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Review Article

Feasibility Of Early Diagnosis Of Breast Cancer In Rural Women To Improve Outcomes Of Treatment In India – A Suggested Policy Perspective For The Global South.

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Abstract

Breast cancer, as per recent global figures, has become the most common malignancy in India with a life time risk of 1 in 29 in Urban women and 1 in 60 in rural women. Lack of awareness and access to good health care facilities and the non-availability of facilities for early detection leads to many of them from the rural community presenting for treatment at an advanced stage with poor outcomes. In view of the above, a scheme is suggested, as a policy perspective, on using Accredited Social Health Activists (ASHA) for this purpose, after training them, to perform Clinical Breast Examination. The screening should be done of rural women at prescribed intervals to enable early detection. Clinical Breast Examination has been proven to be an effective measure for early detection of breast carcinoma. Once this is achieved, the network of District Hospitals (over 800 in number) and Medical Colleges (once again over 800 in number) which are in proximity can be entrusted with managing and following up these patients as per prescribed guidelines.

Keywords: Breast cancer, Breast Carcinoma, Early detection, Outcomes of treatment.

In 2018, Breast cancer was the most frequently detected cancer in India constituting 27.7% of all new cancers. (1, 2). An estimated 1,62,468 women were newly detected with breast cancer and 87,090 women died of breast cancer which was the second highest in the world. It was estimated that one woman is diagnosed with breast cancer every 4 minutes and one woman dies of Breast cancer every 8 minutes (1). More recent figures according to GLOBOCAN 2022, confirm that Breast cancer remains the most common malignancy in India with 1, 92,020 new cases and 98,337 deaths every year. Indian women had a life time cumulative risk of breast cancer of 1 in 29, with the risk being 1 in 22 in urban areas and 1 in 60 in rural areas. (3-5).

Rural women constitute a much larger population group when compared to urban areas and do not have access to good health care. Also, awareness is poor, support from family episodic and often absent and there is lack of a proved mechanism for early detection near their homes. This results in most of them reaching health care facilities in an advanced stage. A study on 1210 patients from the records of Tata Memorial Hospital showed that patients of rural background and low educational status are more likely to present with advanced stage of breast Cancer (6). It is well known that managing locally advanced or metastatic breast carcinoma is far more expensive and has poorer outcomes than managing early breast carcinoma, largely because of the need of adjuvant drugs which are expensive and often less cost effective. Also, early detection will facilitate breast conservation surgery as opposed to Mastectomy and contribute to mental wellbeing, greater satisfaction and better quality of life of rural women. Unfortunately, there is no publication on this aspect in the rural context. Any proposed solution has to tackle all impediments to good outcome, viz, ignorance, lack of facilities for early detection and lack of organized, accessible and adequately manned and equipped treatment centres. The effort, therefore, needs to be on establishing processes

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for early detection of breast cancer in the rural population at or near their homes.

One should distinguish between screening for breast cancer and early detection. The term screening applies to women in general, who are at risk of disease but have no symptoms or detectable abnormalities where techniques like mammography are suitable. Mammography is an excellent screening instrument for detecting pre-clinical breast cancer but is not available for women in the villages.

It is well known that Breast self-examination and to a greater extent, clinical breast examination by a trained health care worker, can detect the carcinoma at a much earlier stage (7, 8). Breast self-examination requires motivation, comprehension of the process and the need for doing it regularly for meaningful results. Clinical breast examination on the other hand is done by well-trained health care personnel at regular intervals, in proximity to the place of residence of the potential candidates. This presentation does not compare the efficacy of BSE with CBE. In well-educated and motivated environments both may yield equal results. The point of the paper is to suggest a more acceptable and efficient method for early detection in the rural Indian context. The efficacy of CBE for detection of breast cancer at an earlier stage is well documented (9). This study also showed that biennial CBE led to significant down staging of breast cancer in all women (9).

However, in India, considering the level of awareness of the victims of breast cancer, the rural ambience and the compromised role of women in society, particularly in rural areas, it is unlikely that Breast Self-Examination can be propagated as a policy with meaningful impact and desirable results. Hence it is necessary to focus on Clinical Breast Examination by trained personnel. The Mumbai cluster randomized control trial of clinical breast examination for diagnosing breast cancer early, significantly down staged breast cancer at detection, with a significant reduction in proportion of women with stage III or IV disease. However, the reduction in breast cancer mortality of 15%, though large, was not significant statistically (9). This lack of significance may be due to sample size constraints in that study. It is well known that early detection of breast carcinoma enables breast conservation surgery and consequently better quality of life and is considerably less expensive for adjuvant therapy. Around the world, it is accepted that overall survival is better with early breast carcinoma.

Recently, an interesting article was published in the press, regarding use of visually compromised women, by training them and employing them for screening for breast cancer in the rural community (10). This concept had the added advantage of providing employment to the differently abled. However, this initiative is unlikely to be successful on a mass scale. What is required is to train a cadre of efficient female health workers, to do a detailed and accurate clinical breast examination, in or near the homes of the rural women, at prescribed intervals as per the guidelines, to identify those with features requiring further attention at higher centers. Being women themselves, they are more likely to be acceptable to the victims of breast diseases for conducting breast examination.

In India, "ASHA" or Accredited Social Health Activists" are employed for taking public health programs to the community as a part of the National Rural Health Mission and later the National Urban Health Mission. Their principal job is to function as health care facilitators, service providers and health educators. (11). India has over one million ASHA workers (10.29 lakhs) across 35 states and union territories. This large cadre of trained professionals of the female gender would go a long way in screening for breast cancer.

It is conceded that Asha workers are already supposed to be screening for breast, oral and cervical cancer under the Ayushman Bharat Scheme. However, this has to be scaled up after intensive training and supervision to make it efficient in view of the magnitude of the problem. In order to ensure they perform this additional task efficiently and with interest, a financial incentive structure can be created. In the initial phase, when the workload would be heavier to cover the whole of the previously unscreened "at-risk" population, ANMs (Auxiliary Nurse Midwives) may also be incentivized for this purpose. However, to enable ASHA workers to do an efficient clinical breast examination, they would have to undergo an intensive training program including with simulators with periodic refreshers. To ensure accuracy of Clinical Breast examination, initial number of examinations, say first 20 or so, should be observed and certified by medical officers to ensure accuracy of the examination. To prepare the community for this new initiative, the program should be preceded by awareness campaigns targeting both women and male family members (husbands and elders) to destigmatize breast health examinations and frame it as a routine wellness check and emphasise on the benefits of early detection. The screening should be done in proximity to the residences of the rural women at regular biennial intervals. Since this is suggested as a policy perspective, Government should mandate and enable Asha workers to do this CBE instead of trained health care workers so long as an ethical approval is obtained from the screened individual. The policy should protect them from being blamed for missing lesions in the breast or for a referring a case for further care which reveals no malignancy. This is inevitable in all breast lesions even when screened by clinicians and should be understood by the policy. This risk is there in every screening program even when done by clinicians in order to increase sensitivity of the screening process and not focus on specificity.

This program would also be in consonance with the UN Sustainable Development Goals for taking health related

initiatives to the masses for producing the world we want for the future (10).

In India, this new initiative would obviously be the responsibility of the Government as part of the duties of a welfare state. Initial screening of all women in villages in the at-risk age would be the most difficult part of the task; however, numbers to be screened at regular intervals, thereafter, would be lower. Having detected breast abnormality, it would be the responsibility of the female health worker (ASHA) to motivate and counsel the woman to seek further help for sustained relief and provide guidance on where to seek further investigations and management. Although, most countries use trained nurses for this purpose, for logistic reasons in India, we can use the ASHAs, since trained nursing cadre health workers are very much in short supply. Each area should be linked to a specific Government District Hospital or a medical college as decided by proximity. Confirmation of diagnosis can be done by appropriate measures at these centers as per guidelines. Appropriate surgery can be provided by general surgeons and chemotherapy where necessary, can be given at district Hospitals. It may be necessary to refer the women to adjacent medical colleges for radiation therapy as and when required. Alternately, a hub-and-spoke model can be employed, where medical colleges serve as regional specialized treatment hubs, while district hospitals focus primarily on initial diagnostics (biopsies) and specific post-chemotherapy follow-ups under remote specialist supervision.

We have in India over 800 medical colleges and over 800 district hospitals that are capable of effectively managing breast cancer once detected as per guidelines. These are scattered all over India and by their very distribution are accessible to the population across the country. What is required is support in this endeavor from the Government of India by instituting a program for National Screening of Breast Cancer and having a universal health insurance which can cover the cost of management of this problem as per regular guidelines without going into experimental therapy. The Government should also ensure that facilities and support for this National Program in the form of mammography and ultrasound facilities, biopsy and receptor assays and other requirement as per guidelines are available at these facilities. For the poor, this can become a part of the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PM-JAY) for health care, considering the seriousness of the issue. When detected early, costlier drugs such as monoclonal antibodies and other experimental drugs may not be required.

As per the policy of the Government of India, the four groups of population requiring maximum attention are the youth, the farmers, the poor and the women. Breast cancer has reached a state of becoming a National Emergency being the most common malignancy in India as per recent figures. Hence such a request is likely to find favor with the Government. The private and corporate hospitals may join in this endeavor voluntarily on accepting the insurance norms. This may lead to nearly 2000 or more centers available to provide appropriate diagnostic and therapeutic care. Private institutions may be incentivized to join this National Endeavour by appropriate recognition in accreditation processes. If adjuvant drugs are supplied through the Government of India cost price shops, this will further reduce the expenses. Being in relative proximity to patients' home, efficient follow up services can also be provided.

Since this is a new initiative, before starting the process at the National level it may be better to do a pilot project in a few districts to confirm feasibility and betterment of outcome. Once success is demonstrated, all round cooperation would ensue. Data gathered from these pilot studies would confirm feasibility, enable bottlenecks to be cleared and can be used to improve the training program of ASHA workers and referral links, if required.

This plan would go a long way in overcoming what is a constraint now, namely unawareness, lack of a mechanism of detection, counseling and access to appropriate health care at a reasonable distance. Although written specifically in the Indian context, this plan if found successful after a pilot study, would serve as a model for many resource scarce countries of the Global South who face the same problems as India, namely a high incidence of breast carcinoma, delay in diagnosis due to unawareness and distance from health care facilities of the rural population.

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