0	48	96.0	39	78.0		
FEp	0.117				0.015					

Table (7): History of breast operations among studied women

	Egypt				Germany				FEp	
	< 69		≥ 69		< 69		≥ 69		< 69	≥ 69
	No.	%	No.	%	No.	%	No.	%		
History of breast operation										
Yes	0	0.0	4	8.0	3	6.0	10	20.0	0.242	0.148
No	50	100.0	46	92.0	47	94.0	40	80.0		
FEp	0.117				0.071					

FEp : p value for Fisher Exact test

MCp: p for Mont Carlo test

 χ^2 : Chi square test* Significant at $p \leq 0.05$

Knowledge practice and source of information

Table (8) showed that in the age group less than 69 years in Egypt, health brochures, journals and magazines played a major role accounting for 32% followed by 26% for friends and colleagues as a source of information. Only 6% of this age group acquired their information through gynaecologists. On the other hand, older women more than 69 years acquired their information mainly through radio and television 36% and 14% through their families. Here in this age group doctors including gynaecologists had no role as a source of information moreover 28% had completely no body to inform them about breast cancer and breast cancer screening compared to 12% in the younger age group.

In Germany women of both age groups had always a source of information compared to Egypt. Gynaecologists play the biggest role as a source of information in both groups below and above 69 years, 62% and 64% respectively followed by health brochures and journals 30% and 28% respectively. Radio and television was all most equal also 28% and 30% respectively.

The family played a more important role in Germany as a source of information in the older group and reached up to 40% compared to only 14% in Egypt.

Table (8): Source of information about breast cancer and breast cancer screening among studied women

	Egypt				Germany				Test of sig.	
	< 69		≥ 69		< 69		≥ 69		< 69	≥ 69
	No.	%	No.	%	No.	%	No.	%		
Who informs you or speak with you about breast cancer										
My gynaecologist	3	6.0	0	0.0	31	62.0	32	64.0	FEP <0.001*	FEP <0.001*
Test of sig.	FEP= 0.242				$\chi^2= 0.043$ p= 0.836					
Other doctors	3	6.0	0	0.0	5	10.0	7	14.0	FEP = 0.715	FEP = 0.012*
Test of sig.	FEP= 0.242				$\chi^2= 0.379$ p=0.538					
Health brochures, journals, magazines	16	32.0	0	0.0	15	30.0	14	28.0	$\chi^2=0.047$ p=1.000	FEP <0.001*
Test of sig.	FEP= p <0.001*				$\chi^2=0.007$ p=0.933					
Medical brochures	6	12.0	4	8.0	4	8.0	3	6.0	FEP = 0.741	FEP= 1.000
Test of sig.	FEP = 0.741				$\chi^2=0.154$ p= 0.826					
Radio, television	3	6.0	18	36.0	14	28.0	15	30.0	FEP = 0.006*	$\chi^2=0.407$ p=0.671
FEP	<0.001*				1.000					
Family	0	0.0	7	14.0	9	18.0	20	40.0	FEP = 0.003*	$\chi^2=8.574^*$ p=0.003
Test of sig.	FEP= 0.012*				$\chi^2=5.877^*$ p=0.015					
Friends, colleagues	13	26.0	4	8.0	4	8.0	7	14.0	FEP = 0.031*	FEP = 0.525
FEP	0.031*				0.525					
Nobody	6	12.0	14	28.0	0	0.0	0	0.0	FEP = 0.027*	FEP = <0.001*
FEP	0.046*				-					

χ^2 : Chi square test

FEP : p value for Fisher Exact test

* Significant at p ≤0.05

About the knowledge of the most common cancer in women as showed in table (9) 28% of women aged above 69 years in Egypt didn't know this fact compared to 6% in the younger aged below 69 years in contrast to Germany 24% of the younger women didn't know this fact compared to 18% of the older group. These results were statistically significant (p value <0.001, m = 0.070).

According to the ACS in 2008, 1 from 8 women will suffer from breast cancer in her lifetime. Table (10) showed that in Egypt and in Germany the percentage of women who knew the real incidence was almost equal (14% and 17%) respectively without a statistically significant difference.

Table (11) showed that in Egypt 66% of women aged less than 69 years believed in increasing risk of getting breast cancer with age compared to only 20% of the older age group.

In Germany the number of women who believed in increasing risk getting breast cancer by age was quite similar in both groups (58% and 56%).

Table (9): Knowledge about breast cancer among studied women

	Egypt				Germany				Test of sig.	
	< 69		≥ 69		< 69		≥ 69		< 69	≥ 69
	No.	%	No.	%	No.	%	No.	%		
Is breast cancer the most common cancer in women?										
Yes	47	94.0	36	72.0	38	76.0	41	82.0	FEp = 0.023*	$\chi^2 = 1.412$ p = 0.235
No	3	6.0	14	28.0	12	24.0	9	18.0		
Test of sig.	FEp = 0.006*				χ^2 (p) = 0.542 (0.461)					

Table (10): How many women will get cancer in their lifetime.

	Egypt		Germany	
	No.	%	No.	%
How many woman will get breast cancer in her lifetime				
> 1 from 10	3	3.0	13	13.3
1 from 10	14	14.0	17	17.3
1 from 100	43	43.0	50	51.0
1 from 1000	24	24.0	17	17.3
1 from 10000	6	6.0	1	1.0
> 1 from 10000	10	10.0	0	0.0
MCp	<0.001*			

Table (11): The risk of getting breast cancer increases with age.

	Egypt				Germany				χ^2 (p)	
	< 69		≥ 69		< 69		≥ 69		< 69	≥ 69
	No.	%	No.	%	No.	%	No.	%		
The risk to get breast cancer increases with age										
Yes	33	66.0	10	20.0	29	58.0	28	56.0	0.679 (0.410)	13.752* (<0.001)
No	17	34.0	40	80.0	21	42.0	22	44.0		
χ^2 (p)	21.583* (<0.001)				0.041 (0.840)					

χ^2 : Chi square test

FEp : p value for Fisher Exact test

MCp: p for Mont Carlo test

* Significant at $p \leq 0.05$

Table (12) showed the believing in the importance of treating breast cancer with increasing age. 84% of the younger age group agreed with the importance of treatment while 58% of the old women above 69 years disagreed. In Germany in the younger group amazingly 88% of the women younger than 69 years and 76% of the older group disagreed.

Table (13) showed another directed question about the estimated quality of life after adequate therapy of breast cancer. 64% of the women under the age of 69 years believed in a better quality of life after adequate treatment compared to 50% in the older age group.

In Germany a higher percentage in both groups believed in a better quality of life after adequate therapy, 96% in the younger group and 85.7% in the older group. Nevertheless in Egypt in the older group 30% believed in a worsening of the life quality after the treatment compared to only 6% in Germany.

Table (14) demonstrated the opinion on the most important tool of screening for breast cancer among studied women. In Egypt 58% of all women considered the BSE (BSE) as the most important method of screening followed by 52% for the mammography and 42% for both clinical examination and ultrasound.

In Germany 72% of women chose clinical examination as the most important method of screening followed by 62% for ultrasound, 56% for BSE and 50% for mammography.

Table (15): Regarding the most important method of treatment according to the point of view of the Egyptian women, 83% considered that the surgical treatment is the most important followed by chemotherapy and radiotherapy (29% and 27% respectively).

In Germany 75% of all women considered the surgical treatment as the most important followed by radiotherapy and chemotherapy (70% and 58% respectively).

Table (12): The importance of treating breast cancer increases with age (believing)

	Egypt				Germany				χ^2 (p)	
	< 69		≥ 69		< 69		≥ 69		< 69	≥ 69
	No.	%	No.	%	No.	%	No.	%		
The importance of treating breast cancer increases with age										
Yes	42	84.0	21	42.0	6	12.0	12	24.0	51.923* (<0.001)	3.664 (0.056)
No	8	16.0	29	58.0	44	88.0	38	76.0		
χ^2 (p)	18.919* (<0.001)				2.439 (0.118)					

 χ^2 : Chi square test* Significant at $p \leq 0.05$ **Table (13): Knowledge about quality of life after treatment among studied women**

	Egypt				Germany				MCp	
	< 69		≥ 69		< 69		≥ 69		< 69	≥ 69
	No.	%	No.	%	No.	%	No.	%		
How do you evaluate the quality of life of a breast cancer patient after adequate treatment										
Better than with no treatment	32	64.0	25	50.0	48	96.0	42	85.7	19.405* (<0.001)	14.990* (0.001)
Worse than with no treatment	13	26.0	15	30.0	0	0.0	3	6.1		
Equal in comparison with those with no	5	10.0	10	20.0	2	4.0	4	8.2		
Test of sig.	$\chi^2 = 2.669$, $p = 0.263$				MCp = 0.092					

 χ^2 : Chi square test

MCp: p for Monte Carlo test

* : Statistically significant at $p \leq 0.05$

Table (14): Opinion on the most important tool of screening for breast cancer among studied women

	Most important				χ^2 (p)
	Egypt		Germany		
	No.	%	No.	%	
Self-examination	58	58.0	56	56.0	0.082 (0.775)
Plapatory examination by doctor	42	42.0	72	72.0	18.360* (<0.001)
Blood sample examination	27	27.0	37	37.0	2.298 (0.130)
Mammography	52	52.0	50	50.0	0.080 (0.777)
Ultrasound on the breast	42	42.0	62	62.0	8.013* (0.005)

χ^2 : Chi square test

*: Statistically significant at $p \leq 0.05$

Table (15): Opinion on the most important method of therapy for breast cancer among studied women

	Most important				χ^2 (p)
	Egypt		Germany		
	No.	%	No.	%	
Operation	83	83.0	75	75.0	1.929 (0.165)
Radio therapy	27	27.0	70	70.0	37.013* (<0.001)
Chemotherapy	29	29.0	58	58.0	17.109* (<0.001)
Other medications	10	10.0	25	25.0	7.792* (0.005)
Altemative therapy	10	10.0	23	23.0	6.133* (0.013)

χ^2 : Chi square test

* : Statistically significant at $p \leq 0.05$

Table (16) showed the method of treatment not accepted among studied women. 48% of Egyptian women above the age of 69 years refused the operative treatment. In the younger age group, 20% and 22% refused chemotherapy and radiotherapy respectively. In Germany among women less than 69 years 30% and 26% refused chemotherapy and operation respectively, while in the older age 52.5% refused chemotherapy and only 10% refused the operation compared to Egypt.

Table (17) showed the different methods of screening and the difference in practicing them in both countries as well as in the different age groups. In Egypt 84% of the old age women above 69 years practiced no breast cancer screening at all compared to 34% in the younger age group.

While in Germany lower percentage 6% and 16% respectively of women above and less than 69 years never practiced screening at all.

The most practiced method of screening in the younger age group in Egypt was the BSE 54% followed by mammography 12%. In women over 69 years the BSE accounted for only 8% and no mammography was practiced.

In Germany the medical palpatory examination through gynaecologists was the most practiced method in the younger group (38%) followed by 20% for the BSE and 16% for the mammography. In the old age group 36% used BSE and the palpatory examination as well as ultrasound was 22% and 28%

respectively but they were less screened, by mammography 8%. These results were statistically significant.

Table (18) showed the frequency of gynaecological visit among studied women in Egypt visiting a gynaecologist is mainly when having complaints, 52% of the women aged less than 69 years and 32% of the other older group admitted that they had no regular visit.

While in Germany women visited gynaecologist regularly in both groups less than and above 69 years 70% and 46% respectively.

Table (16): The method of treatment not accepted among studied women

	Egypt				Germany				Test of sig.	
	< 69		≥ 69		< 69		≥ 69		< 69	≥ 69
	No.	%	No.	%	No.	%	No.	%		
Which is the method that you would not accept it for yourself, even if it was medically										
None	8	16.0	3	6.0	0	0.0	0	0.0	FEp= 0.006*	FEp= 0.251
FEp	0.200				-					
Operation	4	8.0	24	48.0	13	26.0	4	10.0	FEp= 0.031*	FEp <0.001*
FEp	<0.001*				0.031*					
Radiotherapy	11	22.0	12	24.0	9	18.0	14	35.0	$\chi^2= 0.250$ p=0.617	$\chi^2=1.309$ p=0.253
Test of sig.	FEp=1.000				$\chi^2=0.469$ p=0.493					
Chemotherapy	10	20.0	7	14.0	15	30.0	21	52.5	$\chi^2= 1.333$ p=0.248	$\chi^2=15.369$ p <0.001
χ^2 (p)	$\chi^2=0.638$ p=0.424				$\chi^2=1.563$ p=0.211					
Other medications	2	4.0	4	8.0	9	18.0	2	5.0	FEp= 0.051	FEp= 0.689
FEp	0.678				0.051					
Alternative therapy	3	6.0	0	0.0	15	30.0	11	27.5	FEp= 0.003*	FEp <0.001*
Test of sig.	FEp= 0.242				$\chi^2=0.832$ p=0.362					

 χ^2 : Chi square test

FEp : p value for Fisher Exact test

* : Statistically significant at p ≤ 0.05

Table (17): Methods of screening practiced among studied women

	Egypt				Germany				MCp	
	< 69		≥ 69		< 69		≥ 69		< 69	≥ 69
	No.	%	No.	%	No.	%	No.	%		
Methods of breast cancer screening										
BSE	27	54.0	4	8.0	10	20.0	18	36.0	<0.001*	<0.001*
Medical palpatory examination	0	0.0	4	8.0	19	38.0	11	22.0		
Mammography	6	12.0	0	0.0	8	16.0	4	8.0		
Ultrasound	0	0.0	0	0.0	5	10.0	14	28.0		
No screening	17	34.0	42	84.0	8	16.0	3	6.0		
MCp	<0.001*				0.018*					

Table (18): Frequency of gynecological visits among studied women

	Egypt				Germany				MCp	
	< 69		≥ 69		< 69		≥ 69		< 69	≥ 69
	No.	%	No.	%	No.	%	No.	%		
Frequency of going to doctor for screening										
Regularly every year	0	0.0	0	0.0	35	70.0	23	46.0	<0.001*	<0.001*
Regularly every 2 years	0	0.0	0	0.0	7	14.0	8	16.0		
Irregularly only when complaining	26	52.0	16	32.0	8	16.0	16	32.0		
Never	24	48.0	34	68.0	0	0.0	3	6.0		
MCp	0.068				0.035*					

MCp: p for Mont Carlo test

FEp : p value for Fisher Exact test

* Significant at $p \leq 0.05$

Table (19) showed the possible causes of not participating in the screening among studied women.

In Egypt, women visited physicians only when complaining 62% and 50% of both groups less and above 69 years respectively.

In Germany the main cause in women less than 69 years was not having enough time for the examination 37.8%, while in the older group 34.8% felt uncomfortable with the examination.

Table (19): Causes of not participating in screening among studied women

	Egypt				Germany				FEp	
	< 69		≥ 69		< 69		≥ 69		< 69	≥ 69
	No.	%	No.	%	No.	%	No.	%		
Participation										
Ignorance about the screening	9	18.0	17	34.0	0	0.0	0	0.0	0.009*	0.001*
χ² (p)	3.326 (0.068)				-					
Feeling uncomfortable with the examination	3	6.0	0	0.0	4	10.8	8	34.8	0.452	<0.001*
FEp	0.242				0.044*					
No time for the examination	3	6.0	0	0.0	14	37.8	0	0.0	<0.001*	-
FEp	0.242				<0.001*					
Religious reasons	0	0.0	4	8.0	0	0.0	0	0.0	-	0.301
FEp	0.117				-					
I go to the doctor only when I complain	31	62.0	25	50.0	0	0.0	0	0.0	<0.001*	<0.001*
χ² (p)	1.461 (0.227)				-					
Fear of cancer to be diagnosed	4	8.0	0	0.0	0	0.0	0	0.0	0.133	-
FEp	0.117				-					
Fear of the examination itself	0	0.0	4	8.0	0	0.0	0	0.0	-	0.301
FEp	0.117				-					
I always Forget	0	0.0	0	0.0	1	2.7	0	0.0	0.425	-
FEp	-				1.000					

χ²: Chi square test

FEp : p value for Fisher Exact test

* : Statistically significant at p ≤ 0.05

After an educational confrontation done with each women interviewed, the willingness to change their attitude toward the breast cancer screening was studied in Table (20). In Egypt 80% of women less than 69 years are willing to go more frequently to the screening examination compared to 54% in the older group. In Germany the percentage was only 58% in both groups.

Table (20): Intention of the studied women to change their attitude towards screening after confrontation

	Egypt				Germany				Test of sig.	
	< 69		≥ 69		< 69		≥ 69		< 69	≥ 69
	No.	%	No.	%	No.	%	No.	%		
Will you change now your behavior concerning the breast screening										
No	10	20.0	15	30.0	19	38.0	17	34.0	MCp= 0.035	$\chi^2 = 1.530$ p = 0.465
Yes I will go more frequently for breast screening	40	80.0	27	54.0	29	58.0	29	58.0		
Yes I will go occasionally for breast screening	0	0.0	8	16.0	2	4.0	7	14.0		
Test of sig.	$\chi^2 = 11.522$ * p= 0.003				$\chi^2 = 0.778$ p= 0.678					

χ^2 : Chi square test

MCp: p for Monte Carlo test

* : Statistically significant at $p \leq 0.05$

Discussion

Breast cancer is by far the most frequent cancer of women (23% of all cancers), ranking second overall when both sexes are considered together. (64) Breast cancer is becoming more significant in many developing countries.

In Egypt, breast cancer is the most common cancer among women, representing 18.9% of total cancer cases (35.1% in women and 2.2% in men) among the Egyptian NCI series of 10556 patients during the year 2001.(20) In Alexandria, Breast cancer accounted to 40,3% of all cancers diagnosed in women in 1997. (1) In the present work among Egyptian studied women 8% of those aged above 69 years had breast cancer. Nevertheless 16% and 14% of both studied groups below and above 69 years of age had a family history of breast cancer.

In Germany, breast cancer is also the most common cancer among women with more than 57000 new cases yearly diagnosed, representing 27.8% of total cancer cases. (43) In our studied women in Germany, 4% of women less than 69 years as well as 22% of women more than 69 years had breast cancer. Also 28% and 22% respectively had a positive family history.

Our work aimed the simple description of the knowledge, behavior and attitude of women toward the breast cancer screening actually existing in Egypt and Germany and to assess if age influences the above mentioned

components. Because of the simple descriptive nature of our study and not aiming to test a particular hypothesis, a pilot phase to validate our questionnaire was not considered. Nevertheless our questionnaire was designed after a thorough review of the literature and questions included covered the different items of the knowledge, practice and attitude of women toward the screening.

We would like to emphasize that the different locations of our sample collection between both countries might cause a sort of bias in the data interpretation but this was to be considered if the main focus of our work the intercultural differences but this was not the case. We focused on the simple description of knowledge state and the attitudinal components in both countries.

The results indicate a lower incidence of breast cancer in both age groups in Egypt. This lower incidence was repeated by Parkin DM et al in 2002 as the rates in the Middle East except Israel were similar to Mediterranean Europe, Eastern Europe and some of Asia and Africa. ⁽⁶⁵⁾

Source of Information

Several reports from Germany, such as mentioned in the DACH (Deutsche Arbeitsgruppe Chemoprävention) survey and the infra test survey ⁽⁴¹⁾ showed by comparing the different age groups that still the gynecologist is the most important source of information for the women, followed by Radio and Television and in the third place medical

magazines and brochures. The Gynecologists represent 48.4% in the DACH survey and up to 89% of the infra test survey. In our study, similar results are noticed in both German age groups, as the role of gynecologist as source of information accounted for 62% in women below 69 years of age and 64% in the older.

In another survey in Germany (CAWAC- Umfrage: Caring about women and Cancer).⁽⁴⁰⁾ Radio and Television was the main source of information which was similar to our results in Egypt in the old age group above 69 years, but it was minimal in the younger; only 6% and the third place in both groups in Germany.

In Egypt the role of the gynecologist is minimal 6% in women less than 69 years or even completely absent in women above 69 years.

Similar findings were reported by Dündar et al⁽¹⁹⁾ in Turkey where health professionals are relatively poor information source accounting for only 23.4%. Moreover they found that nearly 40% of his studied group considered Radio and Television as the main source of information. They reported that this finding was related to the fact that their study group consisted of under educated housewives to whom Television and Radio is readily available and makes it an important information source. In our sample in Egypt concerning the older age group above 69 years, we remarked the same finding where 42% of the women were not informed as well as 20% and 18% were not informed and their main source of information was Radio and Television accounting for 36%.

Additionally in Germany studied women of both age groups had always a source of information compared to Egypt where 28% of old women and 12% of the younger did not report any source.

Knowledge:

Questions were asked to determine the subject's basic knowledge for breast cancer. In both countries high percentages of women knew that breast cancer is the most common cancer among women. However, 28% of the Egyptian women aged above 69 years and 18% of the German women of the same age category did not know this important information. Paepke et al ⁽⁵⁰⁾ reported similar percentages in the different age groups from 7094 questioned women with an overall percentage of 78.8% but the general knowledge showed a clear age dependency with decreasing knowledge in the older age groups being only 70.6%. In the present study, these findings were only consistent with our results in Egypt as the percentage decreased from 94% in the younger to reach 72% in the older age group. In our study these findings were only consistent with our findings in Egypt.

Although in both studied countries high percentages of women knew the fact that breast cancer is the most common cancer of women, but sadly only 14% in Egypt and 17.3% in Germany correctly answered that 1 woman out of 10 would have breast cancer during her life time. This shows that although knowing the fact that breast cancer is the most

common cancer in women but figuring the magnitude of the problem is still poor.

Similarly in another study done in Turkey 76.6% of the women reported having heard or read about breast cancer but only 56% of them had significant knowledge. ⁽⁶³⁾

With the increasing life expectancy in women, the proportion of elderly women is rising. As breast cancer primarily affects women in the postmenopausal years, the number of cases of breast cancer in women in this age group is also increasing. In the present study the results demonstrated that in Germany almost similar percentages of both age groups 58% and 56% knew that the risk to get breast cancer increases with age.

In a developed country like Germany with an overall good knowledge about breast cancer we noticed through the above mentioned percentages that still there is a big lack of knowledge regarding increasing the risk of getting breast cancer by aging.

The worst was the situation in Egypt where only 20% of the women aged above 69 years realized the increasing risk of getting breast cancer with age.

A similar finding was reported in a Canadian study ⁽⁵⁰⁾ where only one third of the studied women were aware about this major risk factor.

Consequently Bouchardy et al showed in their study that elderly women with breast cancer have late diagnosis, incomplete diagnostic assessment and lack of a standardized therapeutic approach. Nearly 50% of the patients had suboptimal treatments resulting in a large excess of preventable breast cancer mortality. ⁽¹²⁾ This might be explained by the results in the present study as 58% of women above 69 years in Egypt and 76% in the same age group in Germany did not believe in the importance of treating breast cancer with aging.

Nevertheless a question about the quality of life after an adequate treatment of breast cancer revealed that in Germany in both age groups more women believed in a better quality of life compared to Egypt. In both countries the older women above 69 years believed lesser in a better quality of life after treatment.

The studied women were asked to evaluate the different methods of breast cancer screening including the BSE, CBE, mammography etc. They were asked about the most important method of screening. In Egypt the BSE was considered as the most important method followed by mammography and the CBE came in the third place with the mammosonography.

In Germany, all women considered the CBE as the most important method of screening accounting for 72% denoting the important role of the gynecologist. This was in agreement with the DACH and infra tests survey

according to Paepke et al ⁽⁵⁰⁾ where 96.6% of their sample considered the CBE as very important.

In Germany the mammography and mammosonography are underestimated by women as already shown by Paepke et al ⁽⁶³⁾ who related this finding with the actual standards of breast cancer screening in Germany which do not indicate the mammography and sonography in each case so that many women do not know the importance of these tools. Moreover the advice of the gynecologist regarding the mammography and its application is regionally different.

Although that 83% of all Egyptian women considered the surgical treatment as the most important method, 48% of the women above 69 years would refuse it as an option of treatment compared to only 10% in the same age in Germany.

Recent data have demonstrated that appropriate therapy can be provided to elderly women with comorbidities being the main factor associated with surgical morbidity, not age. ^{(95), (17)} So we throw the light on this eventual misconception in the elderly group of the Egyptian women who believe that surgical operations are hazardous regardless the existence of other comorbidities.

In Germany 52.5% refused the chemotherapy as an option of treatment. In fact the evidence regarding the use of chemotherapy in elderly women is lacking. Most trials involving adjuvant chemotherapy in

women with breast cancer included a very small percentage of women \geq 70 years of age. ⁽³⁴⁾ Efficacy of therapy, and toxicities, need to be considered. There is also limited data regarding toxicity of chemotherapeutic regimens in this age group of women.

Practice

The current recommendation denotes that the breast cancer screening should start at the age of 40 and be repeated yearly or from 1-2 years.

In a systematic review prepared for the US Preventive Services Task Force (USPSTF), Mandelblatt et al ⁽⁵⁴⁾ evaluated 10 studies. The authors concluded that biennial screening in women over the age 65 years was cost-effective in reducing mortality for women without significant comorbidities.

Actually in Egypt there is no government-backed national breast cancer screening program until now. Women undergo breast cancer screening only as a self-initiated activity. The present study emphasized this fact showing that in women below 69 years 52% go irregularly to the gynecologist or only when complaining. This rate decreased to 32% in the older age group above 69 years.

Moreover, in a review about the disease presentation of breast cancer and its detection strategies in Egypt Omar S. et al ⁽⁶²⁾ remarked that late presentation of most patients is a characteristic feature and that the

inflammatory type is relatively more frequent. And this agrees with our finding in Egypt as 34% of women less than 69 years and 84% of the older group undergoes no screening at all.

In Germany 70% of the women aged less than 69 years visited regularly once yearly their gynecologist for screening. Sadly this ratio decreased to 46% in the older age group. Moreover up to 32% of this age group went only when complaining. Our results are comparable to Paepke et al ⁽⁵⁰⁾, in their study as 81.7% of all women visited their gynecologist yearly and they reported that the participation in the screening program decreased with age.

The researches support the argument that regular practice of BSE influences treatment, prognosis and survival rates. ^{(64), (21)} In Egypt there are no studies on prevention. However, one study on evaluation of the effect of BSE training program on knowledge, attitude and practice was conducted at Ain Shams University in Cairo ⁽⁸¹⁾ only 10.6% and 11.5% of the total sample had satisfactory knowledge about breast cancer and BSE. In the present study regarding the methods of breast screening used by women, BSE was the most common method used 54% in women less than 69 years but decreased to 8% in the older age group. This rate of BSE in women less than 69 years is comparable to that in Tunisia 61.8% as showed by Hzairi et al. ⁽³⁶⁾

In contrast in another study in Turkey only 27% - 30% of Turkish women had ever performed BSE. ⁽⁸⁰⁾

However, in a study conducted on health workers in Nigeria, 77.6% performed BSE and they mentioned that women practicing BSE have higher mean scores for knowledge of risk factors of breast cancer than those who do not know.

In Germany in the group of women less than 69 years only 20% of them practiced BSE this might be mainly due to their dependence on their gynecologists concerning the breast cancer screening and the medical palpatory examination which was performed in 38% of them. This finding was already tackled by Paepke et al. However, these ratios are reversed in the older age group above 69 years where the women visited less their gynecologists and depended more on BSE.

The ACS recommends that women aged 40 and over should have screening mammogram every year and should continue to do so for as long as they are in good health. ⁽⁵⁾

In our study the percentage of women in Germany who ever had a mammogram aged below 69 years is 16%. This rate decreased to 8% in the older group. While in Egypt, a lower percentage 12% of younger women had mammography and sadly no women at all in the older age undergo this screening method.

Secginli et al detected similar percentage in women undergoing recommended mammography 12.6% in Istanbul and this shows that mammography is still not widely applied specially in the older age groups.

It is also important to note that data in elderly women above 75 years is limited and there are no randomized controlled trials regarding the efficacy of mammographic screening in this age. ⁽²⁶⁾

The causes of not participating in screening among studied women revealed a similar reason in both age groups in Egypt namely the absence of an organized screening program and that 62% and 50% of both groups visit doctors only when they have complaints. In addition 18% of women less than 69 years and 34% of women above 69 years were ignorant about the possibility of an early detection of breast cancer. Similarly this was reported by Adenike et al ⁽²⁾ in Nigeria where also even in many of the government health institutions in the country including big cities the facilities for screening were absent.

Meanwhile, in Germany the main cause for not participating in the screening program was having no time for the examination in the age group below 69 years accounting for 37.8% and feeling uncomfortable with the examination in the older age group above 69 years accounting for 34.8%.

The DACH survey and infra test survey showed similar results in addition to forgetting as another reason as well as fear of the diagnosis and the method of examination.

It is important in the future studies to differentiate between the fear of the examination as a reason of not participating in the screening and the

misconception of considering the examination hazardous as reported in a study in the eastern province of Saudi Arabia where women thought that mammography increased the risk of getting breast cancer. ⁽⁵¹⁾

Confrontation

Each studied woman was confronted with the following facts:

- Breast cancer is the most common cancer in women.
- The risk of getting breast cancer increases with age.
- Breast cancer can be adequately treated, despite the increasing age
- Early diagnosis and adequate treatment will improve the prognosis of the disease as well as the life expectancy.
- Adequate treatment will improve the quality of life.

After this informative confrontation in Egypt 80% of the women aged less than 69 years are willing to change their attitude concerning the breast cancer screening and will participate more frequently. In the older age group 54% are willing to participate more frequently but still unfortunately 30% will not change their attitude.

In Germany 58% of women aged below 69 years are willing to change their attitude. This lower percentage in Germany in contrast to Egypt might be clarified that already in this age group a big percentage of

women already participate in the screening through regular clinical examination by their gynecologist. In the older age group an equal percentage of 58% admitted their willingness to participate more in the screening which could be a positive sign when compared to the number who already participated in the screening as 46% visited regularly their gynecologist.

Summary

One hundred Egyptian women and one hundred German women divided in two age groups were studied. The obtained data showed:

In Egypt, the family history of breast cancer was quite similar (16% and 14%) in both age groups. No women less than 69 years and 8% of the olds had breast cancer and were operated.

While in Germany the family history was higher 28% and 22%, 4% of women less than 69 years increased to 22% in the old group had breast cancer and were operated.

Health brochures, journals and magazines played a major role as a source of information among young Egyptian women and only 6% acquired their information through gynecologists. On the other hand, older women acquired their information mainly through radio and television and gynecologists had no role as a source of information. Moreover, 28% had completely no body to inform them about breast cancer.

In Germany gynecologists are the most important source of information for both age groups 62% and 64% followed by health brochures and journals 30% and 28% then by broadcasting and television 28% and 30%.

Family member are an important source of information in Germany in the older group, 40% compared to only 14% in Egypt.

In both countries the percentage of the women who are well informed about the real incidence was almost the same (14% and 17%).

In Egypt 66% of women aged less than 69 years believed in increasing risk of getting breast cancer with age compared to only 20% of the older age group.

In Germany the number of women who believed in increasing risk getting breast cancer by age was quite similar in both groups (58% and 56%).

About the expected quality of life after adequate therapy of breast cancer, 64% of the Egyptian women under the age of 69 believed in a better quality of life after adequate treatment, compared to 50% in the older age group.

In Germany a higher percentage in both groups believed in a better quality of life after adequate therapy, 96% in the younger group and 85.7% in the older group.

The opinion on the most important tool of screening for breast cancer demonstrated that 58% of all Egyptian women consider the BSE as the most important followed by 52% for the mammography and 42% for clinical examination and ultrasound.

In Germany 72% of women chose clinical examination as the most important method of screening followed by 62% for ultrasound, 56% for BSE and 50% for mammography.

Although 83% of Egyptian women and 75% of the German ones considered surgery as the most important method of treatment, yet 48% of the old women in Egypt refused to be operated compared to 10% in Germany.

In Egypt 84% of the old age women above 69 practiced no breast cancer screening at all decreased to 34% in the younger age group compared to 6% and 46% in Germany.

The most practiced method of screening in the younger age group in Egypt was the BSE 54% followed by mammography 12%. In women over 69 years the BSE accounted for only 8% and no mammography was practiced.

In Germany the medical palpatory examination by gynecologists was the most practiced method in the younger group 38% followed by 20% for the BSE and 16% for the mammography. In the old age group 36% used BSE and palpatory examination as well as ultrasound which was 22% and 28% but they were less screened by mammography, 8%.

In Egypt, visiting a gynecologist happens mainly when having complaints, 52% of the women aged less than 69 years and 32% of the older group. Whilst in Germany women visited gynecologist regularly in both groups 70% and 46%.

After an educational confrontation with epidemiological data, i.e. actual age related incidence of breast cancer, done with each woman

interviewed, the willingness to change their attitude toward breast cancer screening was studied. In Egypt 80% of women less than 69 years are willing to go more frequently to the screening compared to 54% in the older group. In Germany the percentage was only 58% in both groups.

Although this work was a pure descriptive study and was not preceded with a pilot phase to test the validity of our questionnaire, we have thrown the light on a very important issue concerning the acceptance of the breast cancer screening. Age seems to play a pivotal role regarding the state of knowledge as well as the acceptance of the screening. And consequently this will influence the attitudinal component towards it. Further Studies must focus on this issue in order to determine the role of age as a single influencing factor in the screening of breast cancer.

Conclusion

1. The results indicate a lower incidence of breast cancer in both age groups in Egypt.
2. In Germany, the gynecologist is the most important source of information for women while in Egypt the role of the gynecologist is minimal or even completely absent in old women.
3. In Egypt, concerning the older age, 42% of the women are not informed and their main source of information was radio and television.
4. In Egypt general knowledge showed a clear age dependency with decreasing knowledge in the older age.
5. In Germany still there is a big lack of knowledge regarding the increasing risk of getting breast cancer by age and the situation is worst in Egypt.
6. Old women in Egypt and Germany did not believe in the importance of treating breast cancer with aging and believed lesser in a better quality of life after treatment.
7. In Germany the mammography and mammasonography are underestimated. The majority of women visited their gynecologists yearly but the participation in the breast cancer screening program decreased with age (from 16% to 8%).

8. In Egypt women undergo breast cancer screening only as a self-initiated activity. 12% of young women had mammography and no one in the old age.
9. The elderly group of the Egyptian women believed that surgical operations are hazardous because of the existence of other comorbidities.
10. In Egypt the cause of not participating in screening is the absence of an organized screening program.
11. In Germany the main cause for not participating is having no time and feeling uncomfortable with the examination in the older age.
12. After informative confrontation still unfortunately 30% of Egyptian women will not change their attitude regarding the participation in screening.
13. The elderly women in Germany admitted their willingness to participate more in screening which could be a positive sign.

Zusammenfassung

Mammacarcinom ist in erster Linie eine Erkrankung der älteren Frauen und das Erkrankungsrisiko steigt mit dem Alter. In einer alternden Bevölkerung ist Brustkrebs ein wichtiges öffentliches Gesundheitsproblem.

Ältere Frauen sind, wie die meisten Studien zum Brustkrebs-Screenings und der -therapie zeigten, in den Screeningprogramm unterrepräsentiert oder haben das Screening-Angebot nicht konsequent genutzt. Aufgrund dessen wird das Mammacarcinom älterer Frauen oft zu spät diagnostiziert.

Um die Ursachen für die Zurückhaltung in der älteren Bevölkerung gegenüber des Screenings zu identifizieren, prüften wir mittels eines standardisierten Fragebogens die Kenntnisse zu epidemiologischen Basisdaten des Brustkrebes und die Einstellung zum Brustkrebs-Screening sowie allgemeine gesundheitsrelevante Verhaltensweisen von 200 Frauen in Deutschland und in Ägypten. Anschließend wurden die verschiedenen Altersgruppen miteinander verglichen.

Die Ergebnisse dieser Untersuchung zeigten Unterschiede zwischen beiden Altersgruppen in beiden Ländern in Bezug auf das Wissen über Brustkrebs und das Brustkrebs-Screening.

Alte Frauen in Ägypten und Deutschland schätzen das Risiko im Alter an Brustkrebs zu erkranken und die Bedeutung der Behandlung

falsch ein und glaubten weniger an eine bessere Lebensqualität nach der Behandlung.

In Deutschland besuchte die Mehrheit der Frauen ihren Gynäkologen jährlich, aber die Teilnahme am Brustkrebs-Screening-Programm sank mit dem steigenden Alter.

Frauen in Ägypten unterziehen sich einem Brustkrebs-Screening nur auf eigene Initiative hin. 12% der jungen Frauen hatten mindestens eine Mammographie aber keine in der älteren Gruppe.

Nach einer informativen Konfrontation mit den epidemiologischen Daten wollten lediglich 30% der ägyptischen Frauen ihre Haltung hinsichtlich der Teilnahme am Screening ändern. Hingegen zeigte die Gruppe der älteren Frauen in Deutschland deutlich mehr Bereitschaft am Screening teilzunehmen.

Schlussfolgerung:

Die älteren Frauen müssen stärker im Fokus der Bemühungen stehen. Sie müssen besser informiert und ermutigt werden, am Screening-Programm für Brustkrebs teilzunehmen.

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Appendix

Questionnaire studying the behaviour of women towards breast cancer screening:

This questionnaire concerns a scientific examination of the knowledge, practice and attitude of women towards breast cancer screening. The examining doctors want to test how women evaluate the breast cancer screening and to which extent are they informed about it. The aim is to improve the early detection from breast cancer.

In order to a better interpretation, some general questions about the knowledge and practice will be included. Afterwards questions about the screening examination will be asked. The screening involves the examination before the diagnosis of breast cancer. If you are a breast cancer patient notice that the questions aim the examination before the diagnosis not after.

Finally you will be confronted with some data from the actual studies about breast cancer. It is important to know after coming to know this data if the practice towards the screening will change or would have been changed.

We thank you for your cooperation.

Personal data:

Name:

Date of birth:-.....-19.....

Marital status:

- €Single
- €Married
- €Partnership
- €Widow
- €Divorced
- €Living apart

Living situation:

- € Alone
- € With my partner alone
- € In a family
- € In a home for the aged
- € Other, which is:

Religion:

- € Muslim
- € Catholic Christian
- € Orthodox Christian
- € Protestant Christian
- € Other, which is:

How much is your monthly income:

- € < 500 euro
- € Between 500 euro and 1000 euro
- € Between 1000 euro and 2000 euro
- € Between 2000 euro and 3000 euro
- € Over 3000 euro

Education:

- € Not educated
- € Primary school
- € Preparatory school
- € Secondary school (Thanaweyah Amah)
- € Technical education
- € University
- € Other, which is:

How can you describe your social surrounding?

- € Lonely
- € Only me and my partner
- € Regularly contact but only within my family
- € I meet my friends but not daily
- € I meet my friends daily

Medical and health data:

How long are you?

.....cm

How much do you weigh?

.....kg

How many times were you pregnant?

.....

How many born children do you have?

.....

Have you breastfed?

€Yes

€No

If yes then how long?

.....months

When was your first menstrual bleeding?

.....years old

When was your last menstrual bleeding?

.....months or years

Have you ever received hormonal therapy?

€Yes

€No

If yes then which therapy?

€Oral contraceptives

€Hormone replacement therapy

duration:

duration:

How do you evaluate your actual health status?

€Good

€Can be better

€Moderate

€Bad

Do you take regularly medicaments?

€Yes

€No

If yes, which?

Is breast cancer known in your family?

€Yes
€No

If yes, who?

Have you been operated on your breast?

€Yes
€No

If yes, why?

Do you have breast cancer?

€Yes
€No

If yes, what was the indicating symptom that led to the detection of breast cancer?

- €I felt it myself coincidentally
- €Detected within the regular breast self examination.
- €Detected by a doctor palpatory examination
- €Detected by mammography
- €Detected by ultrasound
- €Detected during laboratory blood examination
- €Because of metastasis
- €Other,

Knowledge about breast cancer:

Do you feel yourself adequate informed about breast cancer?

€Yes

€No

Who informs you or speak with you about breast cancer?

€My gynaecologist

€Other doctors

€Health brochures / journals / magazines

€Medical brochures

€Radio / television

€Family

€Friends / colleagues

Which cancer threatens you the most in your age?

€Lung

€Intestine

€Breast

€Skin

€Genital

€Others,

€I don't know

How many women become breast cancer?

€More then 1 woman from 10 women

€1 woman from 10 women

€1 woman from 100 women

€1 woman from 1000 women

€1 woman from 10000 women

€Less then 1 woman from 10000 women

How many women over 69 years old become breast cancer?

€More then 1 woman from 10 women

€1 woman from 10 women

€1 woman from 100 women

€1 woman from 1000 women

€1 woman from 10000 women

€Less then 1 woman from 10000 women

How do you evaluate the risk of breast cancer for yourself?

€High

€Moderate

€Low

€No risk

In your opinion which is important in the examination for early detection of breast Cancer?

1= very important 2= important 3= less important 4= not important

Self examination	1	2	3	4
Palpatory examination by a doctor	1	2	3	4
Blood sample examination	1	2	3	4
Mammography	1	2	3	4
Ultrasound on the breast	1	2	3	4

In your opinion which is the best method of treatment of breast Cancer?

1= very important; 2= important 3= less important; 4= not important

Operation	1	2	3	4
Radiotherapy	1	2	3	4
Chemotherapy	1	2	3	4
Other medications	1	2	3	4
Alternative therapy	1	2	3	4

Which is the method of treatment that you would like to undergo, if it was medically recommended?

- Operation
 Radiotherapy
 Chemotherapy
 Other medications
 Alternative therapy

Which is the method that you would not accept it for yourself, even if it was medically recommended?

- Operation
 Radiotherapy
 Chemotherapy
 Other medicaments
 Alternative therapy

What is the percentage of women cured after the breast cancer is detected?

.....%

What is the percentage of women above 69 years old to be cured after the breast cancer is detected?

.....%

How do you evaluate your curing chances if it is detected that you have breast cancer?

.....%

How do you evaluate the quality of life of a breast cancer patient after adequate treatment?

Better than with no treatment at all

Worse than with no treatment at all

Equal in comparison with women who undergo a treatment

Questions about Attitude and Practice of screening:

Which of the following suits you?

- €I examine my breast regularly (min. every 6 months) myself
- €I undergo a medical palpatory examination (min. every 2 years)
- €I received a mammography in the last 2 years
- €I received an ultrasound of the breast in the last 2 years
- €I never examine my breast myself and I never go to the doctor for the examination

How many times do you visit your gynaecologist?

- €Screening regularly every 6 months minimum
- €Screening regularly every year
- €Screening regularly every 2 years
- €Screening irregularly only when complaining
- €I never go to a gynaecologist

When you undergo a breast cancer screening, why do you do that?

- €Interest in my health
- €Interest in an early detection
- €Fear from cancer
- €I would be requested to come regularly from my gynaecologist
- €Wish from my family / friends / colleagues
- €Health educating brochures, pamphlets and magazines
- €Radio and television
- €Others,

When do you not undergo the breast cancer screening, why not?

- €Ignorance about the possibility of a breast screening examination
- €Feeling uncomfortable with the examination
- €No time for the examination
- €Forgetting
- €Expenses
- €Religious reasons
- €I go to the doctor only when I have complains
- €Fear of a possible Cancer diagnosis
- €Fear of the examination technique
- €Others,

Do you have concern from the screening examinations?

- €No
- €Yes because fear from a possible cancer diagnosis
- €Yes because the examinations are an overload for me
- €Yes because I am ashamed of my body
- €Yes because of the possible costs
- €Yes because I find these examinations not actually important
- €Yes because

Questions of confrontation:

Did you know that breast cancer is the most common cancer in women?

(See graphic):

Yes

No

Did you know that the risk to get breast cancer increases with age?

(See graphic):

Yes

No

Did you know that with age increase the breast cancer is important to be treated?

(See graphic):

Yes

No

Did you know that the life expectancy increases despite the old age when the breast cancer adequately treated?

(See graphic):

Yes

No

Did you know that the life expectancy increase with an adequate treatment in the elderly to?

(See graphic):

Yes

No

Did you know that the quality of life is better after an adequate treatment of breast cancer?

(See graphic):

Yes

No

Will you change now your behaviour concerning the breast screening?

Yes, I will go more frequently to undergo the screening examination

Yes, I will go less frequently to undergo the screening examination

No

In the Netherlands starting from a specific age group the women receive an invitation at home to undergo the screening examination. These examinations (palpatory examination and mammography) are done in an equipped truck. This truck will be ready for you at the time of the invitation in a street near to you in your quarter. When you have such a screening in Egypt? Would you change your behaviour towards the screening?

Yes, I will go more frequently to undergo the screening examination

Yes, I will go less frequently to undergo the screening examination

€No

Befragung Vorsorgeverhalten Brustkrebs

Diese Befragung betrifft eine wissenschaftliche Untersuchung nach dem Vorsorgeverhalten von Frauen im Bezug zum Brustkrebs. Die unterfragenden Ärzte möchten wissen wie Frauen zur Krebsvorsorgeuntersuchungen stehen und inwiefern sie über Brustkrebs informiert sind. Ziel ist eine Verbesserung der Brustkrebsfrüherkennung.

Um Ihre Antworten richtig interpretieren zu können, werden zuerst einige allgemeine Fragen gestellt. Danach werden Fragen gestellt über Ihre Brustkrebsvorsorgeuntersuchungen. Die Untersuchungen werden durchgeführt bevor eine Brustkrebsdiagnose gestellt wird. Wenn Sie Brustkrebspatientin sind, dann beziehen sich die Fragen auf die Zeit bis zur Diagnose und nicht auf die Zeit danach.

Am Ende des Gespräches werden Sie konfrontiert mit einigen Daten aus bisherigen wissenschaftlichen Untersuchungen. Wichtig ist zu erfahren ob sie Kenntnis dieser Daten Ihr Vorsorge-Verhalten ändern wird oder geändert hätte.

Wir danken Ihnen für Ihre Mitarbeit!

Persönliche Daten:

Name:

Geburtsdatum:-.....-19....

Familienstand:

- ledig
- verheiratet
- partnerschaft
- verwitwet
- geschieden
- getrennt lebend

Wohnsituation

- Alleine
- Partner(in)
- Familie
- Seniorenheim
- Anders, nämlich.....

Sind Sie praktizierende Gläubige?:

- Nein
- Katholisch
- Evangelisch
- Andere, nämlich.....

Wie hoch ist Ihre Netto-Monatseinkommen?:

- < 500 Euro
- Zwischen 500,- Euro und 1000,- Euro
- Zwischen 1000,- Euro und 2000,- Euro
- Zwischen 2000,- Euro und 3000,- Euro
- Über 3000,- Euro

Höchste Schulbildung:

- Keine
- Hauptschule
- Mittlere Reife
- Abitur
- Fachausbildung
- Fachhochschule
- Universität
- Andere, nämlich

Medizinische und Gesundheitsdaten:

Wie Groß sind Sie?cm

Wie viel wiegen Sie?Kg

Wie oft waren Sie Schwanger?

Wie viele Kinder haben Sie geboren?

Haben Sie gestillt?:

- Ja
- Nein

Wenn ja, wie Lange?

Wann war Ihre erste Regelblutung?Jahre

Wann war Ihre letzte Regelblutung?Wochen/Monate/Jahre

Haben Sie in Ihrem Leben Hormonpräparate benutzt?

- Ja
- Nein

Wenn ja welche?:

- Verhütungspille Dauer:.....
- Hormonersatzpräparate Dauer:.....

Wie schätzen Sie Ihre aktuelle Gesundheit ein?:

- Gut
- Könnte besser
- Mäßig
- Schlecht

Nehmen Sie regelmäßige Medikamente ein?

- Ja
- Nein

Wenn ja, welche?:

Kommt Brustkrebs in Ihre Familie vor?:

- Ja
- Nein

Wenn ja, wer?:.....

Sind Sie schon mal an Ihre Brust operiert worden?

- Ja
- Nein

Wenn ja, warum?:.....

Wurde bei Ihnen Brustkrebs festgestellt?:

- Ja
- Nein
- Wenn ja, was war das erste Symptom, das zur Diagnose geführt hat?:
- Eigener zufälliger Tastbefund.
- Tastbefund bei regelmäßiger Selbstuntersuchung
- Ärztlicher Tastbefund

- Röntgenuntersuchung der Brust
- Ultraschalluntersuchung der Brust
- Auffällige Blutwerte
- Absiedelungen
- Anders, nämlich.....

Wenn ja, dürfen wir die Daten bezüglich Ihrer Brustkrebsdiagnose aus Ihrer Patientenakte benutzen für diese Untersuchung?:

- Ja
- nein

Kenntnisstand zum Brustkrebs:

Fühlen Sie sich ausreichend über Brustkrebs informiert?:

- Ja
- Nein

Wer informiert Sie oder spricht mit Ihnen über Brustkrebs?:

- Frauenarzt
- Hausarzt/ander Ärzte
- Gesundheitsinfobroschüren/Zeitschriften/Zeitungen
- Medizinische Bücher
- Radio/Fernsehsendungen
- Familie
- Freunde/Bekanntes

Welche Krebserkrankung bedroht Sie in Ihrem Alter am meisten?

- Lunge
- Darm
- Brust
- Haut
- Genital (Unterleibskrebs)
- Anderes Organ/Organsystem, nämlich.....

Wie viel aller Frauen bekommen Brustkrebs?:

- Mehr als eine Frau von 10 Frauen
- Eine Frau von 10 Frauen
- Eine Frau von 100 Frauen
- Eine Frau von 1000 Frauen
- Eine Frau von 10000 Frauen
- Weniger als eine Frau von 10000 Frauen

Wie viele der Frauen über 69 Jahre bekommen Brustkrebs?:

- Mehr als eine Frau von 10 Frauen
- Eine Frau von 10 Frauen
- Eine Frau von 100 Frauen
- Eine Frau von 1000 Frauen
- Eine Frau von 10000 Frauen
- Weniger als eine Frau von 10000 Frauen

Wie hoch schätzen Sie für sich selber das Brustkrebsrisiko ein?:

- Hoch
- Mittel
- Niedrig
- Kein Risiko

Welche Untersuchung halten Sie bei der Früherkennung von Brustkrebs für wichtig?:

1 = sehr wichtig; 2 = wichtig; 3 = weniger wichtig; 4 = nicht wichtig

- | | | | | |
|---------------------------------------------------------|---|---|---|---|
| <input type="radio"/> Selbstuntersuchung | 1 | 2 | 3 | 4 |
| <input type="radio"/> Tastuntersuchung durch den Arzt | 1 | 2 | 3 | 4 |
| <input type="radio"/> Blutuntersuchungen | 1 | 2 | 3 | 4 |
| <input type="radio"/> Röntgenuntersuchung der Brust | 1 | 2 | 3 | 4 |
| <input type="radio"/> Ultraschalluntersuchung der Brust | 1 | 2 | 3 | 4 |

Welche Behandlung halten Sie bei der Behandlung von Brustkrebs für wichtig?:

1 = sehr wichtig; 2 = wichtig; 3 = weniger wichtig; 4 = nicht wichtig

- | | | | | |
|--------------------------------------------|---|---|---|---|
| <input type="radio"/> Operation | 1 | 2 | 3 | 4 |
| <input type="radio"/> Bestrahlung | 1 | 2 | 3 | 4 |
| <input type="radio"/> Chemotherapie | 1 | 2 | 3 | 4 |
| <input type="radio"/> Andere Medikamente | 1 | 2 | 3 | 4 |
| <input type="radio"/> Alternative Therapie | 1 | 2 | 3 | 4 |

Welche Behandlung würden Sie bei sich selbst durchführen lassen, wenn Sie aus medizinischer Sicht vorgeschlagen wird?:

- Operation
- Bestrahlung
- Chemotherapie
- Andere Medikamente
- Alternative Therapie

Wie viel Prozent aller Frauen werden geheilt, nachdem Brustkrebs festgestellt wurde?:

.....%

Wie viel Prozent der Frauen über 69 Jahre werden geheilt, nachdem Brustkrebs festgestellt wurde?:

.....%

Wie würden Sie Ihre eigenen Heilungschancen einschätzen wenn bei Ihnen Brustkrebs festgestellt wurde?:

.....%

Wie schätzen Sie die Lebensqualität ein von Brustkrebspatienten nach ausreichender Behandlung?:

- Besser als wann man sich nicht behandeln lässt
- Schlechter als wann man sich nicht behandeln lässt
- Unverändert gegenüber Patienten die sich nicht behandeln lassen

Fragen über das Vorsorgeverhalten:

Was trifft zu:

- Ich untersuche meine Brust regelmäßig (mindestens alle 6 Monate) selber
- Ich lasse meine Brust regelmäßig (mindestens alle 2 Jahre) ärztlich untersuchen
- Bei mir wurde in den letzten 2 Jahre eine Röntgen der Brust durchgeführt
- Bei mir wurde in den letzten 2 Jahre eine ,Ultraschalluntersuchung der Brust gemacht
- Ich untersuche meine Brust nie und habe die letzten Jahre nicht untersuchen lassen

Wie oft gehen Sie zum Frauenarzt?:

- Vorsorge regelmäßig mindestens alle 6 Monate
- Vorsorge regelmäßig mindestens jährlich
- Vorsorge regelmäßig mindestens alle 2 Jahre
- Unregelmäßig, nur bei Beschwerden
- Ich gehe nie zum Frauenarzt

Wenn Sie zur Krebsvorsorge gehen, warum machen Sie das?:

- Interesse an meine Gesundheit
- Interesse an eine frühzeitige Diagnose
- Angst vor Krebs
- Ich werde regelmäßig von meinem Frauenarzt aufgefordert
- Auf Wunsch von Freunde/Familie/Bekannten
- Gesundheitsinfobroschüren/Zeitschriften/Zeitungen
- Radio/Fernsehsendungen
- Anderer Grund, nämlich.....

Wenn Sie nicht zur Krebsvorsorge gehen, warum nicht?:

- Unbekanntheit mit der Möglichkeit Vorsorgeuntersuchungen machen zu lassen
- Bequemlichkeit
- Keine Zeit
- Vergesslichkeit
- Kosten
- Religiöse Gründe
- Kosten
- Ich gehe nur zum Arzt wenn ich krank bin
- Angst vor einer möglichen Krebsdiagnose
- Angst vor dem Untersuchungsverfahren
- Andere Gründe, nämlich.....

Haben Sie bedenken gegenüber Vorsorge-Untersuchung?:

- Nein
- Ja, wegen Angst vor einer Krebsdiagnose
- Ja, die Untersuchung sind eine Belastung für mich
- Ja, ich schäme mich für meinen älter werdenden Körper
- Ja, wegen der möglichen Kosten

- Ja, ich finde solche Untersuchungen nicht notwendig
- Ja, nämlich.....

Konfrontationsfragen :

Wussten Sie, dass Brustkrebs die häufigste Krebserkrankung bei Frauen ist?

(Siehe graphische Darstellung):

- Ja
- Nein

Wussten Sie, dass das Risiko an Brustkrebs zu erkranken ansteigt mit dem Alter?

(Siehe graphische Darstellung):

- Ja
- Nein

Wussten Sie, dass auch mit ansteigendem Alter Brustkrebs zu behandeln ist?:

(Siehe graphische Darstellung):

- Ja
- Nein

Wussten Sie, dass eine ausreichende Behandlung bei älteren Brustkrebskranken zu einer längeren Lebenserwartung führt?:

(Siehe graphische Darstellung):

- Ja
- Nein

Wussten Sie, dass eine ausreichende Behandlung bei älteren Brustkrebskranken zu einer besseren Lebensqualität führt?:

(Siehe graphische Darstellung):

- Ja
- Nein

Werden Sie jetzt Ihren Vorsorge-Verhalten ändern?:

- Ja, ich werde häufiger zur Brustkrebsvorsorge gehen
- Ja, ich werde weniger häufig zur Brustkrebsvorsorge gehen
- Nein

In den Niederlanden bekommen Frauen einer bestimmten Altersgruppe jedes zweite Jahr eine Einladung zur Brustkrebsvorsorge. Diese Vorsorge (fachliche Tastuntersuchung und Röntgenuntersuchung der Brust) wird in einem umgebautem LKW durchgeführt. Dieser LKW steht zum Einladungstermin in dem Stadtviertel oder Dorf wo Sie wohnen. Wenn so eine Brustkrebsvorsorge in Deutschland zur Verfügung stände, würden Sie Ihren Vorsorgeverhalten ändern?:

- Ja, ich werde häufiger zur Brustkrebsvorsorge gehen
- Ja, ich werde weniger häufig zur Brustkrebsvorsorge gehen
- Nein

Verzeichnis der akademischen Lehrer

Meine akademischen Lehrer waren Damen/Herren:

in Alexandria:

Abd El-Aal, Abou El-Fetouh, Abou Rayan, Amarah, Amin, Asaad, Astoufansou, Badawy, Basiony, Belal, Besharah, Darweesh, Dawoud, Dorgham, Ebada, El-Attar, El-Dakkak, El-Kaial, El-Medany, El-Naggar, El-Sahwy, Galal, Ghanem, Hegab, Hegazy, Helmi, Khalifa, Kotkat, Masoud, Megahed, Meky, Motwally, Rezk, Saad, Salib, Serour, Zaher, Zid.

Danksagung:

Herrn Prof. Dr. Dr. Gerald Kolb gilt besonderer Dank für die Anregung und ideenreiche, geduldige Unterstützung bei der Verwirklichung und Bearbeitung dieser Dissertation.

Danken möchte ich auch meiner Mutter, Prof. Dr. Amira Kotkat für ihre Unterstützung und Korrektur des Manuskriptes.

Ebenso danke ich meiner Frau, die mir in den letzten Jahren zur Seite gestanden hat.