

Effect of Health Education on Women's Perception Regarding Screening and Early Detection for Common Cancer Among Women at Reproductive Age at Beni - Suef City, Egypt

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Abstract

Background: Cancer is a major public health problem throughout the world and the leading cause of death among women. There are two major components of early detection of cancer: education to promote early diagnosis and screening. Breast cancer (BC) is the most prevalent common cancer among women in Egypt and is estimated to be the cause of 22 percent all cancer-related female deaths. Although it affects many fewer women, cervical cancer is the 13th most common cancer among women in Egypt. Early detection of cancer greatly increases the chances for successful treatment. **The aim of this study:** To determine the effects of health education on women perception, screening and early detection for common cancer at reproductive age at Beni - Suef City, Egypt. **Study design:** Quasi- experimental research design was used. The study was funded through scientific research development center and all investigation was done free for each woman under the care of the Projects Funding and Granting Unit at Beni-Suef University. **Setting:** the study conducted at gynecological outpatient clinic at Beni- Suef University and General Hospital. **Sampling:** a purposive sample of 412 women at reproductive age were selected randomly. It was conducted from June 2016 till the end of December 2016. **Tools:** Data was collected through structured interview and field note that the researchers were taking during participants' and screening of the study sample at 2 days a week for six months to collecting data from the study sample. **Results:** the result of this research showed that the common cancer appear was breast cancer followed by ovarian cancer among study sample. **Conclusion:** The research has succeeded in early detection and raising the women's awareness to prevention which will reducing the incidence of common cancer among the women at reproductive age with statistical significant relation after implementing the program and 34.7% of the study sample are positive to breast cancer this detected by Mammography and 21% of them are positive to ovarian cancer which detected by cancer antigen 125 CA 125. **Recommendation:** The research results recommended that, guide lines should be implementing to enhancing women's knowledge and practice to early detection and prevention of common cancer among women at reproductive age.

Keywords: Early detection, prevention, cancer, Reproductive age

1. Introduction

Cancer is a major public health problem and an important factor in the global burden of disease throughout the world. The estimated number of new cases each year is expected to rise from 10 million in 2002 to 15 million by 2025, with sixty percent of those cases occurring in developing countries. Breast cancer is the common cancer in women in the Eastern Mediterranean Region and the leading cause of cancer mortality worldwide (*Farouk et al. 2016*).

According to the WHO (2004) statistics, cancer is the leading cause of death. More than 7.4 million cancer deaths annually occurred throughout the world. The main types of cancer leading to overall cancer mortality each year are: lung (1.3 million deaths/year), gastrointestinal (803 000 deaths/year), colorectal (639 000 deaths/year), liver (610 000 deaths/year), breast (519 000 deaths/year). Breast cancer usually originates from ducts and lobules. Nearly 1.2 million women are diagnosed with breast cancer annually worldwide. Nowadays, breast cancer has already become number one killer among the women (*National Cancer Institute 2010*).

In addition, WHO was mentioned that, early detection of cancer greatly increases the chances for successful treatment. There are two major components of early detection of cancer: education to promote early diagnosis and screening. Recognizing possible warning signs of cancer and taking prompt action leads to early diagnosis. Increased awareness of possible warning signs of cancer, among physicians, nurses and other health care providers as well as among the general public, can have a great impact on the disease. Some early signs of cancer include lumps, sores that fail to heal, abnormal bleeding, persistent indigestion, and chronic hoarseness. Early diagnosis is particularly relevant for cancers of the breast, cervix, mouth, larynx, colon and rectum, and skin (<http://www.who.int/cancer/detection/en/>; 2018).

According to WHO, Screening refers to the use of simple tests across a healthy population in order to identify individuals who have disease, but do not yet have symptoms. Modes of detecting breast cancer are including breast self-examination (BSE), breast examination by health providers and breast cancer screening using mammography and cervical cancer screening using cytology screening methods, including Pap smears. Screening programs should be undertaken only when their effectiveness has been demonstrated, when resources (personnel, equipment, etc.) are sufficient to cover nearly all of the target group, when facilities exist for confirming diagnoses and for treatment and follow-up of those with abnormal results, and when prevalence of the disease is high enough to justify the effort and costs of screening., and screening by mammography, ultra sound, or other clinical procedures. On the other hand, breast self-examination is not considered to be an effective detection method on a population basis but is encouraged as it raises awareness among women of breast cancer risks and may contribute to the detection of some breast cancers on an individual basis). Women are typically encouraged to begin regular breast self-examinations in their 20s. Breast examinations by a health provider are a more effective mode of detection than breast self-exams (**WHO, 2015**).

Women are encouraged to have clinical breast examinations every two to three years, beginning in their 20s and annual screening beginning in their 40s. Clinical screening procedures like mammography which are the most effective screening approach are not considered by WHO to be useful on a population-wide basis until women are in their 40s or 50s (**WHO 2014**).

Breast cancer is an important public health problem and the most common cancer among women in Egypt and is estimated to be the cause of 22 percent all cancer-related female deaths (WHO 2014b). Although it affects many fewer women, cervical cancer is the 13th most common cancer among women in Egypt (**Bruni et al. 2015**). Early detection is critically important in reducing deaths from both breast and cervical cancer. Studies have reported low levels of awareness and practice of breast self -examination (BSE) as an important and a cost-effective method of early detection and prevention of breast cancer especially in poor countries. (**Elshamy and Shoma , 2010**).

Globally, breast cancer is the most common cancer among women, comprising twenty-three percent of the female cancers. It is also the leading cause of cancer-related deaths in low-resource countries . Although substantial improvement in survival from this disease has been reported in high-income countries, the risk continues to increase and survival rates in middle-and low-income countries remain low. It has been predicted that the largest increase in cancer incidence within the next 15 years worldwide is likely to be in the Eastern Mediterranean Region (EMR), where breast cancer is reported as the commonest type of female malignancy in almost all national cancer registries (**Alwan et al.,2012**).

Breast cancer affects a woman's body image and feelings of sexuality. The result of studies shows that a diagnosis of breast cancer brought some couples' relationship closer. The mastectomy could severely obliterate patients' sexual relationships for a long period by disturbing the body images, and women often wrongly think that their spouse will resent these changes (**Cancer Research Center, 2011**).

Cervical cancer is the third most common cancer in the world, with 2.3 million prevalent cases and 510 000 incident cases each year. Annually, 288 000 women die of cervical cancer and eighty percent of these deaths occur in low- resource countries. Nearly two thirds of healthy years lost by women in developing countries are lost because of cervical cancer and not, as is often supposed, because of problems related to reproductive health. This is particularly disturbing because cervical cancer is a preventable disease (**Abdul-Aziz 2012**).

Ovarian cancer is considered the leading cause of mortality among all cancers of female genital tract (**Saini et al, 2016**). It is considered the seventh most common cancer in women worldwide and the eighteenth most common cancer overall, it represents about 3.6% of all cancers in females (**Stewart, 2012&Mohammed 2017**). Ovarian cancer is diagnosed annually in about quarter of a million females worldwide, and is responsible for 152,000 deaths per year. Also, age standardized rate of ovarian cancer is about 6.1 per 100,000 (**Ferlay et al, 2015**). According to the National Population-Based Cancer Registry Program in Egypt (2008 – 2011); ovarian cancer is the fourth most common cancer among females with crude and age standardized incidence rates (4.6 and 6.3) per 100,000 population, respectively (**Ibrahim et al, 2014**).

Moreover, ovarian cancer is the six most common cancers among females representing 3.8 % of all females' malignancies according to the National Cancer Institute's hospital based registry (2002-2010) (cancer statistics 2002-2010), It is believed that ovarian cancer is a multifactorial disease and it is a result of the interaction of hereditary, reproductive, hormonal, dietary factors and smoking (**Hunn & Rodriguez, 2012**).

Nurses play a crucial role in health care delivery. Literature shows a significant relationship between nurses' confidence in performing BSE and their recommendation of BSE to their clients . Female healthcare providers, such as nurses and physicians, constitute the primary source of information about breast cancer for a large number of women. Female nurses, who make up the majority of nurses in Egypt, and other female healthcare providers could play a significant role in identifying barriers to early-detection practices among women, to be alert for early detection of breast cancer as they usually have the closest contacts with female patients (**Elshamy and Shoma , 2010**).Also, treatment of high-grade changes can prevent the development of

cancer in many victims. In developed countries, the widespread use of cervical screening programs has dramatically reduced the incidence of invasive cervical cancer (*Wikipedia, the free encyclopedia, 2012*)

1.1 SIGNIFICANCE of THE STUDY

Early detection of cancer greatly increases the chances for successful treatment. There are two major components of early detection of cancer: education to promote early diagnosis and screening. Recognizing possible warning signs of cancer and taking prompt action leads to early diagnosis. Moreover, awareness are emphasized also in encouraging women to pay attention to their bodies and clinical manifestations and own breasts such as learning the appearance of breasts and recognizing any irregular changes and early detections investigations and methods. (*Bekar M., et al., 2013*). So, this research focused on early detection and prevention, raising the women's awareness to reducing the incidence of most common cancer of reproductive system at the Beni - Suef city. In addition, it would also support the health promotion for women and community.

2. AIM of THE STUDY:

Aim of this study was to determine the effect of health education on women perception regarding screening and early detection of most common cancer among women at reproductive age at Beni - Suef City, Egypt.

2.1 This aim was achieved through the following objectives:

1. Screening the women in the study sample for early detection of most common cancer (breast cancer, cervix, overs..... etc) in Beni Suef city.
2. Assess the women's awareness regarding cancerous tumors in reproductive age (breast cancer, cervix and overs)
3. Design and implement of health education program for women regarding cancerous tumors "in the reproductive age.
4. Evaluate the impact of health education program on the level of awareness of the women for ways early detection of cancerous tumors.
5. Referral cases which were discovered for early diagnosis and treatment at the hospital.

2.2 Research Hypothesis:

1. There are many types of cancer among study sample.
2. The study sample has unsatisfactory knowledge regarding early detection of most common cancer (cancer breast and cervix).
3. An educational program will be improving women awareness regarding early detection and prevention of most common cancer (cancer breast and cervix).

3.SUBJECTS AND METHODS :-

Quasi-experimental research design was used in this study; it was portrayed under the four main designs as follows.

1- Technical Design.

2-Operational Design.

3-Administrative design.

4- Statistical Design.

3.1 Technical Design:

The technical designs for this study included research setting, subjects, tools and methods of data collection.

A-Study Setting:

This study was conducted at gynecological outpatient clinic at Beni- Suef University and General Hospitals.

Sample:-

Purposive sample was used in this study. The study was started from June 2016 till the end of December 2016 to the women who have attended previous settings throughout six months they were 412 women selected randomly.

Selection of Sample Size:-

Magnani (2007) provided a simplified formula to calculate sample sizes.

A 95% confidence level and $p = 0.5$ are assumed as:-

$$\text{The Sample Size } N = \frac{Z^2 \times QP}{D^2}$$

Where: - a percentile of standard normal distribution determined by:

$Z = 95\%$ confident level = 1, 96

P = percentage picking a choice, expressed as decimal (0.5 used for sample size needed)

$Q = (1-p)$

D = Level of precision = 0.05.

Accordingly, the estimated sample size was 412 subjects. Upon inclusion in the study sample (women at reproductive age) were randomly selected from participants whose attending gynecological outpatient clinic at Beni-Suef University and General Hospital and accepted to participate in the study.

Inclusion criteria: It including all women at reproductive age whose attendant to gynecological outpatient clinic during the study period

Exclusion criteria:

- Menopausal women
- Women having chronic disease (chronic hypertension, D.M , Renal disease,.....)
- Pregnant women.
- Women whose diagnosed for any types of cancer

C-Tools for Data Collection:

Structured interviewing questionnaire sheet developed by researchers, which include three parts for data collection as the following: -

- 1- The first part was related to maternal demographics data as (age, level of education, employment and, income.....ect).
- 2- The second part included Obstetrics and gynecological history as(gravidity, parity, breast feeding ,types of contraception, duration of use. Family history of breast, cervical, uterine or ovarian cancerect)
- 3-The third part included screening test and questions which were used to assess women's knowledge and attitude regarding cancerous tumor in reproductive age as (definition, causes, risk factors symptoms, management, prevention and complications).

The questionnaire contain 26 items divided under 2 subscales namely women's knowledge regarding reproductive cancer(13items) and attitude regarding reproductive cancer (13 items). Each statement response was one for wrong answer, two for don't know and three for right answer.

Scoring system was determined through:

The total scores were graded as women scored under (< 50%) were poor Knowledge. Women scored (50 - < 70%) were average and women scored above ($\geq 70\%$ - 100%) were good Knowledge.

Ethical Consideration:

Permission was obtained from the director of Beni-Suef General and University Hospital. Informed consent was obtained from women on participation in the study, explanation of the purpose and importance of the study before interviews were conducted. Use of numbers ensured confidentiality and no names appeared anywhere on the questionnaires. The nature of the study was harmless.

3.2 Operational Design:

The operational design included preparatory phase, content validity, reliability, pilot study and fieldwork.

A-Preparatory Phase:

It included reviewing of literature, different studies and theoretical knowledge of various aspects of the problems using books, articles, internet, periodicals and magazines.

B- Content Validity & Reliability:

Tools were submitted to a panel of five experts: two in the field of maternal and newborn health nursing, one in community health nursing, one gynecologist and oncologist. No modification was done in the tools. **Reliability** was done by using Cronbach's alpha coefficients ranged from 0.84 (perceived severity) to 0.98 (cues to action), indicating that each subscale had good internal consistency. All test-retest correlations were greater than 0.90 and significant at the 0.01 level.

C- Pilot Study:

Pilot study conducted on 10 % of total sample. It involved 41 women to evaluate; the efficiency and clarity and the time needed to complete structured interviewing questionnaire sheet and find the possible obstacles and problems that might face the researcher and interfere with data collection. The subjects who included in the pilot were excluded from the study.

3) Field work:

The process of data collection was carried out from the start of June 2016 till the end of December 2016 two days per week. The researcher attended at gynecological outpatient clinic form 9.00 a.m to12 p.m. The study funded by Projects Funding and Granting unit through Scientific Research Development Unit at Beni Suef University. All investigation was done free for each woman under the care of the Projects Funding and Granting unit.

(1) Assessment phase: In this stage, the researchers introduced themselves to the women whose agreed for participating in the study to respondents, and explained the aim and objectives of the study to them at the study settings. Then, they were individually interviewed by the researcher to complete the basic data using an

Interviewing Assessment Sheet. The tool was filled in about 20 minutes to 30 minutes. The researcher filling the third part of questionnaire which includes knowledge regarding early detection of common cancer. Also, assessed women knowledge using tool of data collection. The questionnaire was filling from about 3- 5 women per day.

(2) Clinical examination for early detection Phase: Clinically investigation & screening tests was done to each woman in the study sample to complete the questionnaire through:

- a. Breast examination (manual for all women and mammography for suspected cases).
- b. Ultrasound examination of the reproductive system of women
- c. Cervical Pap smear.

Pap smears can be a bit uncomfortable, but the test is very quick. During the procedure, the researcher ask the woman to lie on her back on examination table with legs spread and feet resting in supports called stirrups. the researcher will slowly insert a device called a speculum into the vagina. This device keeps the vaginal walls open and provides access to the cervix. Then the researcher will scrape a small sample of cells from the cervix using a spatula and a brush. Most women feel a slight push and irritation during the brief scraping. The sample of cells from the cervix will be preserved and sent to a lab to be tested for the presence of abnormal cells. the researcher instruct woman that she might feel mild discomfort from the scraping, or a bit of cramping After the test. she could also experience very light vaginal bleeding immediately following the test. Tell the researcher and comeback to the clinic if discomfort or bleeding continues after the day of the test.

- d. A CA 125 test measures the amount of the protein CA 125 (cancer antigen 125) in women blood.

(3) Educational program development phase: The program was developed based on the identified needs and demands of study sample in assessment phase (I), in the light of the most recent pertinent literature This phase included the following; theoretical session was carried out with discussion (10 minutes) to assess study sample's feedback of knowledge regarding common cancer. Then the researcher started the education time for (50 minutes). After the session break time was given to them (10 minutes) followed with discussion to assess their level of understanding The program consisted of two session which was outlined as the topic of definition, risk factors, signs and symptoms, treatment , complications of breast and cervical cancer. The second session covered., protection, screening, examinations and prevention from breast and cervical cancer.

(4) The Program Evaluation:

The program appraisal was done by comparing the changes in the studied women 's knowledge through pre and immediate post of the intervention program. Also, during the program researcher distribute guiding booklet about common cancer (breast and cervical cancer) for every women included in the study and screening which including breast self-examination (BSE), breast examination by health providers, and screening by mammography, ultra sound and pap smear. **Finally, phase:** The researchers referring positive cases for cancer to oncology clinic for completing diagnosis and treatment.

3.3 Administrative design:

Written letter clarifying the purpose and setting of the study were submitted from the researcher to the director of Beni-Suef General Hospital to seek his approval for carrying out the study.

Limitation of the study:

One limitation of this study was lack of some investigation in the place of the study. So the researcher made deal with private laboratory and this lab was away from Hospitals and more cost for patient.

3.4 Statistical analysis:

Data analysis:

Data was collected and entered into a database file. Statistical analysis was performed by using the SPSS for windows (version 20). Data was described by summary tables and figures; ANOVA test was used. Statistical significance was considered at P-value <0.05 and highly significance at P-value <0.00.

Descriptive statistics:

-**Numbers and percentages:** Used for describing and summarizing qualitative data.

4. Results: -

Table(1):Shows of the study sample according to their socio-demographic data. This table shows that 27.4% of the study sample at the age group 25 < 30 followed 26.7% at the age group 40 < 45 where 86.7 % of them were had low education level, 90.3% of them were married.

Figure1: illustrates the Study Sample's Occupation. This figure show that the most of the study sample (69.2%) were house wives and 30.8% were employs.

Figure2: illustrates the Study Sample's residence. We can see in this figure more than half (58.7%) were from

rural area, while 41.3% from urban area.

Table (2): Clarifies the results of the most common test used for early detection to Breast, ovarian cervical & cancer among women in the study sample. This table shows that 10.4% of the study sample are positive to breast cancer this detected by Mammography. At the end of the table we can see 2.1% of them are positive to ovarian cancer which detected by cancer antigen 125 CA 125 is (0-35 KU/L). While 96.8% have negative result to vinegar & PAP Smear test while 0.2% positive.

Table (3): Describes the study sample knowledge regarding breast & cervical cancer before and after health teaching sessions. This table reveals that 88.9% of the study sample had no knowledge regarding breast & 97.6% of them had no knowledge regarding cervical cancer before health teaching sessions. 86.4% had good knowledge regarding breast & 96.1 % of them had good knowledge regarding cervical cancer after health teaching sessions.

Table (4): Shows the relationship between total score of screening tests and study sample socio - demographic data. this table show that highly statistical significant relation between total score of screening tests and study sample socio - demographic data which included age, residence, marital status and level of education.

Figure (3): Illustrates that there are 47.3% negative attitude and no attitude in 52.4% among women regarding breast & cervical cancer early detection (screening) pre . program in there were improved to positive attitude among the maturity of them (87.6%)

Table (1): Distribution of the study sample according to their socio demographic data (N= 412).

Items	Frequency	%
Age		
20 <30	161	39.1
30 <40	141	34.2
40 <45	110	26.7
Total	412	100 %
Education		
Low	357	86.7
High	55	13.3
Total	412	100.0
Marital. Status		
Married	372	90.3
Widow	13	3.2
Divorced	27	6.6
Total	412	100.0

Figure (1): Study Sampl 's Occupation.

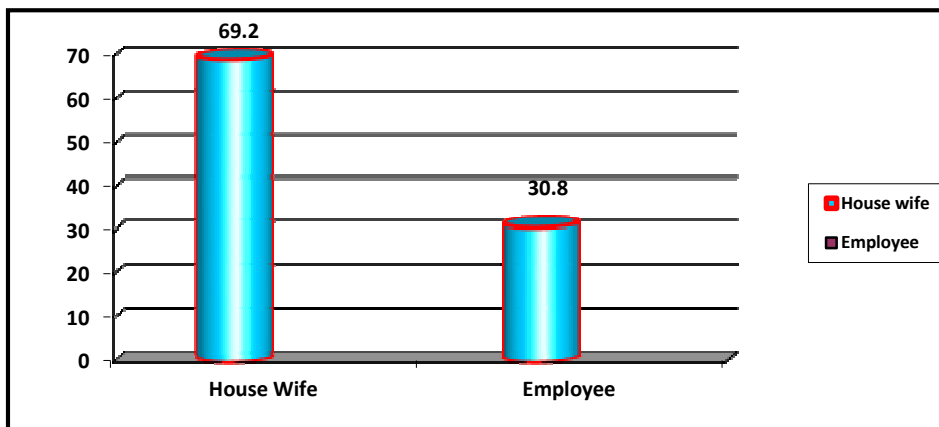


Figure 2: study sample's Residence

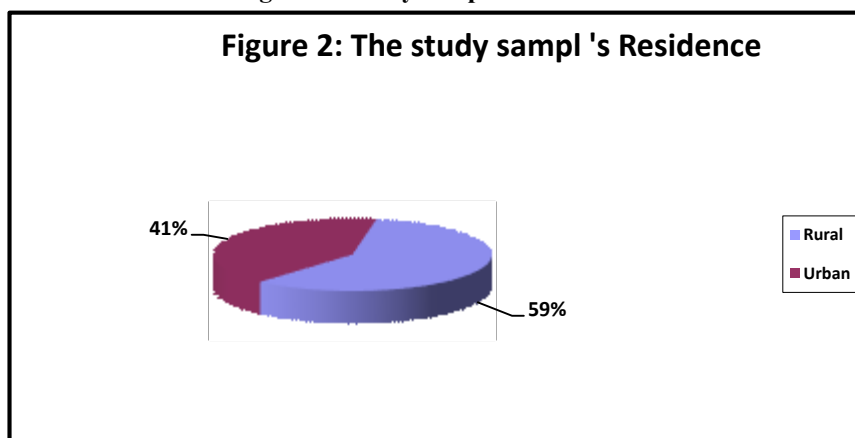


Table (2): Distribution of the study sample according to investigations used for early detection to Breast, Ovarian & Cervical cancer among women (N= 412).

Type of investigation	Frequency						Total	
	Negative		Positive		Not invest		No	%
	No	%	No	%	No	%		
Acetic acid (Vinegar)	399	96.8	1	0.2	12	2.9	412	100.0
PAP.smear	399	96.8	1	0.2	12	2.9	412	100.0
Mammography	369	89.5	43	10.4	00	00	412	100.0
Cancer Antigen 125 (CA 125 is (0-35 kU/L).	260	63.1	9	2.1	143	34.7	412	100.0

Table (3): distribution of the study sample according to level of knowledge regarding breast & cervical cancer before and after health teaching cessions (N= 412).

Items	Breast cancer knowledge				Cervical cancer knowledge				Sig.
	Pre		Post		Pre		Post		
	N	%	N	%	N	%	N	%	
Don't know	46	11.1	25	6.1	10	2.4	0.00	0.00	
Poor	367	88.9	30	7.2	402	97.6	16	3.9	
Good	0.00	0.00	357	86.4	0.00	0.00	396	96.1	
Total	412	100	412	100.0	412	1.00	412	1.00	

Table (4): Relationship between total score of screening tests and study sample socio - demographic data (N= 412)

Age groups	TOTAL SCORE OF Breast cancer					TOTAL SCORE OF Cervical cancer			
	N	Mean	Std. Deviation	F	Sig	Mean	Std. Deviation	F	Sig.
20: < 30	161	9.3582	.94508	38.147	0.000	6.6667	3.28979	10.575	0.000
30: < 40	141	8.9497	4.73808						
40 : < 45	110	2.2000	.82172						
Total	412	4.0121	2.23930						
Residence									
Rural	242	3.2686	1.41060	76.548	0.000	5.9917	2.15382	14.036	0.000
Urban	170	5.0706	2.72741						
Total	412	4.0121	2.23930						
Marital status									
Married	372	3.8360	2.02478			6.1317	2.29058	20.319	000
Widow	13	1.0000	.00000						
Divorced	27	13.286	.26726						
Total	412	4.0121	2.23930						
Education									
Non	54	2.2963	1.31220	27.165	000	7.5000	1.51408	21.109	000
Low	84	3.0952	1.21852						
Moderate	219	4.5434	2.46660						
High	55	4.9818	1.81037						
Total	412	4.0121	2.23930						

Table (5): Correlation between women's total knowledge & attitude regarding breast cancer. pre &post. Program

		Mean	N	Std. Deviation	Correlation	Sig.
Pair 1	Total.br.ca.attitude.pre	1.99	412	.965	-.143-	.004
	Total.post.br.ca.attitude	279.86	412	60.836		
Pair 2	Total.br.pre.knowkedge	15.26	411	2.205	-.116-	.018
	Total.br.post.knowkedge	37.05	411	3.165		

Paired Samples Test

Items	Paired Differences					T	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 total.br.ca.attitude.pre - total.post.br.ca.attitude	-277.869-	60.982	3.004	283.775-	271.963-	-92.488-	411	.000
Pair 2 total.br.pre.knowkedge - total.br.post.knowkedge	-21.793-	4.063	.200	-22.187-	-21.399-	108.748-	410	.000

Total women .attitude regarding breast & cervical cancer early detection (screening) .pre and post

	Total.br.ca.attitude.pre Frequency		Total.post.br.ca.attitude	
	Frequency	%	Frequency	%
negative attitude	195	47.3	40	9.7
no attitude	216	52.4	11	2.7
positive attitude	1.00	0.2	361	87.6
Total	412	100.0	412	100.0

5. DISCUSSION:

Cancer is a major cause of death worldwide. Cervical cancer is estimated to contribute to about twelve percent of the cancers in women and leading cause of deaths in developing countries compared with other forms of cancers. Enhancing women awareness on cervical cancer screening services has been found to promote early detection of

cervical cancer hence mitigating its progression (*Getahun et al. ,2013 and Morris ,2016*).So , screening for breast and cervical cancer remains the most effective way for early detection and its management. The main aim of this study was to determine the effects of health education on women perception, screening and early detection for common cancer at reproductive age at Beni - Suef City.

The present study showed that 27.4% of the study sample at the age group 25 < 30 followed 26.7% at the age group 40 < 45 where 86.7 % of them were had low education level and 90.3% of them were married. Regarding study sample 's occupation, figure (1) shows that 69.2% of them are house wife.

According to the result of study was done by *Swiss cancer screening 2014*, illustrated that Prevalence of breast cancer in Switzerland, per age group, 0 – 49 were 21% , 50 – 69 were 46% and 70+ were 33 % , About 80% of all breast cancer cases affect women over 50. This was may be due to low level of education and poor knowledge and negative attitude toward cancer and its early detection and treatment

The present study revealed that 88.9% of the study sample had no knowledge regarding breast cancer (symptom, risk factor and prevention) & 97.6% of them had no knowledge regarding cervical cancer (symptom, risk factor and prevention) before health teaching sessions. Also, 86.4% had good knowledge regarding breast & 96.1 % of them had good knowledge regarding cervical cancer after health teaching sessions. Also , there are highly statistical significant relation between total score of screening tests and study sample socio - demographic data which included age, residence, marital status and level of education.

The present study in the same line with study done by *Bansal et al., 2015* on 442 women were approached for interview of which 400 responded , two-third of them had heard of cervical cancer. At least one symptom and one risk factor were known to thirty-five and half and thirty-nine point eight percent participants. Only thirty-four point five percent participants had heard, and nine point five actually underwent screening test, however, seventy-four percent of the participants expressed a favorable attitude for screening. Binary logistic regression analysis revealed that education age and income were independent predictors of better knowledge. Education level influences attitude toward screening and actual practice depends on age, income, and marital status. This study shows that despite the fact that women had suboptimal level of knowledge regarding cervical cancer, their attitude is favorable for screening. However, uptake is low in actual practice. Strategic communication targeting eligible women may increase the uptake of screening.

Obi Andrew Ifeanyichukwu 2015 mentioned that knowledge on breast cancer the majority of respondents ninety-two percentage studied had poor knowledge while seven percentages had good knowledge of breast cancer. knowledge on breast cancer screening the following responses were obtained; most of them (eighty-five percentage) to detect problem early, more than half of them to help initiate treatment early, and less than half to prevent complication.

Holle,2017 was mentioned that, cervical cancer screening is recommended for women from age 21 to about age 65 to reduce the morbidity and mortality from cervical cancer. Two screening methods are used: cervical cytology and HPV testing. Two methods are available for preparing a specimen for cervical cytology: the conventional Papanicolaou (Pap) smear and liquid-based cytology. Both methods use cells obtained from the external surface of the cervix and the cervical canal using a spatula and/or brush. The Pap smear is a collection of cells on a microscope slide that is examined by a pathologist under . Before cervical cancer screening began, cervical cancer was one of the most common causes of death in women. The reduction in mortality through cervical cancer screening has occurred by detecting precancerous lesions as well as invasive cancer at early stages, thereby increasing the overall survival rate of cervical cancer to about 92% .

Regarding early detection and diagnosis, the present study illustrated that 34.7% of the study sample are positive to breast cancer this detected by Mammography. At the end of the table we can see 21% of them are positive to ovarian cancer which detected by cancer antigen 125 CA 125 is (0-35 kU /L). while 96.8% have negative result to PAP. Smear test and 3.2% Not investigated. According to *WHO ,2017* early diagnosis is defined as the early identification of cancer in patients who have symptoms of the disease. This contrasts with cancer screening that seeks to identify unrecognized (pre-clinical) cancer or pre-cancerous lesions in an apparently healthy target population. Cancer early diagnosis and screening are both important components of comprehensive cancer control, but are fundamentally different in resource and infrastructure requirements, impact and cost.

Breast cancer is the most commonly diagnosed cancer in women worldwide (IARC, WHO, 2008), and its incidence in many wealthy developed nations is rising, partly as a consequence of changes in reproductive practices and lifestyle but probably also as a result of detection of early breast cancers through screening. The only widely recommended screening test is mammography, which uses x-rays of the breasts to detect tumors before they become palpable lumps (*Wardle et al. , 2015*).

The previous studies were done by *Cheng Fang,2017 and Falzarano , 2013* showed that , in breast cancer, carcinoembryonic antigen (CEA), cancer antigen 125 (CA125) and cancer antigen 15-3 (CA15-3) are the most commonly used serum tumor markers in clinical routine, although their practicality remains controversial. Also, *Liu 2016* on their studies mentioned that CA125 is planned as a serum biomarker for ovarian cancer, but high

levels have been observed in the majority of metastatic breast patients (eighty-five percentages) and correlated with the metastasis-associated burden in pancreatic cancer.

In the other hand, the prevention of cancer would be ideal, effective prevention strategies are currently available for only some cancers. Cancers for which evidence supports cancer prevention strategies in patients include breast cancer, human papillomavirus (HPV)-related cancers (anal, cervical, penile, vaginal, vulvar cancers), ovarian cancer, and prostate cancer (*Holle,2017*). In our opinion we can reduce the rate of most common cancer among women at reproductive age, through elevating the women awareness regarding prevention, early detection and early treatment. So, all institutions must be cooperative by implementing health education program at different community setting.

6. Conclusion

The present study was concluded that, the study has succeeded in early detection and raising the women's awareness to prevention and reducing the incidence of common cancer among the women at reproductive age with statistical significant relation after implementing the program. Also, revealed 34.7% of the study sample are positive to breast cancer this detected by Mammography and 21% of them are positive to cervical cancer which detected by cancer antigen 125 CA 125.

7. Recommendations:

Based on the finding of the present study, the following recommendations are suggested that:

1. Health care provider to be trained on cervical cancer screening skills and early detection of breast cancer among women .
2. Design health education program to enhancing women awareness regarding common cancer among women at age reproductive.
3. Ministry of health should initiate community based outreach services regarding prevention of cancer among women at Beni-Suef Governorate.

Future study:

Similar study on large sample needed and study other factors leading to cancer.

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