A Study to Examine the Impact of Nursing Strategy on Risk through Cervical Cancer Screening and Anxiety among Women in Selected Community Area at Erode

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Abstract: Cervical cancer is the fourth most common cancer in women globally with around 660 000 new cases and around 350 000 deaths in 2022.Cervical cancer can be cured if diagnosed at an early stage and treated promptly. Quantitative study was done to examine the impact of nursing strategies on risk through cervical cancer screening and anxiety among women , by using true experimental design .The sample was 10 women within the age group 30 & 50 years, was selected by Simple random sampling technique. Cervical cancer risk assessment tool and Anxiety (S-STAI-6) scale was used to collect data .Pretest was conducted for both experimental arm and waitlist control arm and interventions were administered to the experimental arm and post test was conducted for experimental arm and waitlist control arm . Interventions were administered to waitlist control arm after finding the statistical significance in experimental arm . Statistical values showed that, the pre test scores on non modifiable risk factors are higher than modifiable risk factors. The post test scores depicts that the nursing intervention strategies has got impact on modifiable risk factors. The pre test score of level of anxiety depicts that high level of anxiety is measured in most of the sample and the nursing interventions proved to be effective in reducing the anxiety to some extent .

Keywords: Women, Community Based Outreach Program and Behavioural Intervention Strategies.

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I. INTRODUCTION

Cervical cancer is a cancer arising from the cervix. It is due to the abnormal growth of cells that have the ability to invade or spread to other parts of the body. Cervical cancer is one of the leading causes of death for middle-aged women in the developing world, yet it is almost completely preventable if precancerous lesions are identified and treated in a timely manner.

Cervical cancer is the fourth most common cancer in women globally with around 660 000 new cases and around 350 000 deaths in 2022. On average, one woman dies from cervical cancer every two minutes. Cervical cancer deaths expected to rise by 50% between 2020 and 2050 .

Human papillomavirus infection (HPV) causes more than 90% of cases. Most people who have had HPV infections, however, do not develop cervical cancer. Other risk factors include smoking, a weak immune system, birth control pills, starting sex at a young age, and having many sexual partners, but these are less important. Cervical cancer typically develops from precancerous changes over 10 to 20 years.

Screening for cancer is known to reduce mortality by early detection and treatment. Screening is typically by cervical visual screening by use of acetic acid (VIA) test. Effective primary HPV vaccination) and secondary prevention approaches (screening for, and treating precancerous lesions) will prevent most cervical cancer cases. When diagnosed, cervical cancer is one of the most successfully treatable forms of cancer, as long as it is detected early and managed effectively. Despite the evidence of methods for prevention most of the women remain unscreened and is a leading cause of morbidity and mortality

among women in India, often due to late disease diagnosis. The reported barriers to screening includes unawareness of risk factors, symptoms, prevention, stigma and misconception and negative attitude about gynaecological diseases.

➤ *Statement of the Problem*

➤ *Objectives*

- To assess the level of risk of cervical cancer screening and anxiety before and after nursing intervention strategies among women in experimental arm and wait list control arm
- To examine and compare the impact of nursing intervention strategies on risk of cervical cancer screening and anxiety among women in experimental arm and wait list control arm
- To find out association between the pretest levels of risk of cervical cancer screening and anxiety with their selected background variables among women in experimental arm & wait list control arm

II. RESEARCH METHODOLOGY

Research approach used for this study is quantitative evaluative and the design used was true experimental design with wait list control . The researcher obtained a formal permission from the panchayat authorities . The study was conducted in Karapari and Pudhucolony, in Erode. The sample for the present study were women in the age between 30 and 50 years in the selected community area at Erode. The sample size comprises of 10 women. Simple random sampling technique was used to recruit the study subjects. Sampling frame was made, elements were numbered consecutively and by adopting random number table samples were selected. The instrument comprises of background variables like age, residential area, marital status, no of children, age at marriage, educational status, occupational status, family monthly income and type of family, Risk assessment tool for cervical cancer screening , VIA/VILI test and Anxiety (S-STAI-6) scale.

III. METHOD OF DATA COLLECTION

The data was collected from the women in both the arms, after obtaining permission from the president in selected community area at Erode.

- *Pretest*
  The pretest was conducted for both the arms by using the data collection tools.

- *Intervention*
  Experimental arm received nursing intervention strategies (community-based outreach program and behavioral intervention strategy). Intervention was rendered weekly twice for the period of 3 months.

- *Post Test*
  Post test was conducted by using the same assessment techniques.

Wait list control arm received nursing intervention strategies later on (Deferred Treatment) after its statistical significance in experimental arm.

IV. SUMMARY PILOT STUDY FINDINGS

➤ *Frequency and Percentage Distribution of Women according to their Demographic Characteristics:*
  It reveals the frequency and percentage distribution of women according to their demographic characters. [i.e. age, education, occupation, income per month, education status and occupation of the spouse, type of family, religion, number of children and history of stressful life events].

➤ *Experimental Arm: Demographic Characters:*
  Distribution of women shows that highest percentage [60%] were in the age group of 41-50 years, Most of them [60%] have high school education, majority of them [40%] work as house maids and have a monthly income between ₹5000 - ₹10000/-, Most of the spouses of the women [80%] have primary education and [40%] are construction workers. All the women belong to the Hindu religion and majority (80%) of them live as nuclear families and majority (60%) the women has only 2 children.

➤ *History of Distressing Life Events:*
  Most (80%) of the women had lost any one of the parent, (40%) reported physical abuse ,20% of women reports separation of parents as a distressing event, 40% reported that they were taken care by their relatives, Most (40%) of them reported history of substance abuse in the family, 40% of women reported lack of parental care, 20% women reported lack of support from their spouse, only 40% reported that there were no distressing events in the family.

➤ *Wait List Control Arm: Demographic characters*
  Distribution of women shows that highest percentage [60%] were in the age group of 41-50 years, 40% have primary school education and Illiteracy, Most of them [40%] work as house maids and are house wives, 40% have a monthly income between ₹5000 - ₹10000/- and without income, most of the spouses of the women [80%] have primary education and 60% are drivers, all the women belong to the Hindu religion and majority(60%) of them live as nuclear family and most (60%) of the women has more than 2 children.

➤ *Regarding Distressing Life Events:*
  Most (60%) of the women had lost any one of the parent , no reports on physical and sexual abuse , 20% reports that , separation of parents as a distressing event, 40% reported that ,they were taken care by their relatives, none of them reported history of substance abuse in the family, 40% reported of lack of parental care, 60% women reported , lack of support from their spouse and only 40% reported there were no distressing events in the family.

Table 1 Frequency and Percentage Distribution of Pre and Post Test Scores of Risk Factors of Cervical Cancer among
Women in Experimental and Wait List Control Arm

Level of Risk	Experimental Arm				Wait List Control Arm			
	Pretest		Post test		Pretest		Post test	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Low	4	80%	5	100%	1	20%	1	20%
Medium	1	20%	-	-	1	20%	3	60%
High	-	-	-	-	3	60%	1	20%

Frequency and percentage distribution of pretest scores of risk factors for cervical cancer among women in experimental and wait list control arm depicts that ,80% of the women are in low risk level in experimental arm and 60% of the women are in high risk level in wait list control arm.

Frequency and percentage distribution of post test scores of risk factors for cervical cancer among women in experimental arm and wait list control arm depicts that,100% of the women remain in the low risk in experimental arm and in wait list control arm most (60%) of the women has reduced to medium level of risk for cervical cancer.

Table 2 Frequency and Percentage Distribution of Pre and Post Test Scores of Level of Anxiety among
Women in the Experimental Arm and Wait List Control Arm:

Level of anxiety	Experimental Arm				Wait List Control Arm			
	Pretest		Post test		Pretest		Post test	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
No Anxiety	2	40%	2	40%	-	-	-	-
Mild	-	-	1	20%	-	-	-	-
Moderate	1	20%	1	20%	2	40%	2	40%
Severe	2	40%	1	20%	3	60%	3	60%

Frequency and percentage distribution of level of anxiety among women in experimental arm depicts that, in pretest, 40% of women were experiencing severe level of anxiety and in posttest, majority (40%) of the women experience no anxiety.

Frequency and percentage distribution of level of anxiety among women in wait list control arm depicts that, in

pretest and post-test most of the women [60%] were experiencing severe level of anxiety.

Comparison of mean, standard deviation, paired t test, un paired t test, wilcoxon signed rank test and mann – whitney u test:

Table 3 Compare the impact of Nursing Interventions on Risk of Cervical Cancer in Experimental Arm and Wait List Control Arm

S. No	Group	Pre Test		Post Test		Paired 'T' Value	DF	SD	P Value	Level of Significance
		Mean	S.D	Mean	S.D					
1.	Experimental Arm	6	2.2360	4.6	1.1401	-2.7456	1.4	-1.1402	0.9591	Significant
2.	Wait List Control Arm	14.6	6.6932	12.4	5.6833	-3.3166	-2.2	1.4832	0.9346	Significant

Comparison of the impact of nursing interventions on risk of cervical cancer in experimental arm and wait list control arm depicts that, there is a significant impact of

nursing interventions on risk factors of experimental arm and wait list control arm.

Table 4 Compare the Impact of Nursing Interventions on Anxiety in Experimental Arm and Wait List Control Arm

S. No	Group	Pre-Test		Post Test		Paired 'T' Test Value	DF	SD	P	Level Of Significance
		Mean	SD	Mean	SD					
1.	Experimental Arm	28.5	21.2361	21.8	18.294	-2.6845	6.32	5.2642	0.05497	Significant
2.	Wait List Control Arm	43.36	14.1706	35.8	11.7029	-6.7738	7.56	2.4956	0.002479	Significant

Comparison of the impact of nursing interventions on level of anxiety in experimental arm and wait list control arm depicts that, there is significant impact of nursing interventions on anxiety of experimental arm and there is significant impact on anxiety in wait list control arm.

Table 5 Compare the Mean, SD, Pretest Scores on Risk Factors of Experimental Arm and Wait List Control Arm

Experimental Arm - pre test		Wait List Control Arm pre test		Unpaired 'T' Test	DF	SE	P	Level Of Significance
Mean	S.D	Mean	S.D					
6	2.2360	14.6	6.6932	2.7250	8	3.156	0.0260	Significant

Comparison of the mean, S.D, pre test scores on risk factors of experimental arm and wait list control arm depicts that there is a significant difference between the pretest scores of experimental arm and wait list control arm

Table 6 Comparison of Mean, S.D, Post Test Scores on Risk on Risk Factors of Experimental Arm and Waitlist Control Arm

Experimental Arm – post test		Wait List Control Arm post test		Unpaired 'T' Test	DF	S.E	P	Significance
Mean	S.D	Mean	S.D					
21.8	16.3633	32.2	11.7029	-2.0664	-14	15.1493	0.1077	Not Significant

Comparison of the mean, S.D, post test scores on risk factors of experimental arm and wait list control arm depicts that there is no significant difference between the pretest scores of experimental arm and wait list control arm

Table 7 Comparison of Mean, S.D, Pretest Scores on Level of Anxiety of Experimental Arm and Wait List Control Arm

Experimental Arm - pre test		Wait list control arm - pre test		Un paired test	DF	S.E	P	Significance
Mean	S.D	Mean	S.D					
28.12	21.2361	43.36	14.1706	1.3348	8	11.417	0.3639	Not significant

Comparison of the mean, S.D, pre test scores on level of anxiety of experimental arm and wait list control arm depicts that there is no significant difference between the pretest scores of experimental arm and wait list control arm.

Table 8 Comparison of Mean, S.D, Post Test Scores of Anxiety of Experimental Arm and Wait List Control Arm

Experimental Arm - Post Test		Wait List Control Arm - Post Test		Unpaired T Test	DF	S.E	P	Significance
Mean	S.D	Mean	S.D					
21.8	16.3633	35.8	11.70	1.3918	8	10.0588	0.328	Not Significant

Comparison of the mean, S.D, post test scores on level of anxiety of experimental arm and wait list control arm depicts that there is no significant difference between the post test scores of experimental arm and wait list control arm

Table 9 Wilcoxon Signed Rank Test to Find the Difference between Pre Test and Post Test Scores on Risk Factor and Anxiety of Experimental Arm and Waitlist Control Arm

Group	Experimental Arm	Wait List Control Arm	Experimental Arm	Wait List Control Arm	S.D	P	R	Z	Significance
	Pretest Mean	Pre Test Mean	Post Test Mean	Post Test Mean					
Risk Factors	6	28.12	4.6	21.8	1.3166	0.01356	0.8728	-2.4687	Significant
Wait List Control Arm	14.6	43.36	12.4	35.8	8.3358	0.1548	0.8709	2.7539	Significant

Wilcoxon signed rank test depicts that, there is significant difference between the pretest scores and post test scores on risk and anxiety among experimental arm and wait list control arm.

Table 10 Mann - Whitney U Test to Find the Difference between Post test Scores of Experimental Arm and Waitlist Control Arm

Group	Experimental Arm	Wait List Control Arm	U	Z	P	Significance
	Post Test Mean	Post Test Mean				
Risk Factor	4.6	12.4	3.5	-1.77559	.07508	Not Significant
Anxiety	21.8	35.8	7	-1.04447	.29834	Not Significant

Mann - Whitney U Test findings depicts that the difference between post test scores on risk factors and level of anxiety of experimental arm and wait list control arm is not significantly different.

Table 11 Find out the Association between Pretest Scores of Risk of Cervical Cancer and Selected Demographic Variable of Women

Demographic Variables	DF	X^2	T_v	Level Of Significance
Age	4	6.105	9.488	Not Significant
Education	8	18.728	15.507	Significant
Occupation	8	22.959	15.507	Significant
Income	6	3.092	12.592	Not Significant
Education Of The Spouse	8	8	15.507	Not Significant
Occupation Of The Spouse	8	26.26	15.507	Significant
Type of family	2	11.4	5.991	Significant
No. of living children	4	8.103	9.488	Not Significant

Association between pre test scores of level of risk factors and demographic variables of women depicts that, there is significant association between risk factors and education, occupation and occupation of the spouse, a nd there is no significant association between risk factors and age, income, education of the spouse and no of living children.

Table 12 Find Out the Association between Pretest Scores of Anxiety and Selected Demographic Variables of Women.

Demographic Variables	DF	X^2	Tv	Level Of Significance
Age	6	5.639	12.592	Not Significant
Education	12	9.456	21.026	Not Significant
Occupation	12	4.971	21.026	Not Significant
Income	9	3.708	16.919	Not Significant
Education of the Spouse	12	42.10	21,026	Significant
Occupation of the Spouse	12	22.041	21.026	Significant
Type of Family	3	1.902	7.815	Not Significant
No. of Living Children	6	15.166	12.592	Significant

➢ *X2 value with p*

Association between pretest scores of level of anxiety and demographic variables of women depicts that, there is significant association between anxiety and education, occupation of the spouse , no of living children , And there is no significant associadion between anxiety and age, education ,occupation , income of the women and type of family.

V. CONCLUSION

The study findings concludes that , 80% of the women are in low risk level in experimental arm and 60% of the women are in high risk level in wait list control arm and 100% of the women remain in the low risk in experimental arm and in wait list control arm most (60%) of the women has reduced to medium level of risk for cervical cancer.

The findings regarding the level of anxiety among women in experimental arm depicts that, in pretest, 40% of women were experiencing severe level of anxiety and in post-test, majority (40%) of the women experience no anxiety and the level of anxiety among women in wait list control arm depicts that, in pretest and post-test most of the women [60%] were experiencing severe level of anxiety.

Comparison of the impact of nursing interventions on risk of cervical cancer in experimental arm and wait list control arm depicts that, there is a significant impact of nursing interventions on risk factors of experimental arm and wait list control arm.

Comparison of the impact of nursing interventions on level of anxiety in experimental arm and wait list control arm depicts that, there is significant impact of nursing interventions on anxiety of experimental arm and there is significant impact on anxiety in wait list control arm.

Comparison of the mean, S.D, pre test scores on risk factors of experimental arm and wait list control arm depicts that there is a significant difference between the pretest scores of experimental arm and wait list control arm .

Comparison of the mean, S.D, pre test scores on level of anxiety of experimental arm and wait list control arm depicts that there is no significant difference between the pretest scores of experimental arm and wait list control arm.

Wilcoxon signed rank test depicts that, there is significant difference between the pretest scores and post test scores on risk and anxiety among experimental arm and wait list control arm.

Mann - Whitney U Test findings depicts that the difference between post test scores on risk factors and level of anxiety of experimental arm and wait list control arm is not significantly different.

The study findings shows that there is significant association between risk factors and education, occupation and occupation of the spouse, and there is no significant association between risk factors and age, income, education of the spouse and no of living children.

Association between pretest scores of level of anxiety and demographic variables of women depicts that, there is significant association between anxiety and education, occupation of the spouse , no of living children , And there is no significant association between anxiety and age, education ,occupation , income of the women and type of family .

REFERENCES

[1]. Jonathan P Shepherd, 2011. Interventions for encouraging sexual behaviours intended to prevent cervical cancer.

[2]. Ellen Christine Thompson, 2012. The Development of an Intervention to Increase Cervical Cancer Screening Among Guatemalan Women. EliScholar – A DigitalPlatform for Scholarly Publishing at Yale.

[3]. L N Biswas, Sexual Risk Factors for Cervical Cancer Among Rural Indian Women: A CaseControl Study. Int J Epidemiol.1997 Jun;26(3):491-5.

[4]. Martyn Plummer, 2012. Time since first sexual intercourse and the risk of cervical cancer. Int. J. Cancer: 130

[5]. D'Souza, S. R. B., Ranjani, P., Fernandes, S., Pratibha, Noronha, J., Karkada, S., & Kamath, S. (2018). A study to assess functional assessment and lived experiences of cervical cancer patients admitted to a Tertiary Level Hospital of Udupi District, Karnataka-A mixed method protocol. Indian Journal of Public Health Research and Development, 9(4), 321-325.

[6]. Binka C, Doku DT, Awusabo-Asare K (2017) Experiences of cervical cancer patients in rural Ghana: An exploratory study. PLoS ONE 12(10).

[7]. Samantha A. Scott (2015) Knowledge And Anxiety As Barriers To Cervical Cancer Screening Attendance.