

# Mammographic Trends of Pakistani Women Single Institutional Study

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## ABSTRACT

**Background:** Breast carcinoma is the most common cancer and leading cause of cancer related death in women world wide. Mammography is currently the gold standard method to screen & diagnose the breast carcinoma at early stage.

**Materials and Methods:** This retrospective cross sectional study is conducted in department of Diagnostic Radiology PUMHSW.SBA. Mammography examination including MLO & CC views performed between 1 January to 31<sup>st</sup> December 2020 are included in the study

**Results:** Total of 579 women were referred for mammogram in the department in this 12 month duration. Of these 225 ladies had no breast related complains while 354 women complained of breast symptoms. The mean age of the patients was 46 years and the most common complain was mastalgia (44%). Total 2316 mammogram examinations of 1158 breasts was performed including 900 & 1416 in screening and diagnostic settings respectively. Out of 900 screening mammogram 58 (6.4%) patients are reported BIRADS IV.

**Conclusions:** Our study noted reduce trend of screening mammogram in Pakistan women and 6.4% potential breast cancer can be detected in asymptomatic patients by screening mammogram.

## INTRODUCTION

Breast carcinoma is the most common cancer and leading cause of cancer related death in women worldwide [1,2]. In 2020, more than 2.3 million new cancer cases & 0.6 million cancer related death due to breast cancer were reported across the globe. In Pakistan, more than 25 thousand new cases of breast cancer were diagnosed & about 13725 patients died due to this cancer in 2020. The incidence & cumulative risk of breast cancer in Pakistan is estimated about 14.5% & 4.22 in 2020, highest among all Asian countries [3].

Mammography is the dedicated radiographic technique for imaging the human breast. The high resolution images of the breast are produced through specialized mammographic X ray system. Generally the mammography is of two types; screening and diagnostic. The screening mammography is performed on asymptomatic women to diagnose the breast cancer at early and pre clinical stage. The diagnostic imaging is performed in symptomatic patients or to further work up an abnormality found on screening examination. The routine standard mammogram comprises of bilateral mediolateral oblique (MLO) & cranio-caudal (CC) views. The supplementary views include true lateral, sport compression & magnification views [4,5].

The specific mammographic signs of breast carcinoma consists of speculated mass, architectural distortion and clustered microcalcification. The associated findings include nipple retraction, skin thickening and enlarged lymph nodes [6].

Mammography is currently the gold standard method to screen & diagnose the breast carcinoma at early stage [7]. Mammography screening has consistently be shown to significantly reduce breast cancer mortality in multiple studies [8 to 12]. Mammography reduces the rate of advanced & fatal breast cancers thus increases over all prognoses and marked reduction of financial burden. But there is no breast screening programme on national level and, mammography facility is offered in selected and limited centers in Pakistan.

The aim of the current study is to evaluate the clinical and mammographic characteristics of patients undergone mammography in public sector hospital of developing country (Pakistan).

## MATERIALS AND METHODS

After approval of ethical committee, this retrospective cross sectional study is conducted in department of radiology of Peoples

University of Medical & Health Science for Women Shaheed Benazirabad (PUMHSW.SBA). The mammographic examination performed from 1<sup>st</sup> January to 31<sup>st</sup> December 2020 are included in the study. Each woman clinical record is evaluated & recorded on proforma. Biopsy proven carcinoma of breast cases are excluded. The mammogram of both breasts was performed of each women. Two standard views including cranio-caudal (CC) & oblique mammogram (MLO) of each breast was acquired. The mammogram was evaluated by experienced radiologist and reported according to Breast imaging reporting and data system (BIRADS)

## RESULTS

Total of 579 women are referred for mammogram in our hospital in this 12 month duration. The age of the women ranges between 30 to 70 years with median age of about 46 years (table 1). Of these 225 ladies had no breast related complains while 354 women complained of breast symptoms. The most common symptoms are mastalgia (44%), followed by breast lump (41%), nipple discharge (13%) and nipple changes (2%) (Table 2).

Total 2316 mammogram examinations of 1158 breasts was performed including 900 & 1416 in screening and diagnostic settings respectively. The BIRADS distribution of the 450 screening mammography examinations is shown in Table 1. The BIRADS distribution of the 708 diagnostic mammography examinations is shown in Table 2.

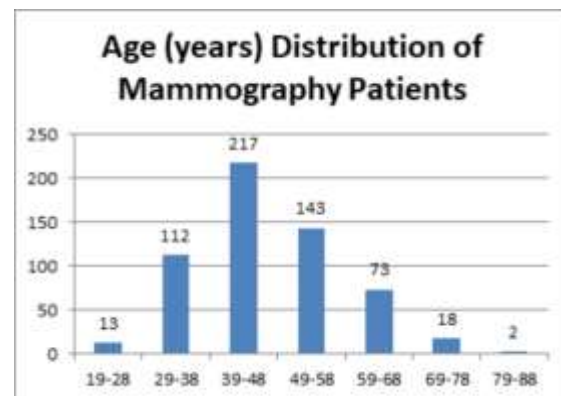


Figure 1: Age distribution of all patients

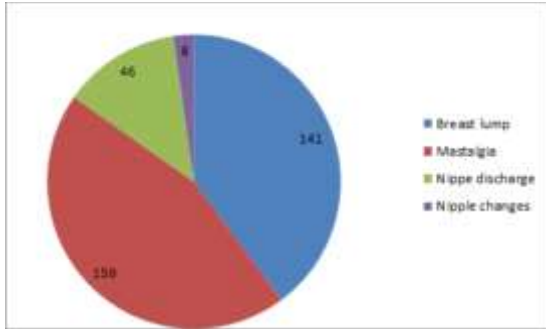


Figure 2: Breast related complains of the patients

Table 1: Screening mammography patients distribution into the BIRADS categories

BIRADS categories	No. of mammograms	% of mammogram
BIRADS 1	423	47
BIRADS 2	403	44.9
BIRADS 3	16	1.7
BIRADS 4	58	6.4
BIRADS 5	0	0
Total	900	100

Table 2: Diagnostic mammography patients' distribution into the BIRADS categories

BIRADS categories	No. of mammograms	% of mammograms
BIRADS 1	416	29.3
BIRADS 2	782	55.2
BIRADS 3	44	3.1
BIRADS 4	138	9.7
BIRADS 5	36	2.5
Total	1416	100

**DISCUSSION**

Breast cancer is number one malignancy amongst all cancers in both sexes in Pakistan. More than 25 thousand new cases of breast cancer were reported in 2020, highest (14%) than all cancers followed by oral cavity (9.5%) and lung (5.9%) cancers. More than 13 thousand deaths occurred due to breast cancer in 2020 far higher than due to other malignancy[3]. Multiple regional studies had reported higher burden of breast cancer in Pakistan in past[13,14,15] and rapid rising trend is estimated in future [16]. The ground reality in Pakistan is worst because multiple cases of breast cancer and related death are not reported as there is no authentic system/database of cancer detection, treatment or mortality exist on national level [17].

Mammography is the preferred screening examination for breast cancer and detects breast cancer in early stage thus markedly reduce the breast cancer mortality and morbidity. [8 to 12.]

To our knowledge, few studies analyzed the mammography trends and findings in Pakistani women. Overall we found that most of the ladies undergone mammogram secondary to any breast complain (61%) rather than for screening purposes (38%).This indicates most of the ladies lack awareness of breast cancer screening. The stimulation for screening in these ladies includes awareness through print & digital media and family history of breast cancer. Most of ladies comprised of younger age (59%) group and only 41% are of above 50 years. This shows increased trend of breast related problems in relatively younger age group. Breast pain is the frequent complain of our study patients and it probably secondary to benign cause and rarely related to breast carcinoma as described in previous studies [17,18&19]. Majority of the mammogram reported BIRADS-2 due to benign looking axillary lymph nodes

58 out of 900 screening mammogram are reported BIRADS IV, this indicates 6.4% women without any symptoms may carry risk of breast cancer and through this screening their disease canbe detected at early stage.

**CONCLUSIONS**

Our study noted reduce trend of screening mammogram in Pakistan women and 6.4% potential breast cancer can be detected in asymptomatic patients by screening mammogram. However this study, being single institutional, has limitations, large study on national level is required for further evaluation and outcome.

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