Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/22733
DOI URL: http://dx.doi.org/10.21474/IJAR01/22733

RESEARCH ARTICLE

A COMPARATIVE STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON EARLY IDENTIFICATION AND MANAGEMENT OF HIGH-RISK PREGNANCY AMONG WOMEN AT SELECTED RURAL AND URBAN COMMUNITY VISAKHAPATNAM DISTRICT, VISAKHAPATNAM

Ch. Lavanya[1] and Guna Geetha[2]

1. Associate Professor, Gitam Institute of Nursing, GITAM (Deemed to be University) Visakhapatnam, Andhra Pradesh, 530045, India.
2. Tutor, Gitam Institute of Nursing, GITAM (Deemed to be University) Visakhapatnam, Andhra Pradesh, 530045, India.

Manuscript Info

Manuscript History
Received: 8 December 2025
Final Accepted: 10 January 2026
Published: February 2026

Key words:-
High-Risk Pregnancy, Antenatal Woman, Structured Teaching Programme, Antepartum Hemorrhage, Gestational Hypertension, Gestational Diabetes Mellitus, Bad Obstetric History, Anemia.

Abstract

Nurses are in a unique position to educate and empower women, throug h the phases of childbirth, for them to achieve a healthy pregnancy with the optimum outcome of a healthy baby. Despite various measures taken to reduce maternal mortality and morbidity, it remains very high in India. Knowledge and awareness about risks associated with pregnan cy among women can help them to seek maternal care services and reduce maternal mortality and morbidity. The study aims to evaluate the effectiveness of a structured teaching program on knowledge regard ing high-risk pregnancy among women in urban and rural communities. Pre-experimental approach was used to achieve the objectives of the study. Samples of 60 patients were selected using a random sampling technique.The data was collected using an interview schedule. Chi-square revealed a non significant association ($P<0.05$) between knowle dge and selected variables. The study revealed that none of the rural women had adequate knowledge of high risk pregnancy when compare d with urban women, but after the posttest, a significant increase in knowledge level was found.

Introduction:-

Most women in the world do not have access to the health care and health education services that they need during pregnancy [1-3]. The average nutritional intake of women is 1400 calories daily. The requirement is approximately 2200 calories; 38% of all HIV-positive people in India are women, yet only 25% of beds in AIDS care centres in India are occupied by them; 92% of women in India suffer from gynaecological problems; 300 women die every day due to childbirth and pregnancy-related causes; The maternal mortality ratio per 100,000 live births in the year 1995 was 440 [4-6].Giving life is powerful. It is vital, therefore, that we prepare our body to become a suitable environment for the baby to grow in while staying happy and healthy emotionally and mentally as well [7-9]. Pregnancy is an incredible journey.A woman's body has a great deal to do during pregnancy. Sometimes the

Corresponding Author:-Ch. Lavanya
Address:-Associate Professor,Gitam Institute of Nursing,Visakhapatnam, Andhra Pradesh, 530045, India.

changes take place which will cause irritation and discomfort and on occasions they may seem quite alarming [10-12]. Pregnant women may have many health complaints of varying degrees throughout their pregnancies. Overall 99% of all maternal mortality is in developing countries. With limited resources and shattered economics, it may take a very long time for these countries, to provide qualified Doctors and Nurses, and back up the structure to reduce high maternal mortality by training health workers [13-15]. We could dramatically reduce maternal mortality and other obstetric complications at a very low cost and by utilizing existing sources.Pregnancy is a momentous phase in a woman's life. It is a time when women should take care of themselves and the life growing inside them [16-18]. Forty weeks of pregnancy signifies a crucial period for the foetus, as it gets ready to face the world at large [19-20]. Some mothers need more care, understanding and support than others because they belong to a special group [21-23].

Pregnancy and childbirth is one of life's major events. It is joyous and rewarding as the woman passes through a transitional phase, into a new life of motherhood [24-26]. Each pregnancy that a woman experiences will be new and different [27]. The midwife is in a unique position to educate and empower women through the phases of childbirth, in order, for them to achieve a healthy pregnancy with the optimum outcome of a healthy baby [28-30]. The health of the mother and the foetus are inextricably linked [31].During pregnancy, a woman's body undergoes complex physiological changes of such magnitude, that many are still not well understood. Every system in a woman's body adapts to the demands of the growing foetus [32-34]. A great deal of attention during pregnancy is focused on ensuring minimum risk at delivery and maximum health of the woman and her foetus. Antenatal care aims at giving specific attention to the health needs of a woman and her unborn child [35-37]. However, a mother may need instructions about exactly what constitutes a healthy lifestyle for herself and her baby.

Complications of pregnancy and childbirth are major causes of death and disability among women of reproductive age in developing countries. Every day at least 1,600 women die from the complications of pregnancy and childbirth [38-40]. Of all the adult health statistics monitored by WHO, maternal mortality ratios show the largest discrepancy between developed and developing countries. Poor maternal health, nutrition, and quality of obstetric care not only take a toll on women but also is responsible for 20 % of the burden of disease among children less than five years old [41-42]. World Bank President James Wolfensohn stated the Bank's commitment on World Health Day in 1998: "Safe motherhood is a human right; Our task and the task of many like us; is to ensure that in the next decade, safe Motherhood is not regarded as a fringe issue, but as a central issue."All risk factors do not threaten pregnancy to the same extent [43-44]. The risk of complications is increased by smoking, poor nutritional habits, drug and alcohol abuse, domestic violence, pre-pregnancy maternal health status, psychological factors, poor health care, the presence of chronic medical problems in the mother, history of repeated preterm delivery, multiple gestation, and abnormalities of the foetus or placenta [45]. A woman with a high-risk pregnancy may have an earlier labour and delivery depending upon the foetal or maternal complication present and likewise, present with symptoms dependent upon the condition [46]. Since the placenta supplies the baby with its nutrients and oxygen, any condition that threatens the blood supply to it threatens foetal development.

Having a high-risk pregnancy means that a woman has a greater chance of complications because of conditions in her pregnancy, her medical status or lifestyle, or due to external factors [47].Many times, complications are unexpected and may occur without warning. Other times, certain risk factors make problems more likely. While many complications are unavoidable, with the help of your physician, you can minimize your risks and work toward the healthiest pregnancy possible [48].Dissemination of health-related information to the client, family and community is one of the primary functions of nurses and midwives [49]. The investigator observed that there are no measures undertaken to improve the knowledge of antenatal women regarding, high-risk conditions in pregnancy in this institute [50]. So, the investigator found it desirable to assess the knowledge of antenatal women on anaemia which is highly prevalent accounting for 19% of MMR in India and GDM which has a rising incidence accounting for 3-4% of pregnancies affected by it, and to provide them with adequate information about it through a structured teaching programme.

Objectives:-

1. To assess the pre-test knowledge score regarding high-risk pregnancy among women of urban and rural communities.
2. To plan and implement a structured teaching programme on early identification of high-risk pregnancy.
3. To assess the post-test knowledge score regarding high-risk pregnancy among women of urban and rural communities.

4. To compare the pre-test knowledge score between urban and rural community women.
5. To compare the post-test knowledge score between urban and rural community women.
6. To find out the association of knowledge scores of urban women with selected demographic variables.
7. To find out the association of knowledge scores of rural women with selected demographic variables.

Hypothesis:-
There will be significant differences in the knowledge of women of urban and rural community's women regarding the identification of high-risk pregnancies.

Materials and Methodology:-

First, the pilot study was conducted on a sample of 10 members 5 rural and 5 urban women, the permission to conduct the study was obtained from the authorities and ethical consideration was obtained, the pre-test was conducted on the first day, followed by structure teaching program on the second day. After 7 weekdays the post-test was taken.Methodology is the most important part of any research study, which enables the researcher to form a blueprint for the study undertaken. The present study was aimed at the assessment of knowledge of the mothers towards high-risk pregnancies in rural and urban areas in Visakhapatnam.This chapter presents the methodology adopted by the researcher for the study. It includes the research approach, the setting, population, sample and sample technique, selection of tool, development and description of the tool, content validity, reliability, pilot study, data collection procedure and plan for analysis.

Research Approach:-
The research approach is the most significant part of any research. The type of research approach employed, here, is a quantitative approach. The approach choice of the research approach depends upon the purpose of the research study which was undertaken.The present study was intended to assess the knowledge of mothers towards high-risk pregnancy and their relationship with the selected variables.

Research Design:-
The research design employed for the study was the group pre-test and post-test or pre-experimental design.
-Polit 2007
$O_1;X;O_2$
O_1-pre test
X-Intervention
O_2-post test

O_1	X	O_2
Pre-test assessment on knowledge regarding high-risk pregnancy	Structured teaching programme on identification and management of high-risk pregnancy by using flashcards	Post-test assessment on knowledge regarding identification and management of high-risk pregnancy

Setting of the study:-
Urban and rural areas of Visakhapatnam were selected as the setting for the study. The rationale for selecting this area was the availability of adequate samples. The study was planned in the urban and rural areas.

Population:-
Population is the entire group to whom the researcher is an expert to be able to generalize the study results. The population included all mothers who are in their reproductive age group of rural and urban areas. Visakhapatnam.

Sample size:-
Sample refers to a subject of a population selected to participate in a research study. In this study, the sample comprises 60 mothers who met the inclusive criteria in Visakhapatnam.

Sampling technique:-
Sampling is defined as the process of selecting a portion of the population to represent the entire population. In this study, the sampling technique was simple random sampling.

Data collection method:-

Data collection was the purpose of acquiring the subjects and collecting the data for the study. The study was conducted from 18-05-2012 to 31-05-2012. The investigator obtained formal administrative permission from the village head. Based on the inclusion criteria, 60 antenatal women were selected for the study (30 antenatal women from urban community areas, and 30 antenatal mothers from rural community areas), the purpose of the study was explained to all the antenatal mothers, confidentiality was assured to all the subjects and informed consent was obtained. The tool was administered to the antenatal women. The average time taken to answer the questionnaire ranged from 30-40 minutes. The master sheet was prepared for the data obtained from the subjects.

Plan for data analysis:-

Data analysis is the systematic organization and synthesis of research data and the testing of research hypotheses using those data. It involves the translation of information collected during a research project into an interpretable and manageable form. The data obtained are analyzed in terms of the objectives of the study using descriptive and inferential statistics.

Results and Findings:-

Statistical Analysis:-

The results were presented using percentage and frequency statistics.

Table 1: Distribution of Pre-Test and Post-Test Knowledge Score of Rural Antenatal Women N=60

SL.NO	LEVEL OF KNOWLEDGE	PRE-TEST		POST-TEST	
		FREQUENCY	%	FREQUENCY	%
1	Inadequate knowledge	25	83.5%	0	0
2	Moderate knowledge	5	16.5%	11	36.6%
3	Adequate knowledge	0	0	19	63.3%

Table-1 depicts that in the pre-test more than half 25(83.57%) of the antenatal women had inadequate knowledge, and 5 (16.5%) had moderate knowledge. After giving a structured teaching programme the post-test showed that 11(36.6%) of antenatal women had moderate knowledge and 19 (63.3%) had adequate knowledge in the identification and management of high-risk pregnancy.This shows that the structured teaching programme was very effective and improved the knowledge level of the antenatal women and thus, the hypothesis was supported.

Table 2: Distribution of Pre-Test and Post-Test Knowledge Score of Urban Antenatal Women N=60

SL.NO	LEVEL OF KNOWLEDGE	PRE-TEST		POST-TEST	
		FREQUENCY	%	FREQUENCY	%
1	Inadequate knowledge	20	66.6%	0	0
2	Moderate knowledge	10	33.3%	9	30%
3	Adequate knowledge	0	0	21	70%

Table-2 depicts that in the pre-test in urban areas, all the women had 30 (100%) antenatal women had moderate knowledge whereas in the post-test 4 (13.3%) of antenatal women had moderate knowledge and 26(86.7%) had adequate knowledge.

Table 3: Comparison of Pre-Test Knowledge Score Between Rural and Urban Women N=60

S.NO	LEVEL OF KNOWLEDGE	RURAL		URBAN	
		FREQUENCY	%	FREQUENCY	%
1	Inadequate knowledge	25	83.5%	20	66.6%
2	Moderate knowledge	5	16.5%	10	33.3%
3	Adequate knowledge	0	0	0	0

Table-3 shows the comparison of pre-test knowledge scores between urban and rural antenatal women which depicts that in rural more than half 25(83.5%) of the antenatal women had inadequate knowledge, 5 (16.5%) had moderate knowledge whereas in urban antenatal women had inadequate knowledge 20(66.6%) and 10 (33.3%) antenatal women had moderate knowledge.

Table:4 Comparision of Post-Test Knowledge Score Between Rural and Urban Women N=60

S.NO	LEVEL OF KNOWLEDGE	RURAL		URBAN	
		FREQUENCY	%	FREQUENCY	%
1	Inadequate knowledge	0	0	0	0
2	Moderate knowledge	11	36.6%	9	30%
3	Adequate knowledge	19	63.3%	21	70%

Table-4 shows the comparison of post-test knowledge scores between urban and rural antenatal women which depicts that in rural 11(36.6%) antenatal women had moderate knowledge and 19 (63.3%) had adequate knowledge wherein in urban 9 (30%) of antenatal women had moderate knowledge and 21(70%) has adequate knowledge.

Table 5: Comparison of Mean Knowledge Scores of Pre and Post-Test by Using Paired 'T' Test

Paired 't' test showing the significance of the difference between mean pre-test and post-test knowledge scores of rural and urban antenatal women

Area	Mean Knowledge scores		Standard deviation		Tabulated value	Calculated Value
	Pre-test	Post-test	Pre-test	Post-test		
Knowledge of identification and Management of High-Risk Pregnancy	**22.93**	**38.73**	**4.38**	**1.76**	**2.56**	**25.77**

Table 5: The obtained 't' value 25.77 is greater than table value df 59, at 0.05 level of significance. Therefore, the obtained 't' value is found to be significant. It means that there is a gain in the knowledge level of antenatal women. This supports that a structured teaching programme is effective by increasing the knowledge level of antenatal women regarding the identification and management of high-risk pregnancies.It can be concluded that the intervention programme played an important role in enhancing the knowledge level of respondents.

Table 6: Association Between the Pre-Test Knowledge Score of Rural Women with Demographic Variables N=60

Sl. No	Variable	Inadequate Knowledge	Moderate Knowledge	Adequate Knowledge	Total	D.F	χ^2	Table value	Significance
1	**Age in years**					**6**	**0.28**	**12.59**	**NS**
	a. 18 – 21	**5**	**15**	**0**	**20**				
	b. 22 -25	**2**	**8**	**0**	**10**				
	c. 26 -30	**0**	**0**	**0**	**0**				

	d. Above 30	**0**	**0**	**0**	**0**				
2	**Religion**					**6**	**2.03**	**12.59**	**NS**
	a.Hindu	**6**	**13**	**0**	**19**				
	b. Muslim	**0**	**1**	**0**	**1**				
	c.Christian	**0**	**9**	**1**	**10**				
	d.Others	**0**	**0**	**0**	**0**				
3	**Education of the mother**					**8**	**1.18**	**12.59**	**NS**
	a.Illiterate	**1**	**3**	**0**	**4**				
	b.Primary school	**4**	**11**	**0**	**15**				
	c.High school	**2**	**8**	**0**	**10**				
	d.Higher secondary school	**0**	**0**	**1**	**1**				
	e.Graduationand above	**0**	**0**	**0**	**0**				
4	**Occupation of the mother**					**6**	**3.27**	**12.59**	**NS**
	a.Coolie	**2**	**8**	**0**	**10**				
	b.Private Employee	**0**	**1**	**0**	**1**				
	c.Govt. Employee	**0**	**1**	**0**	**1**				
	d.Homemaker	**5**	**13**	**0**	**18**				
5.	**Monthly income**					**6**	**4.05**	**12.59**	**NS**
	a. Below Rs. 3000	**1**	**5**	**0**	**6**				
	b.Rs. 3001 – 6000	**2**	**12**	**0**	**14**				
	c.Rs. 6001 – 9000	**5**	**5**	**0**	**10**				
	d.More than 9000	**0**	**0**	**0**	**0**				
6.	**Type of family**					**2**	**3.27**	**12.59**	**NS**
	a.Joint family	**2**	**8**	**0**	**10**				
	b.Nuclear family	**11**	**19**	**0**	**20**				

Table 7: Association Between the Pre-Test Knowledge Score of Urban Women with Demographic Variables N=60

Sl. No	Variable	Inadequate Knowledge	Moderate Knowledge	Adequate Knowledge	Total	D.F	χ^2	Table value	Significance
1	**Age in years**								
	a.18 – 21	**4**	**8**	**0**	**12**	**6**	**7.50**	**12.59**	**NS**
	b.22-25	**0**	**12**	**3**	**15**				
	c.26-30	**0**	**3**	**0**	**3**				
	d.Above 30	**0**	**0**	**0**	**0**				
2.	**Religion**								
	a.Hindu	**3**	**12**	**0**	**15**	**6**	**4.59**	**12.59**	**NS**
	b.Muslim	**0**	**10**	**1**	**11**				
	c.Christian	**0**	**4**	**0**	**4**				
	d.Others	**0**	**0**	**0**	**0**				
3.	**Education of the mother**								
	a.Illiterate	**0**	**0**	**0**	**0**	**8**	**1.63**	**12.59**	**NS**
	b.Primary school	**0**	**8**	**0**	**8**				
	c.High school	**0**	**14**	**0**	**12**				
	d.Higher secondary school	**0**	**9**	**0**	**9**				
	e.Graduation and above	**0**	**1**	**0**	**1**				
4.	**Occupation of the mother**								
	a.Coolie	**0**	**0**	**0**	**0**	**6**	**0.22**	**12.59**	**NS**
	b.Private Employee	**2**	**2**	**0**	**4**				
	c.Govt. Employee	**0**	**1**	**0**	**1**				
	d.Homemaker	**5**	**20**	**0**	**25**				
5.	**Monthly income**								
	a. Below Rs. 3000	**0**	**2**	**0**	**2**	**6**	**3.85**	**12.59**	**NS**
	b.Rs. 3001 – 6000	**0**	**6**	**0**	**6**				
	c.Rs. 6001 – 9000	**4**	**10**	**0**	**14**				

	d.More than 9000	**2**	**6**	**0**	**8**				
6.	**Type of family**								
	a.Joint family		**9**	**4**	**13**	**2**	**0.65**	**12.59**	**NS**
	b.Nuclear family		**10**	**7**	**17**				

Data presented in table-6 and 7 shows that there was no significant association between variables such as age, religion, education, occupation, income, and type of family on identification and management of high-risk pregnancy.

Discussion:-

The first objective was to assess the knowledge of identification and management on high-risk pregnancies among antenatal women:-

The pretest showed that in rural more than half 25(83.5%) of the antenatal women had inadequate knowledge, 5 (16.5%) had moderate knowledge whereas in urban antenatal women had inadequate knowledge 20(66.6%) and 10 (33.3%) antenatal women had moderate knowledge.The results of the present study were supported by the study conducted by Jiji Mole Mathew (2006) which stated that the programme for high-risk pregnancy typically focuses on increasing awareness of the risk associated with different forms of conditions during pregnancy. She also states that the knowledge of high-risk pregnancy in general was limited.

The second objective of the study was to assess the effectiveness of STP on identification and management of high-risk pregnancy among antenatal women:-

After conducting the post-test posttest knowledge score between urban and rural antenatal women which depicts that in rural 11(36.6%) of antenatal women had moderate knowledge and 19 (63.3%) had adequate knowledge whereas urban 9(30%) of antenatal women had moderate knowledge and 21(70%) has adequate knowledgeFindings reveal that in the pre-test in the urban area, all the women had 30 (100%) antenatal women had moderate knowledge whereas in the post-test 4 (13.3%) of antenatal women had moderate knowledge and 26(86.7%) had adequate knowledge.

The third objective of the study was to associate the knowledge of antenatal women in identification and management of high-risk pregnancies with selected demographic variables:-

Table IV shows the association of pre-test knowledge score, which was compared with demographic variables such as women's age, educational status, occupation, income, type of family and locality of residence. Oneway analysis of variance (F) test was used to find out the difference in mean scores. The results revealed that there was no relationship between the knowledge of the women and demographic variables.The results of the present study were supported by the study conducted by Jiji Mole Mathew (2006) which aimed to assess the determinants of high-risk pregnancy among the women. The study showed that 65% of women were affected by high-risk pregnancy, based on self-perceived symptoms. From this study, it was found that there was no significant difference among women. The highest prevalence was observed among illiterate women and with the improvement of educational status there was a decrease in the prevalence rate.

Conclusion:-

The findings of the study revealed that the demographic variables of antenatal women based on the age, 32 (53.3%) belonged to the age group of 18 – 21 years, 24 (40%) of women were in the age group of 22-25 years, 4 (6.7%) were in the age group 26-29 years. Concerning the religion of the women majority of 34 (56.7%) women belonged to the Hindu religion, 12 (20%) women were Muslims and 14 (23.3%) women were Christians. Regarding the educational status of the women, 4 (6.9%) women were illiterate, 23 (38.3%) women had primary education, 22 (36.7%) women had high school education, 10 (16.7%) women had higher secondary education, 1 (1.6%) woman had graduation. As far as the occupational status of the women was concerned 10 (16.7%) of women were coolies, 5 (8.3%) women were private employees,44 (73.3%) women were homemakers and only one (1.7%) was a government employee. It was found that 8 (13.3%) women's family income was less than Rs. 3000 per month, 20 (33.4%) had family income

between Rs. 3001 – Rs. 6000 and 24 (40%) had family income between Rs. 6001 – 9000, 8 (13.3%) were having family income above 9000. Regarding family type 20 (33.4%) belonged to joint family and 40 (66.6%) of the mothers belonged to nuclear family. Concerning residence, 30 (50%) women were hailing from rural areas and 30 (50%) women were from urban areas. The study reveals that the comparison of pre-test knowledge scores between urban and rural antenatal women depicts that in rural more than half 25(83.5%) of the antenatal women had inadequate knowledge, 5 (16.5%) had moderate knowledge whereas in urban antenatal women had inadequate knowledge 20(66.6%) and 10 (33.3%) antenatal women had moderate knowledge. The comparison of post-test knowledge scores between urban and rural antenatal women depicts that in rural 11(36.6%) of antenatal women had moderate knowledge and 19 (63.3%) had adequate knowledge whereas in urban 9 (30%) of antenatal women had moderate knowledge and 21(70%) has adequate knowledge. Hence, we can tell there is no significant relation with variables like educational status showing significance at 0.05 level and other variables such as age, religion, education, occupation, income, and type of family on identification and management of high-risk pregnancy.

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