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To assess the knowledge regarding risk factors and preventive measures of carcinoma breast among Indian women: A comparative study

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ABSTRACT

Background: Carcinoma breast is the most common cancer among women worldwide and is the malignant neoplasm affecting and causing mortality among women. The main objectives of the present study were to assess the knowledge regarding risk factors and its preventive measures of carcinoma breast among urban and rural Indian women.

Materials and Methods: A descriptive research design was used to assess the knowledge regarding risk factors and its preventive measures of carcinoma breast among women in selected urban and rural areas of Tirupati, India. A total of 100 women were selected from urban and Rural areas by convenient sampling technique. The tool used for conducting the study was structured questionnaire on knowledge risk factors and its preventive measures of carcinoma breast.

Results: The knowledge on risk factors, out of 50 urban women i.e., 30 (60%) had moderate knowledge, 19 (38%) had inadequate knowledge and only 1 (2%) had adequate level of knowledge regarding risk factors of carcinoma breast adequate knowledge with the mean and standard deviation 15.6 and 3.423. Whereas in rural women, out of 50, majority i.e., 28 (56%) had inadequate knowledge followed by 19 (38%) had moderate knowledge and only 3 (6%) had adequate knowledge with the mean and standard deviation 14.58 and 4.978.

Conclusions: It is concluded that there was difference between urban and rural women knowledge on risk factors and its preventive measures of carcinoma breast. The findings suggest that extensive health education programs need to be planned to bring awareness among urban and rural women.

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1. Introduction

Carcinoma is a deadly disease when it reaches to the invasive stages. Among all the cancers of females, breast cancer is the only preventable cancer when detected at its early stages. Population-based screening with breast self-examination is an important secondary preventive measure for breast cancer that leads to a high-cure rate among breast cancer patients. Against the background of the dangers posed by breast cancer world-wide and the importance of

its early detection and therefore breast self-examination (BSE), this study investigated the practice of BSE among female students in tertiary institutions. A sample of 723 participants selected through a combination of multi-stage, systematic and convenience sampling methods.¹ The risk factors under study were also found to be statistically significant for the study population except duration of breastfeeding and family history of breast and ovarian cancers.² The recent GLOBOCAN 2018 report shows age-standardized breast cancer incidence rate per 100 thousand females was very high in Australia (94.2), Western Europe (92.6) and Northern Europe (90.1) whereas it was lowest in South-Central Asia (25.9) region.³ The increased burden

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of the disease should be accompanied by powerful means of spreading awareness by implementing campaigns that would improve knowledge deficits.⁴ Breast cancer occurs in every country of the world in women at any age after puberty but with increasing rates in later life.^{5,6} Cross-sectional study and the meta-analytical procedure were used to assess the risk factors and preventive measures regarding the carcinoma breast.⁷⁻⁹ A case control study was conducted in Saudi Arabia on breast cancer survivors' perceptions of prevention versus control of future cancer recurrence.¹⁰ Most of research on carcinoma breast were followed the cross-sectional study and use of structured questionnaire to assess the knowledge of risk factors and preventive measures of carcinoma breast.¹¹⁻¹⁵ Multi stage sampling method was used to select the sample; structured questionnaire was used to collect the data to analyze the risk factors and its preventive measures.^{16,17}

2. Materials and Methods

The present work mainly interprets the methodology to be applied in order to assess "The knowledge regarding risk factors and its preventive measures of carcinoma breast among women in selected urban and rural areas of Tirupati, Chittoor district, Andhra Pradesh, India".

2.1. Research approach and design

In order to satisfy the objectives of the present study, a quantitative research method is apprehended in general because it is a systematic empirical investigation of observable phenomena via statistical, mathematical or computational techniques. Therefore, the purpose of this methodology is to satisfy the research plan and target devised by the researcher. In the present study, a Cross Sectional Descriptive Research Design was considered to assess the knowledge regarding risk factors and its preventive measures of carcinoma breast among women in selected urban and rural areas of Tirupati, Chittoor district, Andhra Pradesh, India". The present research study was conducted at permitted urban and rural areas in and around tirupati at Indira Nagar, Tirupati urban and Daminedu village, Tirupati rural mandal.

2.2. Sample size and technique

The researcher has chosen the optimum sample size as per the knowledge gained from the literature and it comprises 100 women as per the setting of the study. For the present study a Non probability-Convenient Sampling Technique was adopted to select the sample based on inclusive and exclusive criteria. The inclusion criteria consists of the women who were willing to participate in the study, living in urban and rural area and available at the time of data collection. The exclusion criteria consists of the women who were below 25 years and above 60 years of age, living other

than urban and rural area and exposed to carcinoma breast.

2.3. Variables

The variables included in this study were independent variables and dependent variables. In this study independent variables include demographic variables such as environmental factor, sociological factors, nutritional factors, physiological factors, genetic factors, family risk factors, alcohol, hormonal history, history of carcinoma breast, obesity, estrogen, immune system, tobacco, infection etc. The dependent variable includes the knowledge regarding risk factors and preventive measures of carcinoma breast among women in selected urban and rural areas of Tirupati.

2.4. Development and description of the tool

The research instrument is usually determined by researcher and is tied to the study methodology. The Interviews or interactions, where verbal questions are posed by an interviewer are to elicit verbal responses from an interviewee. The interviews may be of Structured Interview, Unstructured Interview, Non-Directive Interview, Focus Interview, Focus Group Interview.

The researcher selected Structured Interview as the tool based on the objectives of the present study. Structured Interview means, a formal set of questions posed to each interviewee and recorded using a standardized procedure

A closed ended Structured Questionnaire was used to collect the necessary data from the sample. Tool was developed in English and translated in Telugu. The tool consists of Socio-demographic data and Structured Questionnaire. The Socio-demographic data consists of variables such as age, gender, educational status, Family income per month, area of residence, age at menarche, marital status, first pregnancy, parity, breast feed, age at menopause, family history and source of information about carcinoma breast. The Structured questionnaire consists of 42 items to assess the knowledge regarding risk factors of carcinoma breast, and its preventive measures among women. A total of 30 multiple choice questions which contains only one right answer and 12 statements framed as checklist with 'yes' or 'no' options. Each correct answer carries '1' mark and wrong answer carries '0' mark. The maximum score was 42.

Table 1: Score interpretation for structured questionnaire

Score	Marks	Level of knowledge
<50%	<16	Inadequate level of knowledge
50-75%	17-29	Moderate level of knowledge
>75%	>30	Adequate level of knowledge

Table 2: Frequency and percentage distribution of demographic variables among urban and rural women. n = 50

S. No.	Demographic Variables	Urban		Rural	
		Frequency (n)	Percent (%)	Frequency (n)	Percent (%)
	Age in Years				
1	a) 30 to 40	7	14	17	34
	b) 41 to 50	27	54	13	26
	c) 51 to 60	16	32	20	40
	Total	50	100	50	100
	Education				
2	a) No formal Education	6	12	3	6
	b) Primary Education	6	12	11	22
	c) Secondary Education	8	16	14	28
	d) Higher Secondary Education	11	22	5	10
	e) Under Graduate	14	28	13	26
	f) Post Graduate	2	4	3	6
	g) Professional	3	6	1	2
	Total	50	100	50	100
	Family Income / Month (Rs)				
3	a) ≤ 10,000/-	10	20	10	20
	b) 10,001 – 15,000/-	14	28	14	28
	c) 15,001 – 20,000/-	13	26	18	36
	d) > 20,000/-	13	26	8	16
	Total	50	100	50	100
	Area of Living				
4	a) Urban	50	100	0	0
	b) Rural	0	0	50	100
	Total	50	100	50	100
	Age at Menarche in years				
5	a) ≤ 11	5	10	2	4
	b) 12 – 13	14	28	21	42
	c) 14 – 15	22	44	26	52
	d) >15	9	18	1	2
	Total	50	100	50	100
	Marital Status				
6	a) Married	38	76	40	80
	b) Un Married	4	8	3	6
	c) Widow	8	16	7	14
	Total	50	100	50	100
	Age at First Pregnancy (in years)				
7	a) ≤ 20	13	26	18	36
	b) 21 – 24	18	36	22	44
	c) 25 – 30	11	22	9	18
	d) > 30	8	16	1	2
	Total	50	100	50	100
	Parity				
8	a) Nulliparous	5	10	3	6
	b) Parous	45	90	47	94
	Total	50	100	50	100
	Did you Breast Feed Your Baby				
9	a) Yes	45	90	47	94
	b) No (Specific reason)	5	10	3	6
	Total	50	100	50	100

Continued on next page

Table 2 continued

	Age of Menopause Attained (in years)				
10	a) < 45 – 45	7	14	3	6
	b) 46 – 47	8	16	6	12
	c) 48 – 50	9	18	12	24
	d) > 50	4	8	4	8
	e) Not yet attained	22	44	25	50
	Total	50	100	50	100
	History of Breast Carcinoma in the Family				
11	a) 1st degree (Mother, Father)	30	60	30	60
	b) 2nd degree (Grandmother, Grandfather)	28	15	30	30
	c) 3rd degree (Uncle, Aunty)	6	12	5	10
	Total	50	100	50	100
	Source of Information				
12	a) Friends and Family members	9	18	12	24
	b) Mass media and books	9	18	14	28
	c) Health care personnel and relatives	28	56	23	46
	d) Newspapers and magazines	4	8	1	2
	Total	50	100	50	100

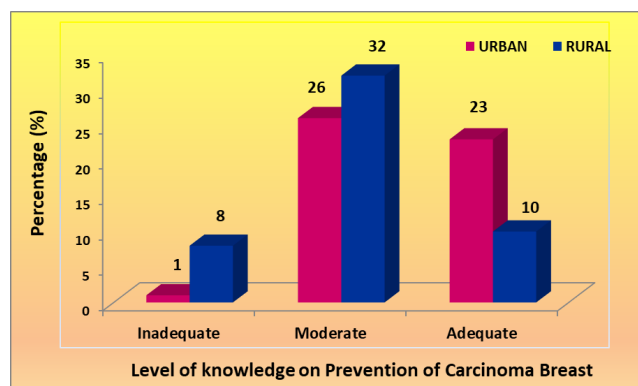


Fig. 1: Level of knowledge on prevention carcinoma breast among urban and rural women

2.5. Reliability of the tool

To establish the reliability of the tool Cronbach's Alpha Reliability method was used. Tool was administered to 10 women who were not included in the final study. The reliability score obtained for knowledge on breast cancer was "r = 0.90," whereas the reliability score obtained for practices on prevention of carcinoma breast was "r = 0.85", shows that the tool was reliable.

2.6. Plan for analysis

The study was planned to analyze based on the study objectives with the help of descriptive and inferential statistics. In the Descriptive Statistics the Frequency and percentage distribution were used to assess demographic data among women in rural and urban areas of Tirupati. The Percentage, mean and standard deviation were used to estimate the level of knowledge among women in rural and urban areas of Tirupati. In the Inferential Statistics the Chi-square test was used to identify the association between knowledge on carcinoma breast with selected demographic variables and "t- test" was used to compare knowledge on cancer breast and preventive measures among women in urban and rural area of Tirupati.

2.7. Analysis and interpretation

The present research study deals with analysis and interpretation of data collected from 50 women from urban and 50 women from rural areas at Tirupati. The data were tabulated, analyzed and interpreted using discipline and inferential statistics. The Frequency and percentage distribution of demographic variables among urban and rural women are given in Table 2. The Frequency, percentage distribution, Mean and Standard deviation regarding level of knowledge on carcinoma breast among urban and rural women are given in Tables 3 and 4. Out of 50 urban women, 19 (38%) had inadequate knowledge,

30 (60%) had moderate knowledge and only 1 (2%) had adequate level of knowledge, with mean and standard deviation score was 15.6 and 3.423 respectively. Out of 50 rural women, 28 (56%) had adequate knowledge, 19 (38%) had moderate and 1 (2%) had adequate knowledge with mean and standard deviation 14.58 and 4.978. The Frequency, Percentage distribution, Mean and Standard deviation regarding level of practices on prevention of carcinoma breast among urban and rural women are shown in Figure 1.

3. Results & Discussions

The results based on the stated objectives and provide exclusion for testing. The stated hypothesis is leading to conclusions, recommendations and for further generalization, utilization of the results.

This study was undertaken to assess the knowledge regarding risk factors and preventive measures of carcinoma breast among urban and rural women in selected areas of tirupati. The discussion of present study was based on the findings obtained from descriptive and inferential statistical analysis of the collected data.

The study findings revealed that regarding knowledge among women, out of 50 urban women, majority of them 30 (60%) had moderate knowledge, 19 (38%) had inadequate knowledge and 1 (2%) had adequate level of knowledge regarding risk factors of carcinoma breast. The mean score of level of knowledge was 15.6 and standard deviation was 3.42. Whereas among rural women out of 50, majority 28 (56%) had inadequate knowledge followed by 19 (38%) had moderate knowledge and only 3 (6%) had adequate knowledge. Mean knowledge score was 14.58 and standard deviation was 4.97.

The above objective was supported by previous study conducted in Mumbai India.³ The Study was used 480 women aged 82-55 years. A structured questionnaire was used to collect the data. The study found that results were (49%) of women were aware of risk factors of carcinoma breast conducted that large intervention to enhance the knowledge of carcinoma breast among women particular region is required.

Related on preventive measures of carcinoma breast among women, out of 50 urban women, majority 26 (52%) had moderate practices, followed by 23 (46%) had adequate practices and only 1 (2%) had inadequate practices. The obtained mean score 10.86 and standard deviation was 2.46. Whereas among rural women out of 50, 32 (64%) had moderate level of practices, 10 (20%) had adequate practices and least 8 (16%) had inadequate practices. The obtained mean and standard deviation were 9.40 and 2.44.

The above objective was supported by previous study conducted by Monira Alwhaib, Soudi Arabia.¹⁰ Women with a history of breast cancer (n=114) were surveyed, and data were analyzed using concurrent mixed methods. Binary

Table 3: Frequency, percentage distribution, regarding level of knowledge on risk factors of carcinoma breast among urban women n=50

Knowledge on Risk Factors of Carcinoma Breast Among Urban Women	Level of Knowledge						Mean	SD
	Inadequate (<50%)		Moderate (51-75%)		Adequate (>75%)			
	N	%	n	%	n	%		
Knowledge on Risk Factors of Carcinoma Breast	19	38	30	60	1	2	15.60	3.423

Table 4: Frequency, percentage distribution, regarding level of knowledge on risk factors of carcinoma breast among rural women. n=50

Knowledge on Risk Factors of Carcinoma Breast Among Rural Women	Level of Knowledge						Mean	SD
	Inadequate (<50%)		Moderate (51 -75 %)		Adequate (>75%)			
	N	%	n	%	N	%		
Knowledge on Risk Factors of Carcinoma Breast	28	56	19	38	3	6	14.58	4.978

logistic regression models examined predictors of perceived prevention and perceived control of cancer recurrence.

4. Conclusions

The major conclusions are inferred from the present work related to knowledge regarding risk factors of carcinoma breast majority of urban women i.e. 30 (60%) had moderate knowledge and majority of rural women i.e. 28 (56%) had inadequate knowledge. Related to knowledge on preventive measures of carcinoma breast, majority of urban women 26 (52%) had moderate knowledge on preventive measures and majority of rural women i.e., 32 (64%) also had moderate level of knowledge on preventive measures of carcinoma breast. These findings concluded that there was difference between urban and rural women related to knowledge on risk factors and preventive measures of carcinoma breast. These findings suggestive that extensive health education programmes were needed to bring awareness among urban and rural women so nurses need to encourage improving knowledge among women regarding knowledge on risk factors and preventive measures of carcinoma breast by organizing structured teaching programmes in urban and rural community to bring down the mortality and morbidity.

5. Source of Funding

None.

6. Conflict of Interest

The authors declare no conflict of interest.

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