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ORIGINAL ARTICLE

Effectiveness of Video Assisted Teaching Program (VATP) in Improving Knowledge Regarding Antenatal Examination among Nursing Students

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Abstract

Background: Pregnancy is one of the momentous events in the life of a woman, her family and the society as a whole. Antenatal assessment is important in identifying the complications at the earliest during antenatal period. Nursing students performing antenatal examination should possess adequate knowledge to assess the well-being of the foetus and the mother.

Objective: To assess the pre-existing levels of knowledge among nursing students on antenatal examination; To assess the effectiveness of video assisted teaching program; To compare the pre and posttest levels of knowledge of students; To determine the association between the pretest knowledge scores and socio demographic variables.

Methodology: Quasi-experimental, non-equivalent control group research design was adopted for this study. The study was conducted involving 30 subjects (Control- 15 and Experimental group- 15), who were selected by purposive sampling technique. A structured knowledge questionnaire was developed for evaluation. The experimental group received video assisted teaching after their pre-test. The data obtained were analyzed using descriptive and inferential statistics.

Results: The study results revealed that all the experimental group students demonstrated inadequate knowledge regarding antenatal examination in the pre-test. The pretest mean percentage was found to be 68.6%. The video assisted teaching program on antenatal examination was found to be effective as it resulted in increased levels of knowledge after its implementation among the experimental group. The post-test mean percentage increased to 208%.

Conclusion: The overall findings of the study clearly showed that the video assisted teaching program was effective in improving the knowledge among students.

Keywords: Nursing students, Knowledge, Antenatal examination, Video Assisted Teaching Program

Introduction

Pregnancy is one of the happiest moments in a woman's life. The goal of prenatal evaluation, an essential part of prenatal care is to ensure healthiest outcomes for both mother and the child. It entails systematically checking a woman for difficulties during pregnancy. A thorough history is recorded and physical examination is performed. The early 1900s saw the development of European models for antenatal care, and these models were the basis for the traditional approach, which presupposed that pregnant women would benefit from many visits.[1]

A woman spends nine months of her pregnancy yearning to embrace her bunch of glee in her hands, making it one of the most unforgettable times in her life. All the mothers expect for a healthy baby by having a successful

conception and labour. Every mother needs sufficient prenatal care to have a positive pregnancy and labour outcome. Pregnancy is challenging and may be associated with complications, for which adequate antenatal care and appropriate measures should be taken in time. Adequate knowledge of mothers about pregnancy helps to encounter the transfiguration to parenting without any unpredictable occurences.[2]

The term "Antenatal care" also refers to Prenatal care, which is designed to offer frequent examinations that enable early identification and prevention of possible health issues during the course of pregnancy.[3] During antenatal check-ups, pregnant women receives education on nutrition, recommendations on healthy lifestyle practices, etc. The availability of routine antenatal care has reduced maternal as well as perinatal mortality rates.[4]

In contrast to other examinations, the prenatal examination evaluates both mother's and the foetus's health at the same time. The ability to assess pregnancy health, any risk factors that require attention, and any parental worries should be based on the early history. A thorough history will also help focus on particular symptoms during the examination. Hence, it is important that a succinct and methodical procedure is devised for gathering women's history and a detailed examination is undertaken not to overlook any vital information.[5]

For primigravida's in particular, pregnancy is a sensitive matter. Hence, it is important to obtain consent before any examination. It is important to do a comprehensive and methodical abdominal examination. The abdominal exam is performed as the pregnancy progresses to confirm if foetal growth is compatible with gestational age.[6,7]

Objectives

- To assess the pre-existing levels of knowledge among nursing students on antenatal examination
- To assess the effectiveness of video assisted teaching program
- To compare the pre and post-test levels of knowledge among students
- To determine the association between the pre-test knowledge scores and socio demographic variables.

Materials and Methods

Quasi-Experimental research design (consisting of one interventional and one control group) was utilized. Thirty subjects (Control- 15 and Intervention group- 15) were selected through purposive sampling technique. Based on the inclusion criteria, samples were selected. Pre-testing was done for both the groups on the first day for around 25–30 minutes by administering a structured knowledge questionnaire, and then the experimental group received video assisted teaching program (VATP) for 40–45 minutes on the same day. Both the groups took a post-test seven days later.

Section–A: Baseline variables

There were six components, like age in years, sex, religion, marital status, type of family, and source of information about antenatal examination.

Section-B: Structured knowledge questionnaire regarding antenatal examination

This section consisted of 35 items regarding antenatal examination. One point was given for the right answer and the wrong answer was given zero. The items were developed to cover different areas such as, General information (05 items), Examination of eyes and face (02 items), Examination of breasts (04 items), Examination of abdomen (24 items). Based on the scores gained by the nursing students, the knowledge levels were arbitrarily categorized into following groups- Good: 75-100% (26-35), Average: 50-75% (18-26) and Poor: < 50% (10-18).

Results

The data collected were tabulated, analysed and presented in the following tables.

The data in Table 1 shows that 60% of subjects in both the groups were 20 years old. Majority of the students were females in both the groups, except for one male student in interventional group. In the experimental group, Hindus and Christians comprised 46.7% each, while in the control group, 66.7% were Hindus and 33.3% were Christians. 100% of students were unmarried in both the groups. Majority (66.7%) of the students were from nuclear families and 33.3% were from joint families in the interventional group. In the control group, 46.7% were from nuclear families and 53.3% were from joint families. Majority (53.3%) of the participants in the interventional group received information regarding antenatal examination through their family and friends and in the control group majority (46.7%) received the information through print media.

Table 1: Baseline variables (N=30)

Sl. No	Baseline variables	Interventional group		Control group	
		f	%	f	%
1.	**Age**				
	19	01	6.7	02	13.3
	20	09	60	09	60
	21	05	33.3	04	26.7
	22	-	-	-	-
2.	**Sex**				
	Male	01	6.7	-	3.3
	Female	14	93.3	15	96.7
3.	**Religion**				
	Hindus	07	46.7	10	66.7
	Muslims	01	6.7	-	-
	Christians	07	46.7	05	33.3
	Any others	-	-	-	-
4.	**Marital status**				
	Unmarried	15	100	15	100
	Married	-	-	-	-
5.	**Type of family**				
	Nuclear	10	66.7	07	46.7
	Joint	05	33.3	08	53.3
	Extended	-	-	-	-
6.	**Source of information**				
	Family and Friends	08	53.3	04	26.7
	Health Personnel	01	6.7	03	20
	Print Media	01	6.7	07	46.7
	Nursing curriculum	05	33.3	01	6.7

Table 2: Interpretation of student's knowledge on antenatal examination (N=30)

Sl. No	Grading	Pre-test				Post-test			
		Interventional		Control		Interventional		Control	
		f	%	f	%	f	%	f	%
1.	Inadequate Knowledge (0-15)	13	86.7	08	53.4	0	0	9	60
2.	Moderate Knowledge (16-25)	2	13.3	05	33.3	0	0	4	26.7
3.	Adequate Knowledge (26-35)	0	0	02	13.3	15	100	02	13.3
TOTAL		**15**	**100**	**15**	**100**	**15**	**100**	**15**	**100**

Table 2 explains that in pre-test, 86.7% had inadequate knowledge, 13.3% had medium comprehension in interventional group, while in the control group, 53.4% had low knowledge, 33.3% had medium comprehension and only 13.3% had sufficient knowledge regarding antenatal examination. The table also shows that in post-test, 100% of students in the interventional group showed adequate knowledge, while in the control group, 60% showed poor knowledge, 26.7% had medium information and only 13.3% had sufficient information regarding antenatal examination.

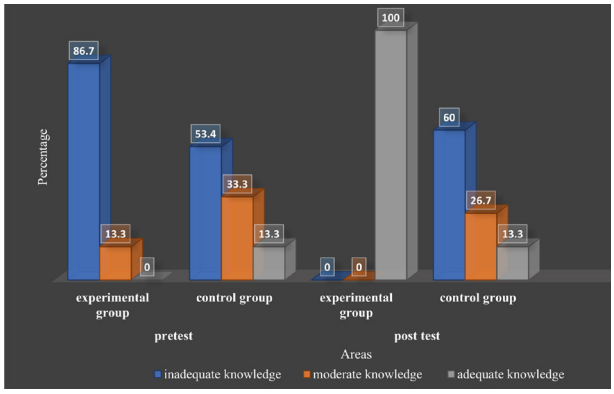

Figure 1: Bar diagram representing the levels of knowledge among students on antenatal examination

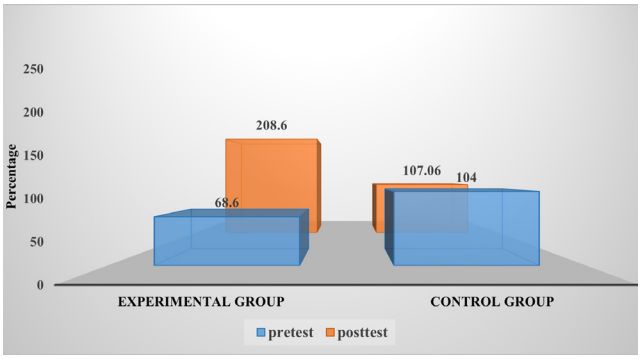

Figure 2: Pie diagram representing the mean percentage scores of knowledge of subjects on antenatal examination

Table 3: Comparison of mean percentage knowledge levels of subjects on antenatal examination (N=30)

Knowledge	No. of Items	Max. Score	Interventional group					Post-test				
			Mean	SD	Median	Mean %	Statistical inference	Mean	SD	Median	Mean %	Statistical inference
Pre-test	35	35	10.3	3.2	9.0	68.6	16.66*	15.6	6.96	15.0	104	0.20
Pre-test	35	35	31.2	29.6	31	208		16.06	6.28	15.0	107.06	

Table 4: Area wise analysis of student's knowledge levels (N=30)

Sl. No	Areas	No. of items	Max. Marks	Interventional group						Control group					
				Pre-test			Post-test			Pre-test			Post-test		
				Mean	Sd	Mean % of pre-Test	Mean	Sd	Mean % of post test	Mean	Sd	Mean % of post test	Mean	Sd	Mean % of post test
1.	General Information	05	05	1.2	1.52	8	5	0	33.3	2.8	1.16	18.6	2.73	1.23	18.2
2.	Examination of eyes and face	02	02	0.66	0.59	4.4	1.93	0.24	12.9	0.66	0.59	4.4	0.66	0.59	4.4
3.	Examination of breast	04	04	1.06	1.05	7.06	3.86	0.34	25.7	1.4	1.25	9.33	1.6	1.2	10.6
4.	Examination of abdomen	24	24	6.6	2.41	44	20.4	5.02	136	1.6	4.68	10.6	1.3	4.17	8.6
TOTAL		**35**	**35**	**9.52**	**5.57**	**63.46**	**31.19**	**5.6**	**207.9**	**6.46**	**7.68**	**42.93**	**6.29**	**7.19**	**41.8**

Table 3 depicts that in the interventional group the obtained 't' value was 16.66 which was significant at p <0.001 (3.97) and the control group had a value of 0.20 which was not significant at p <0.001 (636.62).

In the interventional group, the mean percentage of pre-test knowledge scores was 44% regarding the examination of abdomen, 7.06% regarding the examination of breasts, 4.4% for examination of eyes and face and 8% about general information. The analysis of post-test scores revealed a mean percentage of 136% regarding the examination of the abdomen, 33.3% for general examination, 25.7% regarding examination of breasts and a mean percentage of 12.9% for examination of eyes and face. However in the control group, the mean % of knowledge score was 10.6% regarding abdominal examination, 9.33% for examination of breasts, 4.4% for examination of eyes and face and 18.6% for general information. In the post-test, the mean percentage of knowledge scores was 8.6% for abdominal examination, 18.2% for general examination, 10.6% for examination of breasts and 4.4% for examination of eyes and face (Table 4).

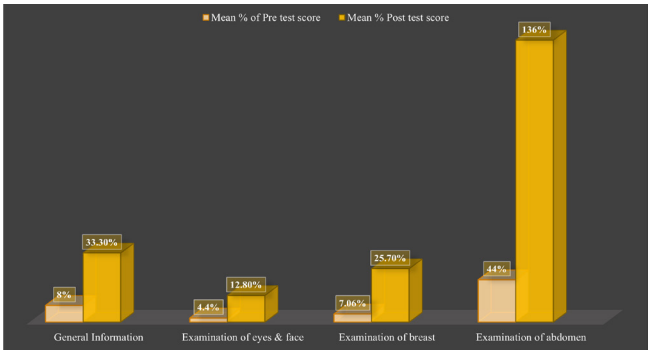

Figure 3: Bar diagram representing the analysis of average percentage of knowledge levels in experimental group (N=15)

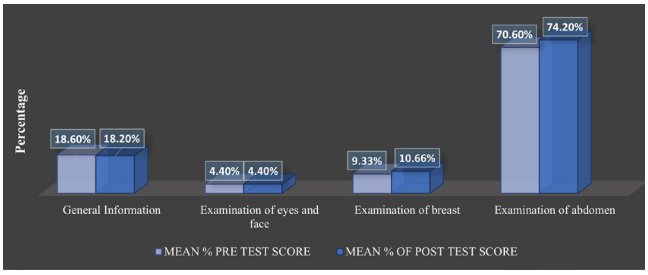

Figure 4: Bar diagram representing analysis of mean percentage by area in control group

Table 5: Association of levels of knowledge with the demographic characteristics (N=30)

Sl. No	Demographic variables	Interventional group			Post-test		
		Below median	Above median	(χ^2)	Below median	Above median	(χ^2)
1.	**Age in Years**						
	19	1	0		1	1	
	20	3	6	**2.13**	5	4	**1.03**
	21	3	2		1	3	
	22	0	0		0	0	
2.	**Sex**						
	Male	0	1	**1.29**	0	0	**0**
	Female	7	7		7	8	
3.	**Religion**						
	Hindu	3	4		4	6	
	Muslim	0	1	**2.24**	0	0	**0.51**
	Christian	4	3		3	2	
	Any others	0	0		0	0	
4.	**Marital Status**						
	Unmarried	7	8	**0**	7	8	**0**
	Married	0	0		0	0	
5.	**Type of family**						
	Nuclear	5	5	**0.136**	1	6	**5.51***
	Joint	2	3		6	2	
	Extended	0	0		0	0	
6.	**Source of information**						
	Family & Friends	6	2		1	3	
	Health Personnel	0	1	**5.69**	3	0	**6.22**
	Print media	0	1		2	5	
	Nursing Curriculum	1	4		1	0	

*significant at p >0.05

Discussion

Based on evaluation of pre-test knowledge of the students in the intervention group, none in the group had sufficient understanding about prenatal examination (86.7%); only 13% had medium knowledge. In the control group, 13.3% had acceptable knowledge about prenatal examination, 33.3% had medium understanding, while 53.4% had insufficient information.

The interventional group had significant value of 16.66% at p <0.001, the control group's value was 0.20 which was not significant. This indicates that the students in interventional group showed increased levels of knowledge regarding antenatal examination in their post-test compared to pre-test.

A study conducted in Pondicherry to assess the influence of video-assisted training program on pregnant women's knowledge and attitudes at primary health centres reported similar results to our study. They reported that video-assisted training program was effective in improving knowledge on prenatal care (t=20.924) and attitude towards it (t=8.148) among expectant mothers. There was a considerable difference in knowledge and attitude between the pre-test and post-test.[8]

It was further corroborated by a study that examined the effects of VATP on knowledge about prenatal examination during the third trimester among 50 fourth-year BSc nursing students in Lucknow. The study findings indicated that administering a video-assisted teaching program boosted post-test knowledge scores, demonstrating that this is one of the greatest teaching strategies for increasing students' knowledge levels.[9]

At the level of p <0.001, the computed paired 't' test value of 16.66 was significant. These results show that the knowledge scores following the test were greater than the knowledge scores prior to it. It demonstrates the effectiveness of VATP in experimental group.

In the control group, the paired 't' test value was 0.20, indicating that the post-test knowledge scores were inadequate as there was no implementation of VATP.

With a χ^2 value of 5.51, the type of family significantly correlated with pre-test knowledge scores in the control group.

A descriptive study that was undertaken in Udaipur city to evaluate the understanding of antenatal care among BSc nursing students from selected nursing colleges provided similar evidence. The results showed an association between knowledge scores and a number of socio-demographic characteristics.[9,10]

Conclusion

- The findings showed that all the interventional group students had inadequate pre-test knowledge regarding antenatal examination.
- The VATP on antenatal examination was effective in increasing the knowledge levels among students in interventional group.
- On comparison of pre and post-test knowledge scores, the interventional group had a t-value of 16.66, while in the control group the t-value was 0.20.
- Except for type of family, no correlation between the pretest knowledge scores and the demographic characteristics was observed in the control group.
- There was no correlation between the intervention group's pre-test knowledge levels and the selected demographic factors.
- It is clearly evident from the results of the present study that the video-assisted teaching program was effective in improving student's knowledge.

Conflict of Intreset

None

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