Effectiveness of Planned Health Education Programme on Cervical Cancer Screening among rural women

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Abstract

Background: Many researches have consistently discussed the factors which interfere Cervical Cancer Screening utilization. However, very little research has been conducted to examine the effective intervention for developing awareness of cervical cancer screening.

Aim and Objective: The study was to evaluate the effectiveness of planned health education programme on cervical cancer screening among rural women in terms of knowledge, attitude and its outcome.

Materials and Methods: A Quasi-Experimental: One group pre-post designed study was conducted among 60 purposively selected rural women in selected rural area of Delhi. The Content validation of the tool and planned health education programme was established. The reliability of Structured Knowledge Interview Schedule and Structured Attitude Scale was tested by using KR 20 and Cronbach alpha. The data was analysed by using both Descriptive and Inferential statistics.

Results: The study revealed that mean post test knowledge scores 15.86 was higher than meanpre test knowledge scores 5.98 as evident from 't' values of 20.71 at 0.05 level of significance. The mean post test attitude scores 24.48 was higher than mean pre test attitude scores 15.03 as evident from 't' values of 18.40 for df59 at 0.05 level of significance. There was significant correlation between posttestknowledge scores and post testattitude scores of rural women as evident from 'r' value of 0.71 at 0.05 level of significance. There was no significant association of post knowledge and attitude scores with selected demographic factors. The Outcome showed 51.6 percent of sample subjects of rural women utilized the screening.

Conclusions: The planned health education programme on cervical cancer screening is the effective intervention for developing awareness in terms of increasing knowledge and changing attitude positively in rural women.

Key Word: Planned heath education programme; Rural women; Structured; Outcome

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I. Introduction

With the change in the life styles and demographic profiles of developing countries, non-communicable diseases are emerging to be important health problems that demand appropriate health education program before they assume epidemic proportion, one of them is cervical cancer. Cervical cancer is the most common cancer among women in most developing countries in Asia, Africa, and Latin America. ^[1] Cervical cancer is the leading cause of cancer mortality among women in India. ^[2] An estimated 141768 new cases and 77,096 deaths due to cervical cancer occurred in India in 2010, contributing to 26per cent and 27per cent of the global burden of cervical cancer incidence and mortality ^[3].

According to WHO classification, the first stage of development is mild dysplasia, which can then progress to becoming moderate dysplasia, severe dysplasia, and then carcinoma in situ or invasive cervical cancer. Mild dysplasia usually regresses on its own without treatment, and doesn't progress to moderate or severe dysplasia. A small percentage of women with mild dysplasia, however, will progress to more severe forms, although this can take as long as 10 years. Women with moderate to severe dysplasia are at high risk of developing invasive cancer, although the progression from severe pre-cancerous lesions to cancer may take several years as well.

Burden of cervical cancer is much higher among women of low Socio economic status, as well as among rural women in India. The primary reasons are the lack of access to screening and health services, and lack of awareness of the risk factors of cervical cancer. Due to this, HPV infection and precancerous lesions go unnoticed and develop into full blown cancer before women realise they need to go for medical help .Thus, the burden of this debilitating disease is highest in the most disadvantaged sections of Indian society. [4]

There are so many methods to detect premalignant lesion such as conventional Pap smear, liquid based cytology, Visual inspection Acetic acid (VIA) and HPV Testing. However, there is still problem of awareness of cervical cancer and were not utilizing the services. The major factors identified by the women that influence screening utilization were ignorance, illiteracy, belief in not being at risk, having many contending issues, nonchalant attitude to their health, financial constraint and fear of having a positive result. Other factors such as poor awareness, shyness, poor hygiene, and old age. [5]

Health for all is the goal of World Health Organisation and the key to the attainment of this is through Primary Health care ,which gives importance to the health care by the people, for the people and from the people in order to maintain and promote good health ,one needs to have adequate information on health matters. Health screening is obvious corollary in preventing action. It can be a positive step towards health insurance against a cancer screening programme that can detect 3-4 times as many precancerous as cancer and thus help prevention in these patients. Screening also helps in early detection of the disease at a stage where per cent of cure is high and the fatality rate of cases detected in the screening programme is very low.

Statement of the problem

A study to evaluate the effectiveness of Planned Health Education Programme on Cervical Cancer Screening among rural women in terms of knowledge, attitude and its outcome in selected rural area of Delhi."

Objectives

- 1. To assess knowledge and attitude on Cervical Cancer Screening.
- 2. To develop the Planned Health Education Programme on cervical cancer screening.
- 3. To evaluate the effectiveness of Planned Health Education Programme on cervical cancer screening in terms of knowledge and attitude scores.
- 4. To seek the relationship between post testknowledge scores and post test attitude scoresof rural women on cervical cancer screening after administration of Planned Health Education Programme .
- 5. To seek the association of post test knowledge scores and post attitude scores with selected factors (Age ,Educational status, Marital status and Husband educational status).
- 6. To determine the outcome of Planned Health Education Programme.

Hypothesis

H1: The mean post test knowledge scores of rural women will be significantly higher than the mean pretest knowledge scores after the administration of Planned Health Education Programme on cervical cancer screening as evident measured by Structured Knowledge Interview Schedule at 0.05 level of significance.

H2: The mean post test attitude scores of rural women will be significantly higher than the mean pre test attitude scores after the administration of Planned Health Education Programme on cervical cancer screening as measured by Structured Attitude Scale at 0.05 level of significance.

H3: There will be significant relationship between post test knowledge scores and post testattitude scoresof rural women after the administration Of Planned Health Education Programme on cervical cancer screening at 0.05 level of significance.

H4: There will be significant association between post test knowledge scores and selected factors.

H5:There will be significant association between post test attitude scores and selected factors

II. Material and Methods

Study Design: A Quasi Experimental: One group pre-post test design.

Setting: The Pilot study was conducted at PuthKhurd Village, New Delhi and Final study was conducted at Sultan PurDabas, New Delhi.

Target Population: Rural women

Sampling Technique: Purposively sampling technique.

Inclusion Criteria:

- Woman who was above 30 years of age.
- Woman had no history of cervical cancer screening since last three year.
- Woman had given written consent for participation in the study.

Exclusion Criteria:

- Woman who had history total hysterectomy.
- Woman who was pregnant.
- Woman was diagnosed cases of carcinoma cervix.
- Woman who was not willing to take part in the study.

Sample Size: Pilot study -20 rural women and final study - 60 rural women.

Tools for Data Collection

Development and description of tool: There were four sections in the tool as mentioned below

Section -A **Demographic characteristics**: It comprised of 10 items on demographic data of rural women e.g age, educational status, marital status, husband education status, income status, number of children, age of marriage, other health problems, history of cancer in family and using mass media for health care.

Section -B **Structured knowledge interview schedule :**It comprised of 25items of multiple choice questions and 5items of true and false. Each item had a single correct answer .Every Correct answer was accorded a score of one point and every wrong answer was assigned a zero score. Total score was 30.Blue print of the Knowledge questions covered the following content areas:

- Introduction
- Define term cervical cancer
- Myth regarding cervical cancer and its screening
- Female reproductive system
- Risk factors for cervical cancer.
- Sign and symptoms of cervical cancer
- Preventive measures for cervical cancer
- Cervical cancer Screening
- Perineal hygiene

Section -C **Structured Attitude Scale**:It Comprised of 20 items using 3 point likert scale with responses agree, undecided and disagree. The scores of attitude scale ranged from 0 to 40.

Section D-Structured Performa for Outcome: A Structured Performa for Outcome was prepared to getnumber of Cervical cancer screening utilized by sample after administration of Planned Health Education Programme. In this Performa, two main item with sub-items covered the description of outcome e.g Utilization of Screening, place of screening, type of screening utilized, cooperation of spouse.

Content validity of the tools: In the order to measure the content validity, tools were given to 13 experts from the field of oncology, gynaecology and community. The experts were requested to judge the items based on objectives, relevance, adequacy of content, organization, clarity and feasibility. Necessary modification were incorporated on the basis of suggestions given.

Try out of the tools:After obtaining administrative approval, try out of tools were established on 20 rural women. The sample chosen were similar in characteristics to those the population under study to test the items. The items were found clear and well understood by the rural women. Items difficulty value and discrimination value were calculated. The item difficulty ^[6,7] was between 20% to 80 % and discrimination value ^[6,7] was between 0.15 to 0.42. Items within this range were retained and three knowledge items were rejected. All attitude items were retained .Final tools consist of 30 knowledge items and 20 attitude items.

Reliability of the tools: Structured Knowledge Interview schedule The reliability co efficient for the Structured Knowledge Interview Schedule was calculated using Kuder Richardson -20 formula^[6,7]. The reliability co efficient was found 0.79. Thus, Structured Knowledge Interview Schedule was found reliable. **Structured Attitude scale:** The reliability co efficient for Structured Attitude Scale was calculated using Cronbach alpha (Coefficient alpha)reliability ^[6,7]. The reliability co efficient was found 0.82. Thus, Structured Attitude Scale was found reliable.

Development and description of planned health education programme: Planned health education programme was developed by reviewing relevant literature which include the research and non researchliterature ,books , journals , newspaper . The lesson plan of the content was prepared first in English language, later translated to hindi and validated by one experts in hind in literature . Content validity of Planned Health Education Programme was obtained by submitting it to 13 experts utilizing criteria checklist consisted of identification of objectives , selection of content , language , teaching aids , feasibility and practicability. Necessary modifications were done as per the suggestions and the remarks given by the experts.

Procedure methodology

After obtaining formal administrative approval and feasibility of the pilot study, final study was conducted from 15th December to 8th January 2013 at selected rural area of Delhi. On the first day, Pre-test was administered by using tool after obtaining informed consent. Second day, Planned Health Education Programme was administrated and on the eighth day, post test was administered using same tool. Outcome was assessed for three

weeks from the day of administration of planned health education programme by using Structured Performa for outcome.

Statistical analysis

The data was analysed by using both Descriptive and Inferential statistics. The following plans of analysis were developed based on the objectives of the study.

- 1. Frequency and percentage distribution of the sample in the study.
- 2. Mean, median and standard deviation of pretest and post test knowledge scores.
- 3. t value to determine the significances of differences between pre testand post testknowledge scores.
- 4. Mean, median and standard deviation of pretest and post testattitude scores.
- 5. t value to determine the significances of differences between pretest and post test attitude scores.
- 6. Pearsons product moment coefficient of correlation to establish relationship between post test knowledge scores and post testattitude scores.
- 7. Chi Square to find out association of post test knowledge and attitude scores with selected factors.
- 8. Frequency and percentage distribution of the outcome.

III. Results

Section 1: Frequency and percentage distribution of the sample subjects.

Data presented in Table 1 shows Frequency and percentage distribution of the sample characteristics.

Table 1 Frequency and percentage distribution of sample

N = 60

			N=60
	Sample characteristics	Frequency	Percentage
1	Age		
a)	30- 40	38	63
b)	41 - 50	12	20
c)	51- 60	6	10
d)	61 Above	4	7
2	Education status		
a)	No or below primary education	20	33.3
b)	Primary education	20	33.3
c)	High Secondary education	17	28.3
d)	Graduation	3	5
3	Marital Status		
a)	Unmarried	0	0
b)	Married	53	88.3
c)	Widow	7	11.7
d)	Divorced	0	0
4	Education status		
a)	No or below primary education	5	8.3
b)	Primary education	13	21.7
c)	High Secondary education	32	53.3
d)	Graduation	10	16.7
5	Family income (Socio economic status)		
a)	<rs (="" 5000="" lower)<="" td=""><td>37</td><td>61.7</td></rs>	37	61.7
b)	Rs 5001 -10000 (Lower Middle)	10	16.7
c)	Rs 10001 -15000 (Upper Middle)	7	11.7
d)	>Rs 15001 (Upper)	6	10
6	Age of marriage		
a)	Below 18 year	42	70
b)	19 -25 year	18	30
c)	26 - 30 year	0	0
d)	Above 31 year	0	0
7	Number of Children		
a)	One	3	5
b)	Two	21	35
c)	Three	22	36.7
d)	More than three	14	23.3
8	Using mass media for health care		
a)	Regularly	0	0
b)	Occasionally	11	18.3
c)	Never	49	81.7
9	History of health problem		
a)	Yes	7	11.7
b)	No	53	88.3

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10	Family History for cancer		
a)	Yes	3	5
b)	No	57	95

Section 2(a): Mean, median and standard deviation of pretest and post test knowledge scores

The data presented in Table 2 shows the comparison between pre test and post test knowledge scores on cervical cancer screening obtained by rural women. The mean post test knowledgescores (15.86) was, respectively higher than pre test mean knowledge scores (5.98). The data further shows that the median was found (17) but pre test was found (5.5). The standard deviation of the post test scores (4.81) was higher than the standard deviation of the pre test scores (1.71), indicating that the post test scores were more heterogeneous than the pretest scores. The mean, median and standard deviation of pre test and post test knowledge scores illustrated in Fig 1.

Table 2 Mean, Median, and Standard deviation of pre test andpost test knowledge scores ofrural women.

	N=60			
Mean Median				
Pre test	5.98	5.5	1.71	
Post Test	15.86	17	4.81	
1 Ost 1est	13.00	17	4.01	
	Pre test Post Test	Pre test 5.98	MeanMedianPre test5.985.5	Mean Median S D Pre test 5.98 5.5 1.71

The maximum possible knowledge score is 30

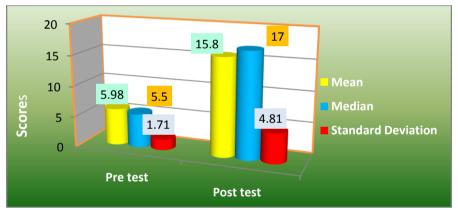


Fig 1Cylindrical graph showing comparison between pre test and post test Knowledge Scores in terms of mean ,median and standard deviation

$Section\ 2 (b): \textbf{Finding t value to determine the significances of differences between pre \ test\ and\ post\ test\ knowledge\ scores$

The data presented in Table 3 that the mean post test knowledge scores (15.86) was higher than mean pre test knowledge scores (5.98) with a mean difference of 9.9 .The 't' values of 20.71 for df 59 was found to be statistically significant at 0.05 level. This shows that the obtained mean difference of 20.71 was true difference and not by chance. Thus, the null hypothesis (HO1) was rejected and research hypothesis (H1) was accepted. Thus, it can be inferred that the planned health education programme was effective in enhancing the knowledge of rural women on cervical cancer screening.

Table 3 Mean, Mean differences, Standard deviation of difference, Standard error of mean difference and 't' value of pre test and post test knowledge scores of rural women

	Mean	M D	S D D	S E MD	't' value
Pre test	5.98	9.9	3.705	0.478	20.71*
Post test	15.86				

^{*} Significant at 0.05 level of significance, df (59),t = 2.01 at 0.05 level of significance

Section 3(a): Mean, median and standard deviation of pretest and post test attitude scores

The data presented in Table 4 shows the comparison between pre test and post test attitude scores obtained by rural women. The mean post test attitude scores(24.48) was higher than mean pre test attitude scores (15.03). The data further shows that the median of post test attitude scores was found (26) but pre test it was found (15). The standard deviation of the post test scores(4.8) was higher than the standard deviation of the pre test scores(2.3), indicating that the post test attitude scores were more heterogeneous than the pretest score. The mean, median and standard deviation of pre test and post test attitude scores had been illustrated in Fig 2

Table 4 Mean, Median and Standard deviation of pre test and post test attitude scores of rural women

N=60

		Mean	Median	S D
Attitude	Pre test	15.03	15	2.3
	Post Test	24.48	26	4.8

The Maximum possible score is 40

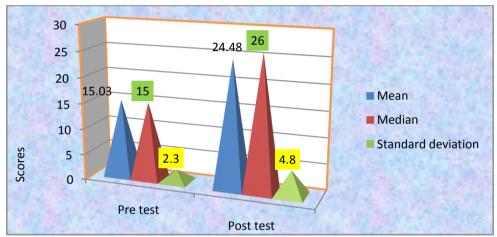


Fig 2Cone Graph showing Comparison between pre test and post test attitude score in terms of mean, median and standard deviation

Section 3(b): Finding t value to determine the significances of differences between pre test and post test attitude scores

The data presented in Table 5 shows that the mean post test attitude scores (24.48) was higher than the mean pre test attitude scores (15.03) with a mean difference of 9.41. The 't' values of 18.40 for df 59 was found to be statistically significant at 0.05 level. This shows that the obtained mean difference of 18.40 was true difference and not by chance. Thus, the null hypothesis (HO2) was rejected and research hypothesis (H2) was accepted. Thus, it can be inferred that the planned Health education programme was effective in changing the attitude of rural women on cervical cancer screening positively.

Table 5 Mean, Mean differences, Standard deviation of difference, Standard error of mean difference and 't' value of pre test and post test attitude scores of rural women

N=60

	Mean	M D	S D _D	S E _{MD}	't'value
Pre test	15.03	9.41	3.81	0.51	18.40
Post test	24.48				

^{*}Significant at 0.05 level of significance, df (59), t = 2.01 at 0.05 level of significance

Section 4: Pearsons product moment coefficient of correlation to establish relationship between post test knowledge and post attitude scores.

The data presented in Table 6 shows that the mean post test knowledge scores (15.86) correlation with mean post test attitude scores (24.48). It shows that there was correlation between post knowledge scores and post attitude scores by pearsons product method, (0.71). Thus, the null hypothesis (HO2) was rejected and research

hypothesis (H2) was accepted. Thus, it can be inferred that Planned Health Education Programme was effective in changing the attitude positively on cervical cancer screening with increasing knowledge of rural women.

Table 6 Co-efficient of Correlation between post testknowledge scores and post testattitude score of rural women

N = 60

Variables	Maximum Score	Mean	SD	r = 0.71
Knowledge	30	15.86	4.81	
Attitude	40	24.48	4.8	

^{*}Significant at 0.05 level of significance, df(59),t = 0.27 at 0.05 level of significance.

Section 5:Chi Square to find out association of post test knowledge and attitude scores with selected factors.

Data presented in Table 7 that shows that there was no significant association between post test knowledge scores with selcted factors. Thus, null hypothesis was accepted and research hypothesis was rejected.

Table 7Chi square showing significance association between post test knowledge scores of rural women and selected factors. N=60

	Sample Factors	Below median	Above median	df	Table value E	Chi Square value
1	Age					
a.	30- 40	21	17	3	7.815	1.1232 ^{NS*}
b.	41 - 50	6	6			
c.	51- 60	4	2			
d.	61 Above	2	2			
2	Education status	_	_	_		
a.	No or below primary education	11	9	3	7.185	1.740 ^{NS}
b.	Primary education	10	10			
c.	High Secondary education	11	6			
d.	Graduation	1	2			
3	Marital Status					
a.	Unmarried	0	0	1	3.814	0.2459 ^{NS}
b.	Married	28	25			
c.	Widow	4	3			
d.	Divorced	0	0			
4	Husband Education status					
a.	No or below primary education	2	3	3	7.185	12731 ^{NS}
b.	Primary education	6	7			
c.	High Secondary education	18	14			
d.	Graduation	5	5			

Significant at 0.05 level of significance * NS :Not Significant

Data presented in Table 8 that shows there was no significant association between post test attitude scores with selected factors. Thus, null hypothesis was accepted. Reaserch hypothesis was rejected.

Table 8 Chi square showing significance association between post test attitude scores of rural women and selected factors. N=60

	Sample Factors	Below median	Above median	df	Table value E	Chi Square value
1	Age					
a.	30- 40	19	18	3	7.815	5.490 ^{NS*}
b.	41 - 50	2	9			
c.	51- 60	4	2			
d.	61 Above	2	2			
2	Education status					
a.	No or below primary education	7	11	3	7.815	4.4858 ^{NA}
b.	Primary education	12	8			
c.	High Secondary education	8	9			

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d.	Graduation	0	3			
3	Marital Status					
a.	Unmarried	0	0	1	3.814	0.3452 ^{NS}
b.	Married	24	29			
c.	Widow	4	3			
d.	Divorced	0	0			
4	Husband Education status					
a.	No or below primary education	1	4	3	7.815	2,2112 ^{NS}
b.	Primary education	6	7			
c.	High Secondary education	17	14			
d.	Graduation	4	5			

Significant at 0.05 level of significance * NS :Not Significant

Section 6: Frequency and percentage distribution of the outcome

Data presented in Table 9 shows the frequency and percentage distribution of the outcome. 51.6 per cent sample subjects utilized screening after administration of planned health education programme on cervical cancer screening.

Table 9 Frequency and percentage distribution of outcome

N1=31

	Sample Characteristics	Frequency distribution of population (N)	Frequency distribution of outcome (N 1)	Percentage distribution of outcome
1	Age			
a.	30- 40	38	21	68
b.	41 - 50	12	8	26
c.	51- 60	6	2	6
d.	61 Above	4	0	0
2	Education status			
a.	No or below primary education	20	7	22
b.	Primary education	20	12	39
c.	High Secondary education	17	9	29
d.	Graduation	3	3	10
3	Husband Education status			
a.	No or below primary education	5	3	10
b.	Primary education	13	6	19
c.	High Secondary education	32	16	52
d.	Graduation	10	6	19

IV. Discussions

In the present study, it was found that there was low mean knowledge scores on cervical cancer screening among rural women in every age group of the sample in pre test. But after administration of Planned Health Education Programme,rural women were able to increase their knowledge and change attitude positively. Planned Health Education Programme was found to be effective strategy for increasing the knowledge and changing into positive attitude in rural women. This had beensupported by MadhumitaDey (2006) ^[8] in which researcher found that urban women after administration of Planned Health Education Programme increased their knowledge and outcome .The study conducted by Vijay Murthy (2010)^[9] found that Booklet as the education strategies was effective in enhancing the knowledge of school teacher regarding the causes risk factors, preventive measures, early detection and treatment of cervical cancer.

This study also indicated that there was arelationbetween the post testknowledge scores andpost testattitude scoresof rural women. The findings also showed that there was no significant association between post test knowledge and attitudescores with age, education status of rural women, marital status and husband education status. The study reflected to the outcome where 51.6percent sample subjects utilized screening.

V. Conclusions

The study revealed that rural women had knowledge deficit and negative attitude towards cervical cancer screening. Implementation of systematically and scientifically based Health education to target group found significantly effective intervention to develop the awareness and change the attitude positively. Therefore, it reflects into the positive outcome.

Limitation

- The study was confined to a small number of rural women.
- The study was limited to a selected rural area of Delhi.

- The tool was valid to and applicable only to person had knowledge of Hindi and English.
- Planned health education programme was administered once in the study.
- Outcome of the study was limited to descriptive analysis and assessed for three weeks after administration of Intervention.

Implication of the study

- **Nursing Practice**: The nurse has vital role in promotion and prevention of cancer who should participate in various cancer screening programme at community level and should acquire skills in screening for cervix.
- **Nursing Education**: Education is one of the powerful interventions for developing awareness and health education is integral part of nursing practice. Nursing curriculum needs to upgrade the community health education for using different method of teaching to educate primary health workers and community based target population.
- **Nursing Administration**: There is need to provide more facilities and advanced equipment's for cervical cancer screening.
- Nursing Research: Similar study can be conducted in different settings and population.

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Ethical Consideration

Ethical clearance granted from institutional ethical committee. Informed consent taken for participation.

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Nil

Conflicts of Interest

There are no conflicts of interest.

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