

# A Study to Evaluate The Effectiveness of Self Instructional Module on Knowledge Regarding Pap Smear Screening among Female Teachers from Selected Schools of Bangalore

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## ABSTRACT

**Background:** Women of all ages are concerned about cervical cancer. It is the second most frequent cancer in women worldwide. A Pap test can save a woman's life by finding the earliest signs of cervical cancer.

**Objectives:** The aim of the study was to evaluate the effectiveness of self instructional module (SIM) regarding knowledge on Pap smear screening among female school teachers.

**Materials and Methods:** Pre and posttest design was carried out among 60 female schoolteachers from four schools, who were selected by Non Probability Purposive Sampling technique. Data collection was done using structured knowledge questionnaire. The obtained data were analyzed using descriptive and inferential statistics.

**Results:** In pretest, majority 68.3% had inadequate knowledge and the rest 31.7% had moderate knowledge. In posttest, after the introduction of the SIM, majority 70% of the respondents had adequate knowledge and rest 30% had moderate knowledge. The posttest mean score of knowledge 26.28 was comparably more than the pre test mean 13.38 and it was found to be statistically significant (t-value=18.80, df=59) at 0.05 level. Chi-square test revealed that there was statistically significant association between pre-test knowledge score with the socio demographic variables such as duration of marriage ( $\chi^2=16.04$ ), professional qualification ( $\chi^2=8.69$ ), experience in working area ( $\chi^2=10.53$ ), type of family ( $\chi^2=8.10$ ), and family income ( $\chi^2=14.03$ ) at 0.05 level of significance.

**Conclusion:** This study finding indicates that SIM was effective in enhancing the knowledge of female school teachers regarding Pap smear screening and can play a crucial role in reducing the incidence of cervical cancer.

**Key Words:** Cervical cancer; Female school teachers; Knowledge; Pap smear screening; Self instructional module;

## INTRODUCTION

Cervical cancer is one of the gravest threats to women's lives. It is estimated that over a million women worldwide currently have cervical cancer. Most of these women have not been diagnosed, nor do they have access to treatment that could cure them or

prolong their lives. In 2012, 528 000 new cases of cervical cancer were diagnosed, and 266 000 women died of the disease, nearly 90% of them in low- to middle-income countries. [1] Cervical cancer is ranked as the most frequent cancer in women in India. India has a population of

approximately 365.71 million women above 15 years of age, who are at risk of developing cervical cancer. The current estimates indicate approximately 132,000 new cases diagnosed and 74,000 deaths annually in India, accounting to nearly 1/3 rd of the global cervical cancer deaths. [2]

In India, despite the public health importance that cervical cancer merits, there are only sporadic efforts in hospitals and research settings. Regular population based screening using Pap smear cytology is the internationally accepted screening method for cervical cancer. [3] The death rate from cervical cancer has fallen steadily in the last 40 years, with most cases diagnosed as carcinoma in situ because of cervical cancer screening through the Pap smear. [4] Cervical cancer screening is an essential part of a woman's routine health care. It is a way to detect abnormal cervical cells, including precancerous cervical lesions, as well as early cervical cancers. Both precancerous lesions and early cervical cancers can be treated very successfully. Routine cervical screening has been shown to greatly reduce both the number of new cervical cancers diagnosed each year and deaths from the disease. [5] According to American Cancer Society screening for cervical cancer should begin approximately 3 years after first vaginal intercourse, but no later than age 21 years. [6] A regular program of Pap test screening, with appropriate follow-up, can reduce cervical cancer incidence by up to 80%. [7]

Despite of the high incidence of cervical cancer reported in India, still many women are unaware about the availability of Pap smear test as an effective and simple screening test that can prevent deaths due to cervical cancer. Teachers are the persons who can influence the life of others, thus if female teachers are aware of facts about cervical cancer and screening test themselves, then they will be in a position to educate her students especially young girls and the society at large. Hence, this study has been undertaken to evaluate the effectiveness of self instructional module on

knowledge regarding Pap smear screening among female teachers from selected schools of Bangalore.

The objectives of the study were: i) to assess the knowledge regarding pap smear screening among school teachers prior to the administration of self instructional module ii) to assess the knowledge regarding pap smear screening among female school teachers after the administration of self instructional module.

The hypothesis of the study was that there will be significantly higher mean post test knowledge score of the female school teachers regarding Pap smear screening than their mean pretest knowledge score after application of SIM. The hypothesis was tested at 0.05 level of significance.

## **MATERIALS AND METHODOLOGY**

One group pre test post test Pre experimental design was conducted in four selected schools in Bangalore namely Eunice English High School at St. Thomas town, Corporation High School at Pillanna garden, Manahill English High School at Pillanna garden, and JSS Public School at HBR layout. The study was conducted during the month of November 2014. Approval was taken from concerned authorities from related organizations to collect data. Informed consent was obtained from the respondents and they were assured anonymity and confidentiality of the information provided by them.

The Non-Probability Purposive Sampling technique was used to assess the effectiveness of SIM on knowledge regarding Pap smear screening among 60 female school teachers who were available at the time of data collection, willing to participate in the study, working in selected schools of Bangalore and were able to communicate in English were included. Female school teachers who were not able to communicate in English, women with history of carcinoma of the cervix and women who already had total hysterectomy were excluded. In this study the effect of the independent variable (SIM on Pap smear

screening) was measured on the dependent variable (knowledge of female school teachers).

Content validity of the tool was established by extensive literature review, consultation with research advisor and further ensured by the team of 9 experts (>80% rating score for content validity). Nine experts comprise seven nurse educators in the field of Obstetric and Gynecological Nursing, one Gynecologist and one statistician for establishing content validity. The researcher herself developed Self Instructional Module.

Pilot study was conducted among 6 female teachers of Fatima High School at Bridavanagar. Using split half method with Karl Pearson product moment correlation formula tested the reliability of the instrument, and tool was found to be reliable with value of 0.94.

Total of 60 samples were included in the main study. Respondents were assured of their participation in this study as voluntary, and were informed of being free to withdraw from the study if they feel uncomfortable. Structured knowledge questionnaire was administered for the pre-test along with adequate explanation. On an average it took approximately 45 minutes to complete the test, then SIM was provided to each participant. On the day 8th day of administration of the SIM posttest was conducted. Coding the questionnaire rather than putting names maintained anonymity and confidentiality.

Data was checked for completeness and accuracy after the collection. Thereafter, collected data was coded and analyzed using SPSS 20 version. The data was analyzed by using descriptive and inferential statistics. Frequency and percentage distribution mean and standard deviation was used to analyze demographic variables and level of knowledge regarding Pap smear screening. Mean and Standard deviation were used to analyze the level of knowledge regarding Pap smear screening among female school teachers. A paired 't' test was done to compare the mean pre test

and post test knowledge scores. Chi-square test was used to determine the association between selected socio- demographic variables and mean pre test knowledge of female school teachers regarding Pap smear screening.

## RESULTS

**Table 1: Distribution of female school teachers according to demographic variables N=60**

Demographic characteristics	Number (N=60)	Percent
<b>Age in years</b>		
21-30	12	20.0
31-40	28	46.7
41-50	15	25.0
51-60	5	8.3
<b>Marital status</b>		
Married	48	80.0
Single	12	20.0
<b>Duration of Marriage (N=48)</b>		
< 5 years	11	18.3
6-10 years	7	11.7
11-15 years	14	23.3
16-20 years	12	20.0
>20 years	4	6.7
<b>Educational Status</b>		
Diploma	9	15.0
Bachelor	29	48.3
Masters	22	36.7
<b>Experience in working area</b>		
< 2 years	15	25.0
2-4 years	6	10.0
4-6 years	10	16.7
6-8 years	6	10.0
> 8 years	23	38.3
<b>Religion</b>		
Hindu	44	73.3
Christian	12	20.0
Muslim	4	6.7
<b>Type of family</b>		
Nuclear	42	70.0
Joint	18	30.0
<b>Income per month</b>		
Rs.5,000-10,000	7	11.7
Rs.10,001-20,000	15	25.0
Rs.20,001-30,000	14	23.3
Rs.30,001 & above	24	40.0
<b>Source of Information *</b>		
Mass media	18	30.0
Relatives/Friends	22	36.7
Health Professionals	10	16.7
Others	15	25.0

\* Multiple response

The table 1 depicts the socio demographic characteristics of female schoolteachers. Among the total respondents (N=60), the age distribution showed that majority of the respondents 46.7% were in the age group of 31-40 years, and the least 8.3% were between 51-60 years. Majority 80% of the respondents were married and 20% were single. Among

the married teachers, 23.3% of them were married for 11-15 years, 20% were married for 16-20 years, 18.3% were married for less than 5 years, 11.7% were married for 6-10 years and 6.7% had more than 20 years of married life. Majority of the respondents 48.3% had completed bachelor degree, 36.7% had completed master's degree, and 15.0% had completed diploma.

With regards to years of working experience, majority 38.3% had worked for more than 8 years, 25% had less than 2 years of experience, followed by 16.7% had 4-6 years of experience, 10% each with 2-4 years, and 6-8 years of working experience. Religion wise distribution of the respondents revealed that 73.3% were

Hindu, 20% were Christian and 6.7% were Muslim. Based on the type of family, 70% were from nuclear family and 30% of them were from joint family. With regards to family income per month, 40% had 30,001 and above, 25% had between 10,001 and 20,000, 23.3% had between 20,001 and 30,000; 11.7% had monthly income between 5,000 and 10,000. In context to source of information, 36.7% had heard about Pap smear screening from relatives/friends, 30.0% through mass media, 25% of them through other sources, and 16.7% of them had received information through health professionals. Some of the respondents had multiple source of information.

**Table 2: Distribution of female school teachers based on overall knowledge scores N=60**

Level of knowledge	Pre test		Post test	
	Number	Percent	Number	Percent
Inadequate ( $\leq 50\%$ )	41	68.3	0	0.0
Moderate (51-75 %)	19	31.7	18	30.0
Adequate ( $>75\%$ Score)	0	0.0	42	70.0
Total	60	100.0	60	100.0

Table 2 depicts that more than half 68.3% of the respondents had inadequate knowledge and 31.7% had moderate level of knowledge in the pretest whereas the result

of the posttest revealed that majority 70% had gained adequate knowledge and 30% had obtained moderate level of knowledge regarding Pap smear screening.

**Table 3: Over all Pre test and Post test Mean Knowledge on Papsmear screening N=60**

Aspects	Max. Score	Respondents Knowledge				Paired 't' Test
		Mean	SD	Mean (%)	SD (%)	
Pre test	32	13.38	4.3	41.8	13.3	18.80*
Post test	32	26.28	3.2	82.1	10.0	
Enhancement	32	12.90	5.3	40.3	16.6	

\* Significant at 5% level,  $t(0.05, 59df) = 1.96$

The data depicted in the above table shows that the obtained 't' value (18.80) is found to be more than the table value of 1.96 with 59df at 0.05 level of significance so the hypothesis is met which says that there will be a significant change in the knowledge regarding Pap smear screening

among female school teachers working in selected schools in Bangalore. Thus it can be inferred that the self instructional module was effective in enhancing the knowledge of female school teachers in selected schools in Bangalore.

**Table 4: Aspect wise Mean Pre test and Post test Knowledge on Papsmear screening N=60**

Knowledge Aspects	Respondents Knowledge (%)						Paired 't' Test
	Pre test		Post test		Enhancement		
	Mean	SD	Mean	SD	Mean	SD	
General information	45.2	17.4	88.0	10.0	42.6	21.6	15.28*
Meaning, Risk factors, Signs & symptoms and Prevention	39.7	22.4	76.7	18.0	37.0	27.3	10.50*
Purpose and Preparation	37.4	14.8	80.7	13.8	43.3	19.7	17.03*
Procedure, Timings and Result	42.7	18.8	80.0	14.5	37.3	21.4	13.50*
Combined	41.8	13.3	82.1	10.0	40.3	16.6	18.80*

\* Significant at 5% level,  $t(0.05, 59df) = 1.96$

The data depicted in table 4 shows that a paired 't' test was done to compare the mean pre test and post test knowledge scores on each aspects. Mean post-test knowledge score was relatively higher than mean pre-test knowledge scores in all aspects. Knowledge score in each aspect was found to be statistically significant. The calculated t value of all aspects; general information (t=15.28), Meaning, Risk factors, Signs & symptoms and Prevention (t=10.50), Purpose and Preparation (t=17.03), Procedure, Timings and Result (t=13.50) at 0.05 level t=1.96 (59df). Therefore, it is evident that the self instructional module on Pap smear screening was significantly effective in improving the knowledge of female school teachers.

#### **Association between pretest knowledge score and demographic variables**

Chi-square test revealed that there was statistically significant association between pre-test knowledge score with the socio demographic variables such as duration of marriage ( $\chi^2=16.04$ ,  $P=<0.05$ ), professional qualification ( $\chi^2=8.69$ ,  $P=<0.05$ ), experience in working area ( $\chi^2=10.53$ ,  $P=<0.05$ ), type of family ( $\chi^2=8.10$ ,  $P=<0.05$ ), and family income ( $\chi^2=14.03$ ,  $P=<0.05$ ). However, there was no association between pretest knowledge score with age ( $\chi^2= 3.09$ ,  $P=>0.05$ ), marital status ( $\chi^2= 0.02$ ,  $P=>0.05$ ) and religion ( $\chi^2= 4.09$ ,  $P=>0.05$ ).

#### **DISCUSSION**

In the present study, the comparison of overall pretest and post test mean knowledge score of female school teachers on Pap smear screening showed an enhancement mean of 12.90 with SD  $\pm$  5.3. The observed mean percentage enhancement score was found to be 40.3% with SD  $\pm$  16.6. When a paired 't' test was done, the obtained 't' value is 18.80[t (0.05, 59df) = 1.96]. This result is in par with the study conducted in Yenepoya University, [8]

India which assessed the effectiveness of a self instructional module on knowledge regarding childhood attention deficit hyperactivity disorder among teachers. The result showed that mean knowledge score of post test (22.44) was higher than the pre-test score (10.42) and the calculated value (t =24.36) computed between pre-test and post-test was statistically significant ( $p<0.05$ ). Similarly, other studies conducted using SIM approach was effective in improving the knowledge among school teachers. [9,10] Likewise, studies done with pre and post test design using educational intervention has also testified to enhance knowledge on prevention of cervical cancer. [11]

#### **CONCLUSION**

The findings of the study show the effectiveness of the SIM on Pap smear screening with the evidence of increment on knowledge score after application of SIM among female school teachers. Hence, it is necessary to conduct more awareness programme about cervical cancer screening emphasizing the message that Pap smear can reduce the risk of cervical cancer and in turn a positive change in attitude should be brought about towards the Pap test.

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