

Awareness regarding carcinogens associated with Breast and Cervix cancer in Indian women -

A Narrative Review

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ABOUT

Basic Paradigm is a social enterprise which undertakes projects, implements ventures and activities that benefit groups of people beyond those directly involved in doing the work of the organization.

Established by a group of professionals associated with the social development sector, Basic Paradigm focuses on attaining good health and well-being as the last mile, and works towards attainment of Sustainable Development Goal 3. While Basic Paradigm operates as a social enterprise, it is also the for-profit and supporting arm of the not-for-profit organization SCHOOL (Society of Community Health Oriented Operational Links) and is governed by same set of boards of directors.

Along with a capable and expert team of professionals Basic Paradigm builds on decades of field experiences, to ensure better ways of addressing various development challenges. It brings in diverse expertise, and lessons learned that guide varied projects in planning, designing, implementing, monitoring and measuring results. In doing so, it partners with and assists organizations in arriving at strategic solutions to real-world problems; implementing new ideas and innovative approaches, along with ensuring cost-effectiveness and sustainability.

VISION

To bring about inclusive development to achieve sustainable development goals (SDGs)

MISSION

To work with vulnerable populations in ensuring good health and wellbeing as the last mile by addressing every single social determinant.

APPROACH

Integrated Solutions for a Sustainable Future

SCHOOL recognizes that there are different approaches, visions, models and tools available to achieve sustainable development globally, nationally and locally. These are in accordance with both, the circumstances and priorities.

- We advocate for integrated solutions to address current challenges through a cross-thematic approach.
- We emphasize a holistic approach for health impact, including education, empowerment, and equality.
- We believe that education, empowerment, and equality are vital for sustainable development impact on health.

KEY LEARNINGS

- Proposal Development- Parts, elements, steps, developing a quality proposal, developing a quality proposal, references for proposal.
- Research steps and process, sampling, and its types
- Identifying research gaps, and opportunities, framing the research question, generating hypotheses, and developing objectives.
- Types of research designs, and biases.
- Data, its types, and data collection methods. • Use of mapping listing, sketch map, and layout map during data collection.
- Learned to create a survey form on a computer's KoBo toolbox and use the KoBo collector application to collect data through Android.
- Data entry and descriptive analysis in SPSS.
- Dashboarding in Looker Studio.
- Learned to write a review article.

Difference between practical and theoritical exposure

During my time at Basic Paradigm, I realized that theory provides a comprehensive understanding of concepts by explaining the underlying reasons behind them. It offers insights based on the experiences of others.

On the other hand, practical experience enables one to grasp how things actually work in the real world. This hands-on experience enhanced my understanding of concepts, as I could relate to them through personal involvement and firsthand encounters.

Usefulness of internship

- As for me, I felt after working with Basic Paradigm made me realize how important theoretical exposure and learning are.
- Additionally, this training made me more aware of the dynamics of the real corporate world and how flexibility, planning, and consistency are crucial to success.

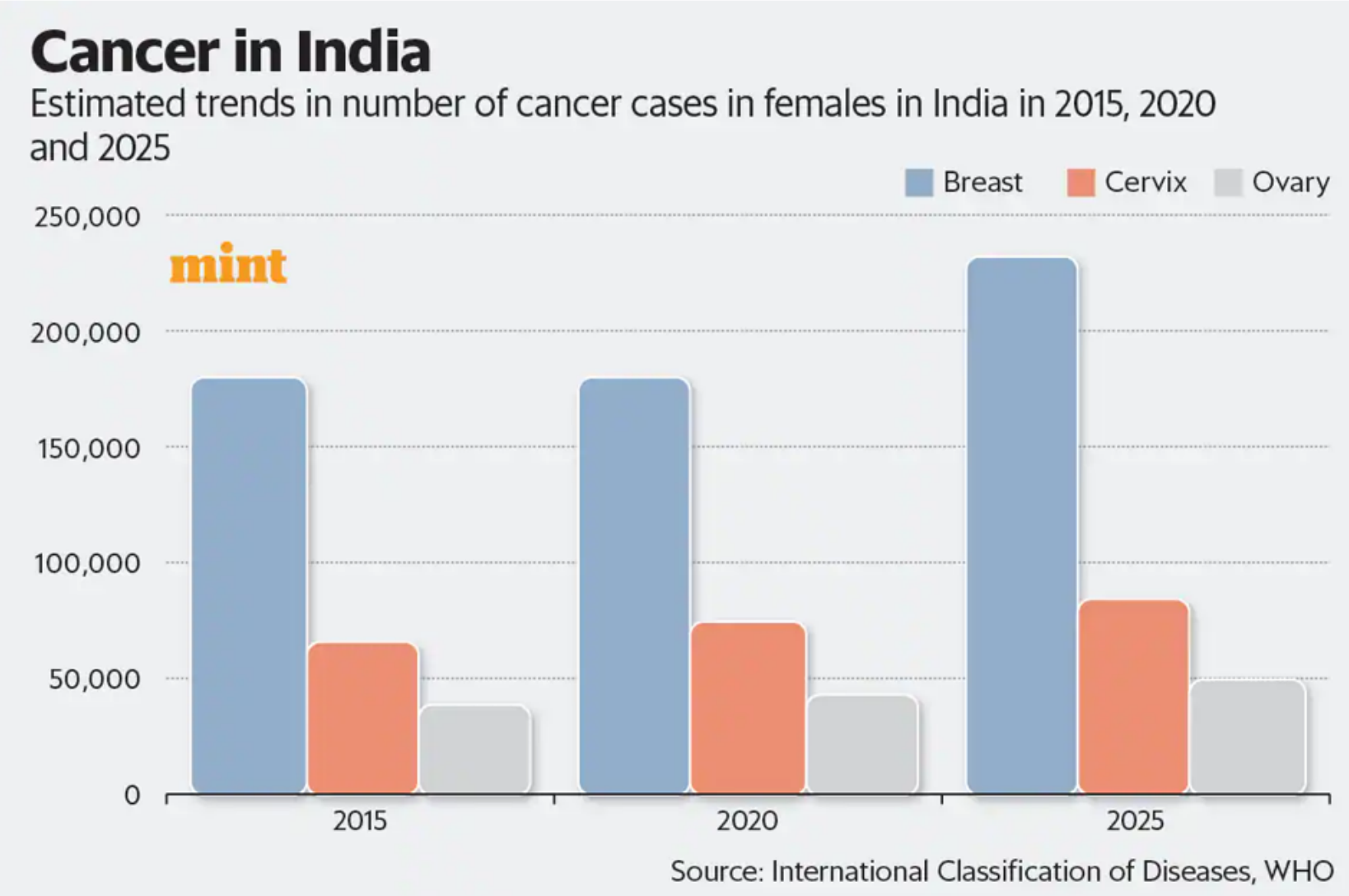
INTRODUCTION

- Breast and cervical cancer are the leading causes of cancer-related mortality in women worldwide, the prevalence of breast cancer is 26.3% and cervix cancer is 18.3%.

- Number of cases of breast cancer and cervix cancer in India is around 0.15 million and 0.060 million respectively

- Studies determining or focusing on awareness about carcinogens related to breast and cervical cancer are limited especially in India.

- This paper reviews the literature on awareness of carcinogens associated with breast and cervix cancer in Indian women.



RESULTS

Suggestions/ recommendations provided by the studies to improve/increased awareness

Study Title	Carcinogen	Population Type	Recommendations/ Suggestions to increase/ improve the awareness of carcinogen
Breast Cancer			
A study on awareness about breast carcinoma and practice of breast self-examination among basic sciences' college students, Bengaluru	Smoking Alcohol OCPs	General Population	1. More effective nationwide and state-wide cancer literacy programs are required with engagement of community-level organizations and health systems. 2. The government should utilize good examples of famous personalities who have recovered from the disease. 3. Health education at the college level should be done more aggressively regarding risk factors. 4. A health promotion intervention program on risk factors of breast cancer is prudent. 5. Training on risk factors should be offered to healthcare providers for dissemination to the other sections of society.
Awareness and Attitude Regarding the Risk Factors, and Self Examination for Breast Cancer in the Students of an Engineering College of South India	Radiation Exposure Alcohol Late Menopause HRTs	General Population	Education related to breast cancer should be inculcated in the curriculum of students.
Awareness of Breast Cancer Risk Factors and Practice of Breast Self-Examination among	Late menopause Alcohol OCPs & HRTs	Medical	Training on risk factors should be offered to healthcare

for general population

- Through IEC
- Intensive health promotion intervention programs
- Cancer literacy programs
- Engagement with community-level organizations

for medical professionals

- Continuing medical education
- Training on risk factors

for medical students

- Lecture demos
- Group & panel discussions
- Seminars
- Small workshops
- Conducting free camps

METHODOLOGY

Search engine used

Google Scholar
PubMed

E.g., of key phrases

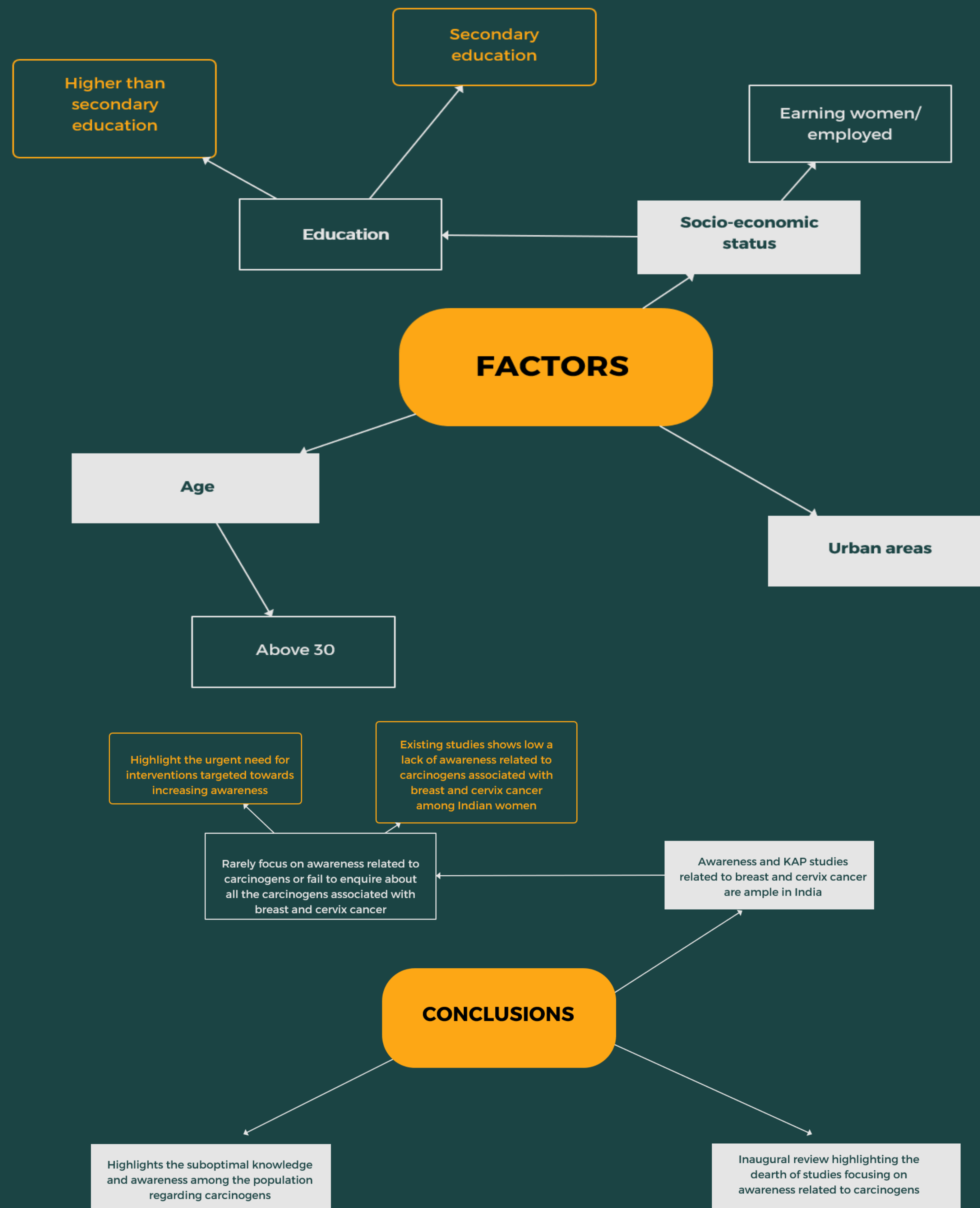
- Awareness regarding carcinogens of breast cancer in India
- Knowledge attitude and awareness of estrogen therapy in causing cancer in India

Inclusion criteria

- Articles published between Jan 2013- May 30th, 2023
- Studies done only in India

- 1 List of carcinogens was compiled (Source IARC)
- 2 Key phrases were devised
- 3 Key phrases were used to search articles on search engines
- 4 A total of 40 articles were shortlisted based on inclusion criteria
- 5 Articles were read thoroughly to extract details on the methodology
- 6 The master excel sheet was prepared
- 7 Excel sheet was used to summarize and interpret findings

YEAR OF PUBLICATION	BREAST	CERVIX	BOTH	TOTAL
2013 - 2018	8	11	1	20
2019 - 2023	7	11	2	20
TOTAL	15	22	3	40
STUDY SITES				
Hospital Based	7	13	1	21
Community-Based	8	9	2	19
TOTAL	15	22	3	40
STUDY POPULATION TYPE				
General population	10	15	2	27
Medical students	1	3	1	5
Medical Professionals	3	4	1	8
TOTAL	14	22	4	40
METHODS USED				
Quantitative	11	19	2	32
Qualitative		2		2
Mixed	3	2	1	6
TOTAL	14	23	3	40



CONCLUSIONS

Journals Selected: Indian Journal of Health and allied sciences
A cancer Journal for clinicians
Journal of the national cancer institute

RESULTS

Description of studies included in the review.

The majority of studies were conducted in the Southern region and fewer studies from the North-Eastern and Eastern regions

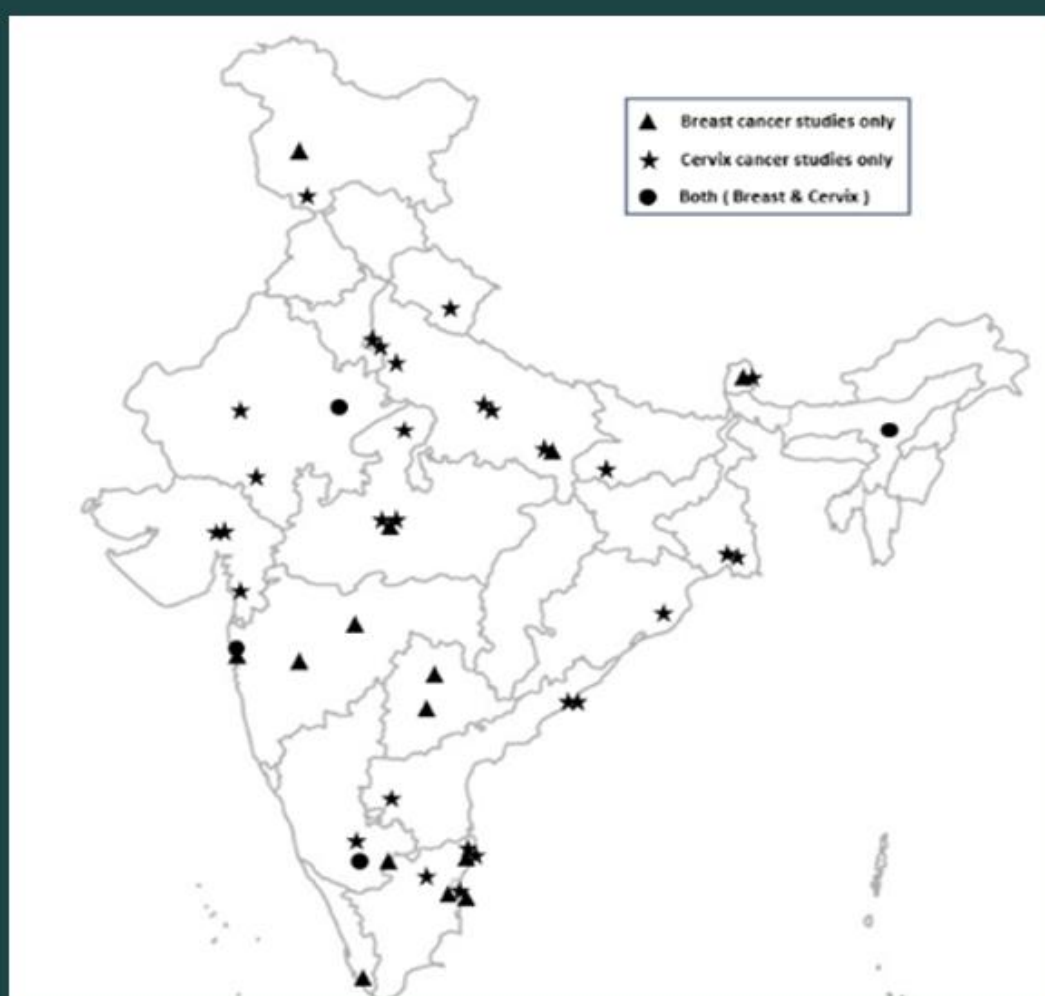


Fig 1: Map depicting the sites where studies were conducted

Awareness levels related to carcinogens associated with breast and cervix cancer

Commonly Recognized Carcinogens

Breast cancer	Cervix cancer
Radiation exposure (20.7% to 85%)	Human papillomavirus (1% to 94.3%)
Alcohol (1.2% to 71.9%)	Smoking (1.90% to 54.5%)
Smoking (1.8% to 71.9%)	Oral contraceptives (6.9% to 53.9%)

Table 2: Awareness related to carcinogens associated with breast and cervix cancer.

S. No.	Study Type	Carcinogen	%age of awareness	Age group	State	Population Type	Sample Size	Key Findings
1	Cross-sectional	Smoking Alcohol OCPs	Smoking: 58% Alcohol: 59% OCPs: 19%	18-23	Karnataka	General Population	1030	A moderate level of awareness was found for Smoking and alcohol, whereas OCPs have very poor awareness.
2	Cross-sectional	Radiation Exposure Alcohol Late Menopause HRTs	Exposure to radiation: 66.7% Alcohol: 34.8% Late menopause: 16.2% Hormone therapy: 50%	18-25	Telangana	General Population	204	12.7% of participants have no idea about risk factors of breast cancer. Average awareness of breast cancer was found to be 36.8%.
3	Cross-sectional	Late menopause Alcohol OCPs & HRTs Radiation Exposure	Late menopause: 32% Alcohol: 18% OCPs & HRT: 59% Radiation: 85%	18+	Maharashtra	Medical Professionals	200	Medical professionals have moderate level of awareness.
4	Cross-sectional				Madhya Pradesh	General		22.72% knew that menopause increases