Mammography for Breast Cancer Screening in India - A Health Technology Assessment

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INTRODUCTION

Breast cancer is a major public health problem affecting millions of women in developed countries.
Various randomized controlled trials (RCTs) showed that mammographic screening substantially reduced breast cancer mortality.
Developed countries in Europe, North America, Australia, Japan, and others have initiated early detection programs for breast cancer that use mammography as the screening test.3
In most low-and-middle-income countries (LMIC) breast cancer incidence is lower than that in high-income countries.
However, the absolute number of deaths attributable to breast cancer in these countries is almost two times the number in high-income countries.

OBJECTIVES

To assess the clinical and cost-effectiveness of mammography for breast cancer screening in India.

MATERIALS AND METHODS

A systematic literature search was conducted in Cochrane library, MEDLINE, PUBMED, SCOPUS, and Google Scholar for relevant studies.
We identified 31 studies and literature filter started by scanning titles, abstracts, and the content of the articles according to inclusion criteria.
Finally, 12 studies were included in qualitative synthesis (Meta-analysis).
We estimated risk of bias using Cochrane collaborating guidelines.
Review Manager 5.2 was used to do the data analysis.
The key words used were “Breast Cancer” OR “Mammography” OR “Breast Cancer and Mammographic Screening.”

PICO:
Population: Females above 30 years of age.
Intervention: Mammography
Comparator: No Screening
Primary Outcome: Mortality
Secondary Outcome: Detection of Breast Cancer

RESULTS

Records excluded after abstract screening N=14

Full Text Articles excluded: N=5
• Studies with incomplete data, N=2
• Studies with irrelevant outcomes, N=2
• Study regarding safety and not on effectiveness, N=1

REVIEW OF BIAS

Random sequence generation (selection bias) 0%
Allocation concealment (selection bias) 0%
Blinding of participants and personnel (performance bias) 0%
Blinding of outcome assessment (selection bias) 0%
Incomplete outcome data (attrition bias) 0%
Selective reporting (reporting bias) 0%

Total records identified through database searching N=100

Records after duplicates removed N=31

Articles assessed for full-text eligibility N=17

Articles included for final review N=12

CONCLUSIONS

Annual screening of female population above 30 years of age could reduce breast cancer associated mortality by 24% mainly due to early detection of breast cancer.

Annual mammographic screening is a cost-effective strategy associated with an excellent social return on investment in this technology.

REFERENCES