International Journal of Multidisciplinary Research and Development
Online ISSN: 2349-4182, Print ISSN: 2349-5979; Impact Factor: RJIF 5.72
Received: 07-11-2020; Accepted: 22-11-2020; Published: 08-12-2020
www.allsubjectjournal.com
Volume 7; Issue 12; 2020; Page No. 140-142

A prospective cohort follow-up study of knowledge, attitude and practice of breast cancer and breast self-examination in Rajasthan, India

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Abstract
Breast cancer has ranked number one cause of mortality globally. It is the second most common cancer among Indian women. Indian Council of Medical Research (ICMR) reported that in the metropolitan cities *viz*. Delhi, Mumbai, Bangalore and Chennai; from 1982 to 2005 showed that the incidences of BC have doubled. In this study we analyzed some data, taken from Jodhpur, Rajasthan, India. Respondents considered at base line data collection, were followed up after one month and responded to the same questionnaire. The data was analyzed using Statistical Package for Social Sciences (SPSS) 16.0. To test the significance chi square test, Wilcoxon signed rank test and paired t test were adopted. In accordance with these tests results are shown and conclusion is made.

Discussion: As in case of chi square test KBLD, KAFU and PAFU are not significant, this result is leading us to conclude that variable under the caption knowledge are not known to the participants and even after education session participants are not getting those variables related to the disease. But a contradiction is also appeared as PBLD is found significant and PAFU (i.e data under head practice after follow up) is found non-significant. Whereas according to Wilcoxon Sign Rank Test, data under Knowledge attitude towards BSE and Practice showed a non-significant difference showing that education session did not gave its fruitfulness. Results for paired t test were same as Wilcoxon Sign Rank Test. We may say that more education sessions are required to put knowledge of those variables in participants mind.

Keywords: knowledge, attitude, practice, breast self-examination

Introduction

Breast cancer occurrence is not spontaneous, it leaves its footprints. Breast cancer is the most common cancer in women both in the developed and less developed world. According to World Health Organization over 508 000 women died in 2011 due to breast cancer (WHO, 2013). It was also reported that almost 50% of breast cancer cases and 58% of deaths occur in less developed countries whereas incidence rates were reported to be below 40 per 100,000 in the most of developing countries (GLOBOCAN (IARC), 2008) [2]. Breast cancer survival rates were found around 60% in middle-income countries and below 40% in low-income countries (Coleman MP *et al*., 2008) [3]. If we put our concern in India, we grabbed a study, making comparison between different states of India, according to this study; Uttar Pradesh was observed with around 125% more incidence cases than Tamil Nadu. Maharashtra, West Bengal and Bihar were found having increments of around 55%, 15% and 5% respectively when a comparison is made with incidence cases of Tamil Nadu. In case of states having lower incidence cases, 18%, 26%, 57% and 233%additional numbers of cases occur in Mizoram, Meghalaya, Tripura and Manipur when these incidences are compared with incidences in Arunachal Pradesh. Whereas in the same study, increases were observed while considering mean age at menarche, near about 8% (Himachal Pradesh), 2.2% (Maharashtra), 1% (Haryana)and0.64% (Delhi) as compared to Uttar Pradesh. Enhancement of 0.83 % (Assam), 7.5% (Andhra Pradesh), 8.3% (Jammu & Kashmir and Manipur) were also disclosed when it was compared with mean age at menarche of Arunachal Pradesh. This study found a positive correlation between incidence of breast cancer and mean age at menarche (Ansari F, 2018) [4].

Methodology

In current paper base line data was first collected, using a questionnaire constructed, keeping in view Health Belief Model (HBM).Each question on the questionnaire was based on 5-point Likert scale of responses i.e. 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree and 5=strongly agree. Questionnaire designed under three heads: Knowledge, Attitude towards Breast self-examination (BSE), Practice. The number of questions under the head Knowledge, Attitude towards BSE and practice were Twenty, Five and Nine respectively. Under the sprinkle knowledge; miser-ability and hopelessness of disease, duration of breast feeding, late age at cohabitation, age at first pregnancy, use of contraceptives, age at Menarche, postmenopausal phase, menses disorder, Obesity, Consumption of dairy products, meet, Alcohol and Opium, smoking, Tobacco chewing and knowledge of any sign/symptom of breast cancer we considered. Whereas Under the head Attitude towards BSE; questions related to prevention through early detection, breast self-examination as an easier way of early detection of the disease breast cancer, embarrassment while performing monthly breast exams, fear of making fun by family /friend and afraid of not be able to do breast self-exams were covered. As far as legend practice is concerned, painfulness of disease, time consumption, participant's thought about who should go for breast self-exam, knowledge and regularity of breast self-exam, knowledge of any other method of BSE and ever

been to a physician to get information regarding this were the essence of this head.

After collection of base line data all 45 respondents were educated about knowledge, attitude and practice of breast cancer and BSE at Jodhpur, Rajasthan, India. Respondents were followed up after one month and responded to the same questionnaire. The data was analyzed using Statistical Package for Social Sciences (SPSS) 16.0. To test the significance chi square test, Wilcoxon signed rank test and paired t test were adopted. Results of the same were as follows:

Results

Table 1: Test Statistics of Chi Square Test

	KBLD	KAFU	ATBSEBLD	ATBSEAFU	PBLD	PAFU
Chi-Square	16.844[a]	11.733	21.244	20.111	15.267	16.067
df	22	22	10	9	7	11
Sig.	.77	.96	.009	.007	.003	.139

KBLD: Knowledge base line data
KAFU: Knowledge after follow-up
ATBSEBLD: Attitude towards BSE base line data
ATBSEBLDAFU: Attitude towards BSE after follow-up
PBLD: Practice base line data
PAFU: Practice after follow-up
Level of Significance (P) =0.01

Table 2.1: Ranks Assigned in Wilcoxon Sign Rank Test for KAFU – KBLD

		N	Mean Rank	Sum of Ranks
KAFU - KBLD	Negative Ranks	0[a]	.00	.00
	Positive Ranks	45[b]	23.00	1035.00
	Ties	0[c]		
	Total	45		

a. KAFU < KBLD
b. KAFU > KBLD
c. KAFU = KBLD

Table 2.2: Test Statistics[b] of Wilcoxon Sign Rank Test for KAFU – KBLD

	KAFU - KBLD
Z	-5.842[a]
Sig. (2-tailed)	0.000000

a. Based on negative ranks.
b. Wilcoxon Signed Ranks Test

Table 2.3: Ranks Assigned in Wilcoxon Sign Rank Test for ATBSEAFU – ATBSEBLD

		N	Mean Rank	Sum of Ranks
ATBSEAFU - ATBSEBLD	Negative Ranks	0[a]	.00	.00
	Positive Ranks	40[b]	20.50	820.00
	Ties	5[c]		
	Total	45		

a. ATBSEAFU < ATBSEBLD
b. ATBSEAFU > ATBSEBLD
c. ATBSEAFU = ATBSEBLD

Table 2.4: Test Statistics[b] of Wilcoxon Sign Rank Test for ATBSEAFU – ATBSEBLD

	ATBSEAFU - ATBSEBLD
Z	-6.166
Sig. (2-tailed)	.000

a. Based on negative ranks.
b. Wilcoxon Signed Ranks Test

Table 2.5: Ranks Assigned in Wilcoxon Sign Rank Test for PAFU – PBLD

		N	Mean Rank	Sum of Ranks
PAFU - PBLD	Negative Ranks	3[a]	10.17	30.50
	Positive Ranks	40[b]	22.89	915.50
	Ties	2[c]		
	Total	45		

a. PAFU < PBLD
b. PAFU > PBLD
c. PAFU = PBLD

Table 2.6: Test Statistics[b] of Wilcoxon Sign Rank Test for PAFU – PBLD

	PAFU - PBLD
Z	-5.356[a]
Sig. (2-tailed)	.000

a. Based on negative ranks.
b. Wilcoxon Signed Ranks Test

Table 3.1: Descriptive Statistics of Paired Samples Statistics for KAFU – KBLD

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	KBLD-	53.2444	45	7.77278	1.15870
	KAFU	75.5778	45	8.02974	1.19700

Table 3.2: Paired Samples Test for KAFU – KBLD

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	KBLD - KAFU	-22.33333	11.19659	1.66909	-25.69716	-18.96951	-13.381	44	0.00000

Table 3.3: Descriptive Statistics of Paired Samples Statistics for ATBSEAFU – ATBSEBLD

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	ATBSEBLD-	14.6444	45	2.50595	.37357
	ATBSEAFU	18.7333	45	2.33939	.34874

Table 3.4: Paired Samples Test for ATBSEAFU – ATBSEBLD

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	ATBSEBLD - ATBSEAFU	-4.08889	2.95283	.44018	-4.97602	-3.20176	-9.289	44	.000

Table 3.5: Descriptive Statistics of Paired Samples Statistics for PAFU – PBLD

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PBLD	24.4000	45	2.00454	.29882
	PAFU	28.4444	45	2.91201	.43410

Table 3.6: Paired Samples Test Paired Samples Test for PAFU – PBLD

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PBLD - PAFU	-4.04444	3.33000	.49641	-5.04489	-3.04400	-8.147	44	0.00000

On the basis of the tables we analyzed that in case of chi square test KBLD, KAFU and PAFU are not significant (P>0.01) whereas, ATBSEBLD, ATBSEAFU and PBLD are observed significant (P<0.01).If we put our concern on Wilcoxon Sign Rank Test, KBLD, KAFU; ATBSEBLD, ATBSEAFU and PBLD, PAFU all three are significant (P<0.01).Similar to test discussed later, in case of paired t test results remained same.

Discussion

As in case of chi square test KBLD, KAFU and PAFU are not significant, this result is leading us to conclude that variable under the caption knowledge are not known to the participants and even after education session participants are not getting those variables related to the disease. But a contradiction is also appeared as PBLD is found significant and PAFU (i.e data under head practice after follow up) is found non-significant. Whereas according to Wilcoxon Sign Rank Test, data under Knowledge attitude towards BSE and Practice showed a non-significant difference showing that education session did not gave its fruitfulness. Results for paired t test were same as Wilcoxon Sign Rank Test. We may say that more education sessions are required to put knowledge of those variables in participants mind.

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