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Research article

Effectiveness of video assisted instructional module on antenatal care on the pregnancy outcome of pregnant women attending maternity hospitals, Bangalore

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Abstract

Objectives: This study was undertaken with the aim to evaluate the effectiveness of Video-assisted Instructional module on Antenatal care on the pregnancy outcome of pregnant women and to find the association between the knowledge, pregnancy outcome and socio-demographic variables. Independent variable was a Video-assisted Instructional module on antenatal care. The dependent variable was knowledge gained by the antenatal mothers and pregnancy outcome.
Methodology: An experimental approach with post test only controls group design was used. 400 subjects were selected from two maternity hospitals by using purposive sampling technique. Structured interview schedule and assessment formats were used to assess the knowledge and pregnancy outcome.
Results: Majority of subjects 46% were in the age group between 21- 24 years. Majority 54% subjects have completed their high school education. About 57.5% pregnant mothers were homemakers. Majority 181(90.5%) of the experimental group and 133(66.5%) of control group pregnant women were Hindus. Majority 199 (99.5%) pregnant women were from the urban area. The overall knowledge score was 83.89% high in the experimental group and compared to 41.11% in control group regarding antenatal care. The result shows that there was positive pregnancy outcome in experiment group compared to control group. There were significant association found between knowledge score and socio-demographic variables
Conclusion: There was a significant increase in knowledge of antenatal mothers of the experimental group regarding antenatal care after administration of Video-Assisted Instructional Module and there was significant positive pregnancy outcome among experiment group antenatal mothers. Hence the Video Assisted Instructional Module was concluded as effective.

Key words: Instructional Module, Pregnancy, Maternity

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1. Introduction

Women are subject to particular health risks due to inadequate responsiveness and lack of services to meet health needs related to sexual and reproduction.

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Complications related to pregnancy and childbirth are among the leading causes of mortality and morbidity of women of reproductive age in many parts of the developing world. (Report 1997-2003). [1]
Although most pregnancies and birth are uneventful approximately 50% of pregnant women develop potentially life-threatening complications that call for skilled care during the antenatal, intranatal and postnatal period. Well, balanced diet ensures good health and natural beauty. Antenatal care means “care before birth”. It is systematic supervision of women during pregnancy.

The objective is to ensure a normal pregnancy with delivery of a healthy baby from a healthy mother.

The antenatal period presents important opportunities for reaching pregnant women with a number of interventions that may be vital to their health and well being and that of their infants. A better understanding of fetal growth and development and its relationship to the mother's health has resulted in increased attention to the potential of antenatal care as an intervention to improve both maternal and newborn health.

Complications of childbirth will more than 500,000 women each year. Postpartum hemorrhage (PPH) is the leading causing of death. Because nearly half the women who gave birth at home in developing countries are cared for by unskilled attendants (Sibley et al 2007). [2]

According to Syed U and Murray J (2006) immediate and early postnatal care for mothers and newborn will reduce the maternal mortality and perinatal death. They found that increased community awareness helps to improve maternal and newborn care practices. [3]

Deaths due to pregnancy and childbirth are common among women in the reproductive age groups. Reduction of mortality of women has thus been an area of concern and government across the globe have set time-bound target to achieve it. The international conferences on population and development in 1994 had recommended a reduction in maternal mortality by at least 50% of the 1990 levels by the year 2000 and further one half by the year 2015.

Postnatal care: After child birth, women may feel relieved as well as exhausted but this is not the end as more problems may tend to occur. During this period we should provide prompt care to reduce postnatal complications and to improve the mother's and child's health status. One should know about the possible complications and management. [4]

India accounts for more than 20% of the global maternal and child deaths and also records 20% of births worldwide. Approximately 30 million women in India experience pregnancy annually, and 27 million have live births of these, nearly 136,000 maternal deaths occur annually, most of which can be prevented. The maternal mortality ratio in India is 540 maternal deaths per 100,000 live births, rising to 619 in rural areas. States with high maternal mortality include Rajasthan, Madhya Pradesh, Jharkhand, Orissa, Uttar Pradesh and Bihar. [5]

Focused antenatal care, birth preparedness and complication readiness, skilled attendance at birth, care within first seven days and access to emergency obstetric care are factors that can help reduce maternal mortality. At the same time knowledge also plays a vital role.

Pregnancy is the most important event in women's lives. Systematic supervision of women during pregnancy is called antenatal care. A study conducted by McPherson R.A. Khaddar, Moore JM, Sharma M (2006) showed that the birth preparedness package promotes active preparation and decision making for births, including pregnancy / postpartum periods, by pregnant women and their families. [6]

The Objectives of the study were:

1. To find out the socio-demographic profile of subjects in experiment and control group.
2. To find the effectiveness of video assisted instructional module regarding knowledge on antennal care.
3. To assess the effectiveness of video assisted instructional module on the pregnancy outcome of experiment and control group.
4. To find the association between the selected demographical variables with post-test knowledge score.

The following hypothesis was tested at 0.01 level of significance

H_1:There will be a significant difference in knowledge of the subjects of experimental group after administration of video-assisted instructional module regarding antenatal care compared to that of the control group.

H_2:There will be a significant difference in pregnancy outcome of the study subjects in experimental group after administration of video-assisted instructional module compared to that of the control group.

H_3:There will be a significant association between the selected demographical variables and post-test knowledge score after administration of video-assisted instructional module.

Conceptual framework adopted for this study was based on Pender's Health promotion model. The conceptual framework indicated that adequate knowledge and healthy lifestyle improves the health of the mother and effect on pregnancy outcome.

2. Materials and methods

An experimental study was conducted in two maternity hospitals. The control group was taken from Vanivilas Maternity Hospital and experiment group was taken from K.C. General Maternity Hospital in Bangalore. Both hospitals were similar in their setting, nature of patients seeking services. Four hundred pregnant mothers (200 for experimental and 200 for the control group) were selected by purposive sampling technique.

An evaluative approach was adopted for this study. True experimental design with post test only control group design was used.

Criteria for selection of samples
Inclusion criteria;

- Primigravidae with 10 – 16 weeks of gestation & seeking health services.
- Primigravidae who are willing to participate in the study.

Exclusion criteria;

- Primigravidae with multiple pregnancies.
- Primigravidae with high-risk pregnancies.

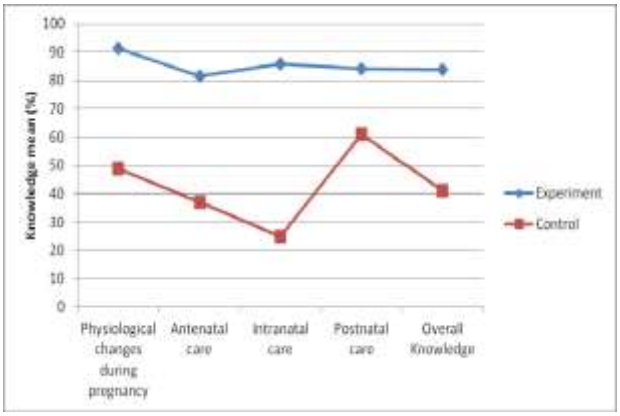
The tool was developed by the investigator after reviewing the related literature and guidance from the experts in the field.

Section I: Socio-demographic schedule consists of 10 items which include Age, educational status, occupation, monthly family income, religion, type of family, and previous source of information, residence, marital life and type of marriage.
Section II; Structured interview schedule regarding Knowledge on antenatal care consists of 45 items of multiple choices.
Section III; Antenatal, intranasal & postnatal care assessment formats and observational checklists, consists of 26 items on maternal and fetal/ newborn parameters which are used to assess the maternal and fetal/newborn well-being and identify the possible complications and also to assess the pregnancy outcome. The scoring was done by using a checklist.
Section IV; Video Assisted Instructional module (VAIM) consists of 4 components.

- Physiological changes during pregnancy.
- Antenatal care.
- Intranasal care.
- Postnatal care.

The analysis was done by using descriptive and inferential statistics.

3. Result



Area wise comparison of mean knowledge score has shown statistically significant improvement in subjects after video-assisted instructional module in experiment group compared to that of the control group. Similarly overall mean knowledge score was high in experiment group (37.75±5.44) than the control group (18.50±3.76)

Overall Score	Experiment		Control		χ^2 value	p value
	n	%	N	%		
< 50%	2	1.0	169	84.5	334.369	P < 0.0001
50-75%	27	13.5	31	15.5		
> 75%	171	85.5	0	0.0		
Total	200	100.0	200	100.0		

The overall score in the experimental group 171 (85.5%) respondents had above 75 %,(Adequate), 27 (13.5%) had 50-75% (Moderately adequate) and 2 (1%) had (inadequate) < 50% knowledge score.
In the control group 169 (84.5%) respondents had below 50% knowledge (Inadequate), 31 (15.5%) had 50-75% (Moderately adequate) knowledge score & no one had adequate knowledge regarding antenatal, intranatal & postnatal care. The difference observed was statistically significant (p < 0.0001)

Distribution of scores of pregnancy outcome findings during Antenatal period among experimental and control group, related to weight and Hb%.

	Group	n	Mean	SD	Min.	Max.	't' value	'p' value
Weight	Experiment	200	56.7	4.542	41.0	70.0	2.700	0.0072
	Control	200	55.3	5.756	35.0	65.0		
Hb%	Experiment	200	11.9	0.619	10.4	14.0	12.495	P<0.0001
	Control	200	11.0	0.809	8.9	13.0		

The result reveals that there is an improvement in weight gain in experimental group pregnant women with the mean weight 56.7 ± 4.542 compared to control group pregnant women's mean weight 55.3 ± 5.756. The difference observed was statistically not significant (p>0.01) Related to Hb% there is an increase in Hb% mean 11.9 in the experimental group and 11 in control group. The difference observed was statistically significant (p<0.0001) It shows that teaching plays an important role during antenatal period to practice good food habit during pregnancy.

Pregnancy outcome findings of antenatal period regarding, Anemia, USG &Anomaly scan, fetal movements and non stress test.

Parameters		Experiment		Control		$\chi 2$ value	p-value
		N	%	N	%		
Anemia.	Absent	176	88.0%	115	57.5%	69.208	P<0.01*
	Present	24	12.0%	85	42.5%		
Ultrasonography.	Absent	3	1.5%	58	29.0%	58.513	P<0.01*
	Present	197	98.5%	142	71.0%		
Anomaly Scan.	Absent	6	3.0%	118	59.0%	111.823	P<0.01*
	Present	194	97.0%	82	41.0%		
Appreciation of Fetal movements	Absent	0	0.0%	185	92.5%	392.115	P<0.01*
	Present	200	100%	15	7.5%		

The result shows that anemia was present in 85(42.5%) pregnant women in control group. and 24 (12%) in the experimental group. Regarding routine ultra sonography 197(98%) women of the experimental group had undergone, and 142(71%) pregnant women had in control group. Related to anomaly scan 194(97%) pregnant mothers had in the experimental group and 82(41%) pregnant mothers had in control group. Related to fetal movements 200(100%) pregnant mothers in the experimental group and 15 (7.5%) mothers in control group felt the fetal movements and they have counted the movements. The difference observed was statistically significant. Regarding Nonstress test 193 (96.5%) mothers in the experimental group and 15 (7.5%) in control group had Nonstress test procedure. It shows that the pregnant mothers in the experimental group had the knowledge than the control group regarding the importance of investigations.

Association between socio-demographic variables and knowledge score of Experiment group.

The result reveals that, there was significant association found between knowledge score and socio-demographic variables of experimental group such as, educational status,(20.929), occupation, (6.395), family monthly income,(25.466), type of family,(6.333), previous source of information about pregnancy care (14.059). Related to age, (1.368), religion, (0.177), residence, (1.253), marital life in years, (0.059) and consanguinity, the association was not observed.

Association between socio-demographic variables and knowledge score of the control group.

The result reveals that, there was significant association found between knowledge score and socio-demographic variables of control group such as, educational status (33.285), occupation (14.642), family monthly income (8.947), previous source of information about pregnancy care (9.205), and consanguinity (4.944) No association found between knowledge score and following socio-demographical variables, such as age (1.225), religion (3.481), type of family (1.262), residence (0.124) and marital life in years (2.623).

Hence the research hypothesis is accepted.

4. Discussion

In this study, it reveals that the majority of antenatal mothers belonged to the age group of 21-24 years similar study conducted by Pinheiro A and David Joseph (2001) had the same age group, antenatal mothers. [7]

The antenatal mothers who have socio-demographic and economic conditions of maternal factors such as age, parity, quality of antenatal care and previous obstetric history were influenced the risk factors during the antenatal period. A similar study conducted by Nair NS, Rao RS, Chandrashekar (1994) found that the socio-demographic valuables influences the quality antenatal care and found to be more at risk of having low birth basics. [8]

Education plays an important role. In this study, the antenatal mothers who had high schools and above education level were able to follow recommended dietary practices during the antenatal period. Pan war B and Punia D (1998) conducted a co-relational study found that the Pregnant Women who had education could able to take recommended dietary allowances with increase intake of protein, calcium, and Iron. [9]

Related to a number of samples in this study it was comprised of 400 samples (200 for the experimental group and 200 for the control group). A study conducted by Yadavas Saxena U (1997) also had selected 250 cases for the study group and 400 for the control group to determine the effect of hypertension. [10]

Related to socio-economic status, the study revealed that there is the impact of socio-economic states of knowledge, opinion, and practices of antenatal mothers regarding antenatal care (Kumar R. Singh & Kaur M 1997). In this study, it is found that socioeconomic status

had no impact on knowledge of antenatal mothers regarding antenatal care. [11]

The effectiveness of the birth-preparedness program was conducted by Mc Pherson RA, Khadka N. More J M (2006) revealed that it can positively influence knowledge and intermediate health outcomes similar report has been found in this study as there is an improvement is experimental group's perinatal outcome. [06]

In this study, it is found that who had education program (experimental group) had used the good delivery method and initiated breastfeeding within half an hour of delivery compared to control group who had not received an education. A similar study was conducted by Chien Ly; Tai CJ (2007) found the effectiveness of delivery method and timing of breastfeeding initiation on breastfeeding outcomes in Taiwan. [12]

With related to the impact of nutrition education in this study it is found that control group mothers had low birth weight babies. A similar study conducted by Sachdev R & Mann S K (2004) reported that who have not received the nutrition education programme their mean birth weight of newborn (control group) was 2300 grams compared to experiment group's newborn weight was 2700 grams. [13]

Early detection of high-risk factors among pregnant mothers is very important. This study is able to detect early complications. The study conducted by Misra PK, Takur S, Kumar A, (1997) found that who had inadequate or no antenatal care, bad obstetric history and prolonged labor attributed to 13, 20 and 27 percent of the risk respectively. [14]

The findings of the present study have several implications in the field of nursing education, nursing research, nursing practice and nursing administration.

Nursing education

On the basis of findings there is a need to strengthen the knowledge input to nursing students and staff on components and objectives of antenatal care. Video-assisted teaching module serves as a complimentary educational module should be included in the curriculum.

Nursing research

This study can be conducted on a large scale and the study will be a reference for the researchers. In addition to Video-assisted instructional module another teaching module can be tried out to find the effectiveness of the different modules.

Nursing practice:

There is a need that the nurses in the clinical area should encourage individual conversation with the antenatal mothers as part of the basic program. The practices of antenatal mother's involvement in antenatal intranatal and postnatal care lead to better pregnancy outcome.

Nursing administration

Institutions providing maternity services should review their policies and practices regarding antenatal mother's involvement in antenatal, intranatal and postnatal care. Continuous videos programmes regarding antenatal, intranasal, postnatal and newborn care can be arranged at outpatient departments. So that antenatal mothers will be aware of care to be taken during the antenatal, intranatal and postnatal period.

Recommendations

- The study can be replicated on larger samples, in different settings.
- The study can be conducted on family members of pregnant mothers.
- A comparative study can be done between Urban and Rural antenatal mothers.
- A study can be conducted as a longitudinal study / Retrospective study to assess the pregnancy outcome in different hospitals.

Conclusion

A Video-assisted instructional module was administered to the subjects in group settings. The post-test assessment indicated that the effect of Video-assisted instructional module is statistically significant in experiment group compared to that of the control group. The overall comparison of knowledge score and pregnancy outcome of the experiment group with the control group revealed that the experiment subjects improved in knowledge regarding antenatal, intranatal and postnatal care and positive pregnancy outcome was observed.

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