



RELUCTANCE AMONG BREAST CLINIC ATTENDANTS FOR SCREENING SERVICES IN AL-YARMOUK TEACHING HOSPITAL IN BAGHDAD

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Article Received date: 11 January 2024

Article Revised date: 01 February 2024

Article Accepted date: 22 February 2024



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INTRODUCTION

Breast cancer remains a predominant global health concern, accounting for considerable morbidity and mortality worldwide. It is one of the leading causes of death globally, responsible for an estimated 9.6 million deaths in 2018.^[1] Among women, breast cancer has the highest global prevalence, posing a significant threat to female health.^[2,3] Early detection and appropriate treatment are paramount in improving breast cancer prognosis.^[4] The incidence of breast cancer in Iraq has seen a notable increase from 2000 to 2019, during this period, 72,022 cases of breast cancer among women were identified. The average age-standardized incidence rate (ASIR) was 37.883 per 100,000 women, with a significant rising trend observed throughout the study period. The average annual percentage change (AAPC) was +3.192%. This increase was particularly significant in various age groups, including those aged 40-49, 50-59, 60-69, and over 70 years. Compared to other countries, Iraq's rate of breast cancer ASIR is considered moderate.^[5] Two key components define the early detection strategy: education for early diagnosis and rigorous screening. Regular screening tests, such as breast self-examination, clinical breast examination (CBE) and mammography, are essential for early diagnosis, offering a better chance for effective treatment and recovery.^[6] The Centers for Disease Control and Prevention recommend biennial mammography screening for women aged 50–74 years, a practice proven to reduce mortality rates and lessen the healthcare system's burden.^[7] Despite the known benefits of screening, disparities in access and utilization of breast cancer screening services are evident, influenced significantly by socioeconomic status (SES).^[8,9] Education level and occupational class significantly influence the likelihood of women undergoing screening, with those who are better educated and hold higher occupational positions being more inclined to do so.^[10] Interestingly, countries with universal access to healthcare exhibit lower socioeconomic inequalities in breast cancer screening.^[11] Addressing these disparities is crucial. Government agencies are encouraged to implement comprehensive screening programs accessible to all social classes, thereby increasing attendance and reducing inequalities.^[4] However, challenges persist, particularly in developed countries where women of higher SES are more likely to participate in screening programs and consequently exhibit higher survival rates.^[12] To promote equitable screening uptake, understanding the distribution of breast cancer screening across social groups is vital. This knowledge can inform policies targeting specific socioeconomic groups, ensuring that all segments of the population benefit from organized screening programs. Such equitable access has been shown to reduce socioeconomic disparities in breast cancer mortality, as evidenced in Florence, Italy.^[13] Breast cancer in Iraq presents significant challenges due to late diagnoses, cultural stigmas, and limited healthcare access. Many women delay seeking medical advice because of social barriers and a lack of awareness, leading to advanced disease stages and higher mortality. Iraq's healthcare system, strained by economic issues and conflicts, struggles with providing adequate cancer care. Efforts are underway to improve outcomes, including public education campaigns and the development of specialized cancer centers. A multi-faceted approach involving government, healthcare providers, and international aid is essential for enhancing breast cancer care in Iraq.^[14,15] The aim of study is to identify the reluctance toward breast cancer screening services and its relationship to educational level.

METHOD

A Cross sectional study of 400 females attending to breast clinic for screening in Al-Yarmouk teaching hospital in Baghdad/Iraq. the study was done for the period of January 2023 to December 2023. All patient's records were reviewed. The requested information was; Age (years), Marital state, Occupation, Residency, Family history of breast Cancer, Family history of another Cancer, patient's education, the aim of visit to the breast clinic. Females also asked about Knowledge of what is a self-breast examine (yes or no), Self-breast exam in last 12 months (Never, 1-3 times, 4-6 times), Clinical exam in last 12 Months (zero, 1 time, 2-6 times),

Time since last mammography (0-1, >1, never). Chi-square used for assessed association between categorical variables. P-value less or equal to 0.05 is consider significant.

RESULTS

Mean age 44.5 ± 11.7 years, 255 (63.8%) of females at age more than 40 years old, 284 (71%) of them are married, 208 (52%) of females are employed, 392 (98%) of them live in urban area, 258 (64.5%) of females have no family history, 335 (83.8%) of females have no Family history of another cancer. As shown in table 1.

Table 1: Distribution of females according to study variables.

variables		frequency	percentage
Age groups (years)	<i><40</i>	145	36.2
	<i>40 more</i>	255	63.8
Marital state	<i>married</i>	284	71.0
	<i>unmarried</i>	59	14.8
	<i>widow</i>	57	14.2
Occupation	<i>housewife</i>	192	48.0
	<i>employee</i>	208	52.0
Residency	<i>rural</i>	8	2.0
	<i>urban</i>	392	98.0
Family history of breast Cancer	<i>first degree</i>	74	18.5
	<i>second degree</i>	68	17.0
	<i>no FH</i>	258	64.5
Family history of another Cancer	<i>no</i>	335	83.8
	<i>other</i>	37	9.3
	<i>ovary</i>	5	1.3
	<i>pancreas</i>	3	0.5
	<i>stomach</i>	7	1.8
	<i>uterus</i>	13	3.3
Total		400	100

As shown in table 2, 269 (67.2%) of females have no Knowledge of what a self-exam, 278 (69%) of females have never Self-breast exam in last 12 months, 296

(74%) of females have zero clinical breast exam in last 12 months, 296 (74%) of females have never Time since last mammography.

Table 2: Distribution of females according to study variables.

variables		frequency	percentage
Knowledge of what a self exam	<i>yes</i>	131	32.8
	<i>no</i>	269	67.2
Self-breast exam in last 12 months	<i>Never</i>	278	69.0
	<i>1-3</i>	115	28.8
	<i>4-6</i>	5	1.2
Clinical exam in last 12 Months	<i>zero</i>	296	74.0
	<i>1</i>	89	22.2
	<i>2-6</i>	15	3.8
Time since last mammography	<i>0-1</i>	29	7.2
	<i>>1</i>	75	18.8
	<i>never</i>	296	74.0
Total		400	100

As shown in Fig 1; 193 (48.25%) of females have college education, 207 (51.75%) of them have secondary and less education.

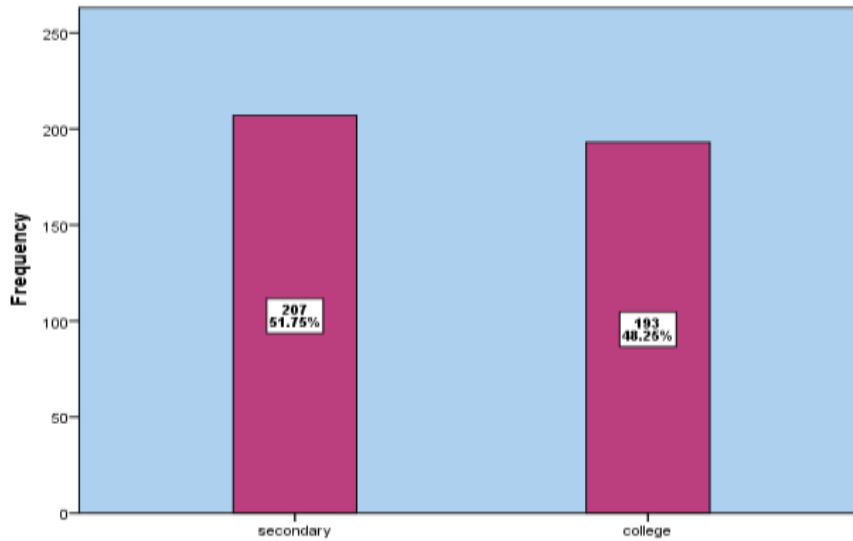


Fig 1: distribution of females according to educational state.

As shown in table 3, there is significant between education and Knowledge, 95 (72.5%) of females have college education are good Knowledge. Also there is significant between education and SBE, 80 (69.6%) of females have college education have 1-3 SBE, while 108 (38.8%) of females have college education have zero

SBE. There is significant between education and CBE, 53 (59.6%) of females have college education have 1 CBE, while 132 (44.6%) of females have college education also have zero CBE. There is no significant between education and Times since last mammography.

Table 3: Association between education and study variables.

Variables		Education level		P-value
		Secondary and less	College	
Knowledge	Yes	36 (27.5%)	95 (72.5%)	0.0001
	No	171 (63.6%)	98 (36.4%)	
Self Breast Examination (SBE)	zero	170 (61.2%)	108 (38.8%)	0.0001
	1-3	35 (30.4%)	80 (69.6%)	
	4-6	1 (20%)	4 (80%)	
	7≤	1 (50%)	1 (50%)	
Clinical Breast Examination (CBE)	zero	164 (55.4%)	132 (44.6%)	0.04
	1	36 (40.4%)	53 (59.6%)	
	2-6	7 (46.7%)	8 (53.3%)	
Time since last mammography	0-1	11 (37.9%)	18 (62.1%)	0.3
	>1	40 (53.3%)	35 (46.7%)	
	never	156 (52.7%)	140 (47.3%)	

DISCUSSION

The recent statistics on breast cancer screening and awareness among females present a compelling narrative about the impact of education, age, and urban living on health behaviors and awareness. With the mean age of females in the study being 44.5 ± 11.7 years, a significant majority (63.8%) being over 40 years old, and 71% married, the demographic profile is reflective of a key target group for breast cancer screening initiatives.^[16] A striking 98% of these females reside in urban areas, suggesting that urban living may influence health-seeking behavior, though not necessarily translating to higher screening rates. This is in line with findings from other regions, showing that urban women,

despite better access to healthcare facilities, do not always participate in regular screening.^[17] The data revealing that 64.5% of females have no family history of breast cancer, and 83.8% have no family history of other cancers, challenge the common perception that family history is a primary motivator for screening. This aligns with studies emphasizing the need for wider awareness campaigns that go beyond the high-risk groups.^[18] Notably, 67.2% of females lack knowledge about self-exams, and 69% have not performed a self-breast exam in the last 12 months. This gap in awareness and practice is a critical area for intervention, as emphasized in similar studies.^[19] Furthermore, the fact that 74% have neither had a clinical breast exam nor a

mammography in the past year highlights a significant lapse in screening practices. This trend is consistent with global observations, where screening rates are often suboptimal.^[20] **Education and Knowledge of Breast Cancer:** The high percentage (72.5%) of college-educated females with good knowledge about breast cancer underscores the impact of education on health awareness. Educational attainment appears to correlate positively with awareness and understanding of breast cancer, suggesting that education plays a crucial role in promoting health literacy. This is supported by studies showing a direct correlation between higher education levels and increased health knowledge.^[21] **Education and Self-Breast Examination (SBE):** The data suggests a significant correlation between higher education and the practice of SBE. 69.6% of college-educated women perform 1-3 SBEs, compared to a lower percentage of those with less education. This aligns with findings that education positively influences health-related behaviors.^[22] **Education and Clinical Breast Examination (CBE):** Similar to SBE, a higher percentage of college-educated women (59.6%) undergo at least one CBE, compared to those with no college education. This further emphasizes the role of education in promoting proactive health behaviors.^[23] **Education and Mammography:** Interestingly, no significant correlation was found between education level and the time since last mammography. This might indicate that factors other than education, such as access to healthcare services or cultural beliefs, play a more significant role in influencing this particular behavior.^[24]

CONCLUSION

The data reveals a notable gap in breast cancer awareness and screening practices among women, particularly in relation to educational background. While a majority reside in urban areas and are over 40, their engagement in self-breast exams and clinical screenings is low. Interestingly, higher education correlates with better knowledge about breast health, but it doesn't significantly influence the frequency of mammography. These findings underscore the need for targeted educational and healthcare initiatives to enhance awareness and screening practices, particularly among women with lower educational levels.

REFERENCES

- Lozano, R.; Naghavi, M.; Foreman, K.; Lim, S.; Shibuya, K.; Aboyans, V.; Abraham, J.; Adair, T.; Aggarwal, R.; Ahn, S.Y.; et al. Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: A systematic analysis for the Global Burden of Disease Study, 2010. *Lancet* 2012; 380: 2095–2128. [CrossRef]
- Bray, F.; Ferlay, J.; Soerjomataram, I.; Siegel, R.L.; Torre, L.A.; Jemal, A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA A Cancer J. Clin.* 2018; 68: 394–424. [CrossRef] [PubMed]
- WHO. Cancer. Available online: <https://www.who.int/news-room/factsheets/detail/cancer> (accessed on 1 January 2020).
- Palència, L.; Espelt, A.; Rodríguez-Sanz, M.; Puigpinós-Riera, R.; Pons-Vigués, M.; Pasarín, M.I.; Spadea, T.; Kunst, E.A.; Borrell, C. Socio-economic inequalities in breast and cervical cancer screening practices in Europe: Influence of the type of screening program. *Int. J. Epidemiol.* 2010; 39: 757–765.
- Al-Azawi S, Alwan NAS, Ibrahim AA, Ibrahim NA, Zalzal ZH, Mohammed HA, Khudhair MS. Trends in Breast Cancer Incidence in Iraq During the Period 2000-2019. *Asian Pac J Cancer Prev*, 2021; 22(12): 3889-3896.
- Lauby-Secretan, B.; Scoccianti, C.; Loomis, D.; Benbrahim-Tallaa, L.; Bouvard, V.; Bianchini, F.; Straif, K. Breast-Cancer Screening—Viewpoint of the IARC Working Group. *N. Engl. J. Med.* 2015; 372: 2353–2358.
- Tabár, L.; Fagerberg, C.J.; Gad, A.; Baldetorp, L.; Holmberg, L.H.; Gröntoft, O.; Ljungquist, U.; Lundström, B.; Månson, J.C.; Eklund, G. Reduction in mortality from breast cancer after mass screening with mammography. Randomised trial from the Breast Cancer Screening Working Group of the Swedish National Board of Health and Welfare. *Lancet*, 1985; 1: 829–832.
- Zackrisson, S.; Andersson, I.; Manjer, J.; Janzon, L. Non-attendance in breast cancer screening is associated with unfavourable socio-economic circumstances and advanced carcinoma. *Int. J. Cancer*, 2003; 108: 754–760.
- Duport, N.; Ancelle-Park, R.; Boussac-Zarebska, M.; Uhry, Z.; Bloch, J. Are breast cancer screening practices associated with sociodemographic status and healthcare access? Analysis of a French cross-sectional study. *Eur. J. Cancer Prev*, 2008; 17: 218–224.
- Damiani, G.; Federico, B.; Basso, D.; Ronconi, A.; Bianchi, C.; Anzellotti, G.M.; Nasi, G.; Sassi, F.; Ricciardi, W. Socioeconomic disparities in the uptake of breast and cervical cancer screening in Italy: A cross sectional study. *BMC Public Health*, 2012; 12: 99.
- Koç, H.; O'Donnell, O.; Van Ourti, T. What Explains Education Disparities in Screening Mammography in the United States? A Comparison with The Netherlands. *Int. J. Environ. Res. Public Health*, 2018; 15: 1961.
- Aarts, M.J.; Voogd, A.C.; Duijm, L.E.M.; Coebergh, J.W.W.; Louwman, M. Socioeconomic inequalities in attending the mass screening for breast cancer in the south of the Netherlands—Associations with stage at diagnosis and survival. *Breast Cancer Res. Treat.*, 2011; 128: 517–525.
- Puliti, D.; Miccinesi, G.; Manneschi, G.; Buzzoni, C.; Crocetti, E.; Paci, E.; Zappa, M.A. Does an organized screening programme reduce the

- inequalities in breast cancer survival? *Ann. Oncol*, 2012; 23: 319–323.
14. Alwan NA. Breast cancer: demographic characteristics and clinico-pathological presentation of patients in Iraq. *East Mediterr Health J*, 2010 Nov; 16(11): 1159-64. PMID: 21218740.
 15. Khalaf H, Mohammed A, Shukur S, Alhalabi N, Almothafar B, Hassan M, Abu A. Breast cancer: age incidence, hormone receptor status and family history in Najaf, Iraq. *J Med Life*, 2022 Oct; 15(10): 1318-1321. doi: 10.25122/jml-2022-0296. PMID: 36420288; PMCID: PMC9675305.
 16. Moey SF, Mutalib AMA, Mohamed NC, Saidin N. The relationship of socio-demographic characteristics and knowledge of breast cancer on stage of behavioral adoption of breast self-examination. *AIMS Public Health*, 2020 Aug 6; 7(3): 620-633.
 17. Rathbun KP, Loerzel V, Edwards J. Personal Perception of Health in Urban Women of Low Socioeconomic Status: A Qualitative Study. *J Prim Care Community Health*, 2020 Jan-Dec; 11: 2150132720925951.
 18. Seiffert K, Thoene K, Eulenbug CZ, Behrens S, Schmalfeldt B, Becher H, Chang-Claude J, Witzel I. The effect of family history on screening procedures and prognosis in breast cancer patients - Results of a large population-based case-control study. *Breast*, 2021 Feb; 55: 98-104.
 19. Kumarasamy H, Veerakumar AM, Subhathra S, Suga Y, Murugaraj R. Determinants of Awareness and Practice of Breast Self Examination Among Rural Women in Trichy, Tamil Nadu. *J Midlife Health*, 2017 Apr-Jun; 8(2): 84-88.
 20. Zhang L, Mosquera I, Lucas E, Rol ML, Carvalho AL, Basu P; CanScreen5 collaborators. CanScreen5, a global repository for breast, cervical and colorectal cancer screening programs. *Nat Med*, 2023 May; 29(5): 1135-1145.
 21. Biswas S, Syiemlieh J, Nongrum R, Sharma S, Siddiqi M. Impact of Educational Level and Family income on Breast Cancer Awareness among College-Going Girls in Shillong (Meghalaya), India. *Asian Pac J Cancer Prev*, 2020 Dec 1; 21(12): 3639-3646. doi: 10.31557/APJCP.2020.21.12.3639. PMID: 33369463; PMCID: PMC8046293.
 22. Koç H, O'Donnell O, Van Ourti T. What Explains Education Disparities in Screening Mammography in the United States? A Comparison with The Netherlands. *Int J Environ Res Public Health*, 2018 Sep 8; 15(9): 1961. doi: 10.3390/ijerph15091961. PMID: 30205539; PMCID: PMC6163342.
 23. Noman S, Shahar HK, Abdul Rahman H, Ismail S, Abdulwahid Al-Jaberi M, Azzani M. The Effectiveness of Educational Interventions on Breast Cancer Screening Uptake, Knowledge, and Beliefs among Women: A Systematic Review. *Int J Environ Res Public Health*, 2020 Dec 31; 18(1): 263. doi: 10.3390/ijerph18010263. PMID: 33396424; PMCID: PMC7795851.
 24. Patel K, Kanu M, Liu J, Bond B, Brown E, Williams E, Theriot R, Bailey S, Sanderson M, Hargreaves M. Factors influencing breast cancer screening in low-income African Americans in Tennessee. *J Community Health*, 2014 Oct; 39(5): 943-50. doi: 10.1007/s10900-014-9834-x. PMID: 24554393; PMCID: PMC4165808.