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Role and outcome of primary health care centers in screening and early detection of breast cancer in Baghdad

Hind Zuhair Abdulsattar[1*], Mohsin A. A. sahib[2], Najim ALKhaldy[3]

Senior resident, AL-Yarmouk general teaching hospital, Baghdad, Iraq[1]
Professor, Dept. of histopathology, Ghazi AL-Hariri Hospital for specialized surgery Baghdad, Iraq[2]
Assistant prof.(C.A.B.S - F.I.C.M.S) head of cancer screening fellow ship Tumor women center Al-elweiya maternity teaching hospital[3]

Corresponding author: 1*

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ABSTRACT

Accurate risk assessment for breast cancer is needed for risk-adapted screening and prevention strategies; risk assessment combining classic risk factors and mammographic density may be valid for many years after evaluation Aim of the study to explore the application of breast cancer screening and early detection program in primary health care centers, determine the clinically relevant outcomes for these patients. Retrospective study by taking information from al-Elwiya women health recording system. The data obtained from information system database for women who came early detection breast cancer clinic. To differentiation between two main differences (initial diagnosis with the age) the mass detection at age 37-+12.0 years while screening at age 49.5-+9.4 and by final diagnosis the mean age of benign mass detection 38.4-+10.7 and the malignant mass 38.0-+8.3 year. With comparison between initial and final diagnosis most of clients complained from pain had mastalgia (87.4%), and 39 (59.15%) of those complaining from mass had benign mass and 21 (95.5%) client seeking for screening program was normal. Women can complain from breast problems common complaining was breast pain, which is mostly benign condition, malignancy, could come at any age and have many presentations or even without; screening was inactivated in Iraqi PHC.

1. INTRODUCTION

Accurate risk assessment for breast cancer is needed for risk-adapted screening and prevention strategies; risk assessment combining classic risk factors and mammographic density may be valid for many years after evaluation [1]. The recommended screening tools for early detection of this fatal disease are: breast self-examination (BSE), clinical breast examination and mammography [2]. BSE is simple, inexpensive, no need for technology, teaching is possible to both health providers and women to raises awareness about

breast cancer in women. It is argued that in many countries, especially in developing countries, BSE may be the only realistic tool to the early detection of breast cancer [3]. Clinical breast examination (CBE)is relatively simple and inexpensive but the exact benefit of this screening modality in reducing mortality is yet to be established It is argued that in diagnosis of breast cancer by screening the shift should be to the point that will cost least both in human and financial terms and be effective in reducing mortality, and that clinical breast examination would be able to fulfill this [3]. A review of controlled trials and case-control studies that included CBE as a screening modality estimated CBE sensitivity and specificity to be 54% and 94% [4]. Early diagnosis from mammography screening reduces breast cancer mortality by 20% in the general population [5]. New legislation in several states requiring breast density notification in all mammogram reports has increased awareness of breast density. Estimates indicate that up to 50% of women undergoing mammography will have high breast density; thus, with increased attention and high prevalence of increased breast density, it is crucial that primary care physicians understand the implications of dense breasts and are able to provide appropriate counseling [6]. It is noted that in fact none of the above tools for breast cancer screening could be regarded as the best method for early detection and mortality reduction. These approaches have their own potential benefits and harms. Thus, at present the emphasis is to raise breast cancer awareness among women to overcome ever-increasing burden of the disease. It appears that overall the best way to save women's life is to make them aware of the potential benefits and harms of these approaches and to raise their knowledge about the warning signs of breast cancer.

At present in addition to public health professionals, even oncologists advise breast awareness over routine (SBE) [7]. However, one should not confuse between breast cancer awareness and breast self-examination since these are not the same. Breast cancer awareness can be defined as 'a woman becoming familiar with her own breasts and the way that they will change throughout her life' [8]. Breast cancer early detection and screening clinic was introduced in Iraq in 2000. In this program, all women aged 40 years annually used to be examined. They can be screened at any hospital screening and early detection units. Mammography are evaluated by radiologists in an independent single-reading setting. When suspect findings are observed, the woman will be recalled for additional imaging and, if necessary, fine needle aspiration and cytological reading. In 2007, the screening program switched from screen-film to digital mammography. Digital mammography was introduced in the hospitals several years before [9]. Many countries have a breast cancer screening program [10]. The intention of these programs is to find breast cancers at an early stage, to increase the chance of successful treatment and to prevent premature mortality [11], the programs do not work equally well for all women. Key prerequisites for early detection are ensuring that women are supported in seeking care and that they have access to appropriate, affordable diagnostic tests and treatment [12]. Although mammography machines, as main screening tools for breast cancer, are available in the major hospitals in each province in Iraq, yet those are mainly used for diagnostic purposes in patients who present with palpable breast lumps. Obviously, due to cost effective measures and the economic challenges that Iraq is facing, it is not expected that the authorities could provide mammography devices across every health care center in the country to be used for screening of all Iraqi women. Other obstacles include the lack of resources illustrated in the inadequate number of well-trained radiologists and radiographers coupled by the insufficient standardized quality control procedures. That urges the necessity to promote other feasible screening tools to support in diagnosing breast cancer [13]. CBE is recommended as a feasible cost effective approach for detecting breast lumps specifically in young and premenopausal women; where the peak frequency of breast cancer is demonstrated and where the mammograms are less sensitive. Thus, Iraqi Physicians are expected to perform CBE for women starting at the age of 20 years, as a part of her routine check-up every 2-3 years, increasing to once a year from the age of 30. Women at high risk of breast cancer should be encouraged to have annual BSE after the age of 25. Once an abnormality is detected, the patient should be referred for mammography and other relevant diagnostic investigations [4]. Aim of the study;

1- To explore the application of breast cancer screening and early detection program in primary health care centers that drain to women health clinic at Al-Elwiyaa teaching hospital,
2- identifying suspicious signs and symptoms in primary care and priority referral for diagnostic workup, and
3- determine the clinically relevant outcomes for these patients.

2. Method

Study design and place: retrospective study by taking information from al-Elwiya women health recording system. Time of study: the data obtained from information system data base during January 2020 till the end of December 2020, for women who came early detection breast cancer clinic. 2800 file was investigated only232 file are referred from primary health care centers. Clinical breast examination by general practitioner or family medicine specialist done and chief complain with notification of family history of breast cancer and the initial diagnoses was proven on referral paper that fixed in patient file of woman health unit of Al-Elwiya Teaching Hospital, further evaluation including sonography, mammography, hormonal assay and even fine needle aspiration done at same day of referral paper, because it is not available in primary health centers. Statistical analysis done by SPSS 22, frequency and percentage used for categorical data, mean and SD for continuous data. Chi-square used for assessed association between categorical variables, ANOVA used for assessed association between continuous variables. P-value less or equal to 0.05 is consider significant.

3. Results

The total number of data collected from January 2020 till end of December was 232 case complaining from breast problem or for screening whose referred from PHC, age of client's women visit primary health care was from 15 years till above 60 years with main 38.3 years and standard division 11.7 year (table 1). Most of them came for early detection clinic was presented with pain (58.2%), mass (28.4%), and nipple discharge (3.9%) while only 22 (8%) came for screening (table 2), by final diagnosis in breast clinic after taking history, examination, investigation, mammography and sonography most of them was mastalgia 120 client (51.7%) and 65 (28%) had mass (55 benign and 10 malignant) 23.7% and4.3% respectively (table2). By using ANOVA test at 0.05 level to differentiation between two main differences (initial diagnosis with the age) the mass detection at age 37-+12.0 years while screening at age 49.5-+9.4 and by final diagnosis the mean age of benign mass detection 38.4-+10.7 and the malignant mass 38.0-+8.3 year (table3). With comparison between initial and final diagnosis most of clients complained from pain had mastalgia (87.4%), and 39 (59.15%) of those complaining from mass had benign mass and 21 (95.5%) client seeking for screening program was normal (table4).

4. Discussion

Breast cancer remains a worldwide public health problem and is currently the most common tumor in the globe. Awareness of breast cancer, screening and early detection is the key to increase survival. The Iraqi early detection model was effective with a high cancer detection rate, and most women participated by self-referral as reported in research done in the Breast Disease Treatment Center in the Sulaimani province in Iraq [14]. Most of clients age visit primary health care centers are within 20 to 50 years old with mean age 38.3 years, this may be due to women at this age had awareness in breast disease and breast self-examination more than other age. Breast pain is the most complaining symptoms in most of women at any age, it could be cyclic or non-cyclic, related to mammary gland or not related, unfortunately those details were not found in information system data base were the data was obtained, the mean age complaining from pain visit PHC in this study was 37.8 years' old this frankly similar study in duhok in north of Iraq (mean age was 34 years) [15] most of them diagnosed mastalgia and only 2 cases diagnosed malignant and this a

good sign to women afraid from breast pain, pain could be due to menstruation or drug intake or even psychological stress [15]. Only 2 cases (1.5%)had breast pain and by further investigation had malignant lesion this result agree with study in tertiary academic hospital in Canada [16] and also in another study in America in 2019 [17]. Low percent (9.5%) visit PHC for screening in comparison with another study in Pakistan 56.1% [19], this because of less effective screening program in our country, lack of screening practice in PHC, while in Pakistan the screening program was activated from 35 year of women age and is mandatory. In related to age of breast cancer diagnosis, the mean age was 38 which less than age in another study in Baghdad which record the mean age of breast cancer was 51 years old [19], also it less than WHO guide line and this age is away from the median age of breast cancer diagnosis is 58 years for Black women compared with 62 years for White women in united states of America [20]. This might be due to under estimation of the malignant cases in PHC of Iraq which lead these women had serious condition will visit the secondary or tertiary health care centers. Regarding to nipple discharge, in our study it found 3.9% of total women visit PHC, this percentage agrees with another study in united states in 2015 which reported 2-5% of medical visits by women complaining of nipple discharge [21]. Nipple discharge is stressful condition to women but it usually benign condition [22]. Most of women initially diagnosed had same final diagnosis after further diagnostic tools, like breast pain after further instigation in breast clinic diagnosed as mastalgia (87.4%), this reflect the effectiveness of clinical breast examination in PHC centers in comparison with final diagnoses after further diagnostic tools.

5. Conclusion

Iraqi PHC clinical examination have high rate of accuracy about breast problems, but the lack of the other investigational resources make women referred to the secondary breast health clinic to complete their assessments. At any age, the woman or women can complain from breast problems, the most common complaining was breast pain, which is mostly benign condition, malignancy, can come at any age and have many presentations or even without; screening was inactivated in Iraqi PHC.

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nipple discharge." The American surgeon 72.2 (2006): 124-128.

Table 1: The mean age of client visits PHC

		No	%
Age (years)	<20years	7	3.0
	20---29	51	22.0
	30---39	66	28.4
	40---49	69	29.7
	50---59	28	12.1
	=>60years	11	4.7
	Mean±SD (Range)	38.3±11.7 (14-69)	

Table 2: The number and percentage of client chief complain

			No	%
Initial diagnosis by family physician in PHCC	Pain		135	58.2
	Mass		66	28.4
	Screening		22	9.5
	Nipple discharge	9		3.9
				100
Final diagnosis by breast clinic in Secondary HCC	Normal		39	16.8
	Mastalgia		120	51.7
	Benign mass		55	23.7
	Malignant mass		10	4.3
	Hormonal disturbance	8		3.4
	Abscess	-		-
				100

Table 3: Relation between client chief complain and age and between final diagnosis and age:

		Age (years)	
Initial diagnosis by family physician in PHCC	Pain	37.8±10.9 (17-69)	0.0001*
	Mass	37.0±12.0 (14-65)	
	Screening	49.5±9.4 (31-68)	
	Nipple discharge	27.6±6.8 (16-39)	
Final diagnosis by breast clinic in Secondary HCC	Normal	43.6±13.4 (20-68)	0.002*
	Mastalgia	37.2±11.3 (14-69)	
	Benign mass	38.4±10.7 (18-65)	
	Malignant mass	38.0±8.3 (24-49)	
	Hormonal disturbance	27.4±7.2 (16-39)	
	Abscess	-	

*Significant difference among more than two independent means using ANOVA-test at 0.05 level.

Table 4: the relation between initial diagnosis in PHCC and final diagnosis in SHCC

Initial diagnosis by family physician in PHCC	Normal	Mastalgia	Benign mass	Malignant mass	Hormonal disturbance	Abscess	%
Pain	1 (0.7%)	118 (87.4%)	14 (10.4%)	2 (1.5%)	0 (0%)	0 (0%)	100
Mass	17 (25.8%)	2 (3%)	39 (59.1%)	8 (12.1%)	0 (0%)	0 (0%)	100
Screening	21 (95.5%)	0 (0%)	1 (4.5%)	0 (0%)	0 (0%)	0 (0%)	100
Nipple discharge	0 (0%)	0 (0%)	1 (11.1%)	0 (0%)	8 (88.9%)	0 (0%)	100