"A STUDY TO ASSESS THE EFFECTIVENESS OF ANTENATAL HEALTH PROMOTION INTERVENTION IN TERMS OF KNOWLEDGE AMONG PREGNANT WOMEN IN COMMUNITY HEALTH CENTER, DOIWALA, DEHRADUN, UTTARAKHAND"

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ABSTRACT

Introduction: Health promotion is a vital component for women's health and well-being, but more importantly, especially in pregnancy. Maternal and fetal health are vital for the welfare of next generations; it can help in predicting the upcoming challenges for the country and denotes the overall health status of a country. The goals of prenatal care for women with uncomplicated pregnancy are to provide adequate guidance, education, reassurance and support to identify and manage minor pregnancy problems and to provide effective screening during pregnancy. Pregnancy is a great time to start making lifestyle modifications and encourage a healthier life. Antenatal health promotion intervention is needed at an early stage of pregnancy to reduce mother and foetal mortality attributable to preventable causes.

Title of the study: A study to assess the effectiveness of antenatal health promotion intervention in terms of knowledge among pregnant women in community health center, Doiwala, Dehradun, Uttarakhand.

Material and methods: Quasi-experimental Research approach with one group pre-test post-test design was used for the study. Purposive sampling technique was used to select 80 pregnant women fulfilling the inclusion criteria. Pre-test was obtained using socio-demographic tool and self-structured knowledge questionnaire followed by the antenatal health promotion intervention given to the pregnant women. The post-test was obtained on 7th day after intervention was given. Descriptive and inferential statistics was used for data analysis.

Results: In the pre-test knowledge score 18% pregnant women had good knowledge, 61.25% had average knowledge and 20% had poor knowledge regarding antenatal health promotion. At post-test level 21.25% had good knowledge, 66.25% had average knowledge and 12.50% had poor knowledge regarding antenatal health promotion. The post-test knowledge mean was significantly maximum than the pre-test knowledge as t_{cal} value=9.748 was higher than t_{tab} value=1.664.

Conclusion: According to the study's findings, there was a significant rise in pregnant women's post-test level of knowledge scores regarding antenatal health promotion. The Antenatal Health Promotion Intervention was helpful in enhancing pregnant women's knowledge regarding antenatal health promotion.

Keywords: Knowledge, Antenatal Health Promotion Intervention

1. INTRODUCTION

1.1 Background of the study

Health promotion is a vital component for both men's and women's health and well-being, especially in pregnancy. Promotion of maternal and fetal well-being and a happy pregnancy are the primary goals of prenatal health promotion. Safe pregnancy with safe newborn is predicted only upon achieving good pregnancy care and for improved neonatal outcomes antenatal health promotion at an early stage is needed. Healthy pregnancy behaviors are linked to both immediate and long-term health advantages for both the mother and the baby. The goals of prenatal care for women with uncomplicated pregnancy are to provide adequate guidance, education, reassurance and support to identify and manage minor pregnancy problems and to provide effective screening during pregnancy. The healthcare service provider should ensure that the pregnant woman and family have all of the information needed to make informed decisions about health during pregnancy, labour and the postpartum/newborn period. Risk assessment, preventing and management of pregnancy related concurrent illnesses as well as health education and promotion are all part of antenatal care. Pregnancy is a great time to start making lifestyle modifications and encourage a healthier life. Women who are using healthcare services for prenatal care are more open to receiving health information. As according today's standards all pregnant women should be informed about the key parameters that may influence pregnancy outcomes. Simply following health-related advice throughout pregnancy has been found to reduce the risk of gestational diabetes mellitus, pre-eclampsia and physical pregnancy symptoms as well as enhance psychological wellbeing of the mother. Good health started before pregnancy and is the strongest foundation for women's and their child's developmental health. Prenatal care can be planned better when a pregnancy is detected early. Early pregnancy detection has multiple benefits both for mother and foetus. Many health benefits, including behavioral and emotional well-being. The provision of prenatal health education has been proven to be a significant element of prenatal care. This method has been linked to a wide range of maternal and child outcomes including lower preterm and low birth weight as well as higher rates of breastfeeding initiation and progression. During Prenatal visit, pregnant mothers require antenatal education to address various areas of pregnancy, delivery and infant care. Practitioners, care managers and midwives must use stronger structured interventions.

1.2 Need for the study

Approximately 800 women worldwide die every day due to pregnancy-related avoidable causes; 20 % of these women are from India. Every year in India, it is estimated that 44, 000 women die from pregnancy-related conditions that might have been avoided (WHO India 2016). India's 2014-16 maternal mortality rate was 93 death per 100,000 live birth, data given by NITI Ayog. According to antenatal health survey of Uttarakhand, maternal mortality rate of 162 death per 100,000 live birth in 2015. Three-quarters (75%) of pregnant women had prenatal care from a qualified professional, while 22 % of pregnant women did not receive any prenatal care. Pregnant women's understanding of prenatal care, as well as their adherence to it, is critical in reducing mother and newborn mortality and morbidity. To improve maternal health, barriers to access to effective maternal health treatments must be addressed correctly at all levels of healthcare. Women require information regarding their health status and the need of adequate prenatal care. Every year, out of 200 million pregnant women in underdeveloped countries, many suffer from nutritional inadequacies that have a negative impact on both the woman and her newborn infant. As a result, good diet throughout pregnancy is essential for a healthy pregnancy and baby. In order to sustain a healthy pregnancy, the mother's diet must be properly balanced in order to provide the foetus with essential energy and nutrients. In India, low birth weight has been connected to widespread maternal malnutrition, according to researchers. The association between birth weight and maternal nutrition must be better understood before effective treatments to promote birth weight and favorable neonatal outcomes in pregnancy can be planned and implemented. Antenatal health promotion intervention is needed at an early stage of pregnancy to reduce mother and fetal mortality attributable to preventable causes.

2. MATERIAL AND METHOD

The primary goal of this study report was to assess the efficacy of an antenatal health promotion intervention on pregnant women's knowledge regarding antenatal health promotion. A Quasi-experimental one group pre-test post-test research design with a quantitative research approach was used for the present study. Non-probability purposive sampling technique was used to select 80 pregnant women up to 34th week of pregnancy visiting the prenatal clinic of Community Health Center, Doiwala, Dehradun and Uttarakhand. The data collection started from 17 February 2021 to 13 March 2021. To elicit a true response, pregnant women's were briefed about the study objectives, purpose and they were ensured of the confidentiality of their responses. Data was collected through semi-structured interview method using socio-demographic tool and self-structured knowledge questionnaire regarding antenatal health promotion. After the pre-test, pregnant women were given antenatal health promotion intervention and after that an informational booklet was provided to them. On 7th day post-test was collected from the study participants.

3. RESULT

Table 1: Frequency and percentage distribution of socio-demographic profile and pregnancy related data of pregnant women

(n=80)

S.No	Demographic Profile	Frequency (f)	Percentage (%)
A.1 Socio-demographic characteristics			
1	**Age of pregnant women**		
	a.　19 - 23 years	22	27.5%
	b.　24 - 28 years	38	47.5%
	c.　29 - 33 years	18	22.5%
	d.　34 - 38 years	2	2.5%
2	**Religion of pregnant women**		
	a.　Hindu	67	83.8%
	b.　Muslim	13	16.3%
	c.　Sikh	0	0
	d.　Christian	0	0

3	**Education qualification**		
	a. No formal education	8	10%
	b. Primary education	10	12.5%
	c. Secondary education	31	38.8%
	d. Graduation	25	31.3%
	e. Post-graduate and above	6	7.5%
4	**Occupation**		
	a. Home maker	71	88.8%
	b. Daily wages	3	3.8%
	c. Self-employed	1	1.3%
	d. Service (Govt/ private)	5	6.3%
5	**Family type**		
	a. Joint family	39	48.8%
	b. Nuclear family	22	27.5%
	c. Extended family	19	23.8%
6	**Dietary pattern**		
	a. Vegetarian	27	33.8%
	b. Non- vegetarian	2	2.5%
	c. Mixed	51	63.8%
7	**Residential place**		
	a. Rural area	73	91.3%
	b. Urban area	4	5%
	c. Semi-rural area	3	3.8%
8	**Occupation of the husband**		
	a. Daily wages	26	32.5%
	b. Service (Govt/ Private)	37	46.3%
	c. Self-employed	17	21.3%
9	**Monthly family income**		
	a. 5000 - 10,000 Rupees	51	63.8%
	b. 10,001 - 15,000 Rupees	16	20%
	c. 15,001 - 20,000 Rupees	10	12.5%
	d. 20,001 - 25,000 Rupees	0	0
	e. 25,001 - 30,000 Rupees	3	3.8%
10	**Education of husband**		
	a. No formal education	9	11.3%
	b. Primary	14	17.5%
	c. Secondary	38	47.5%
	d. Graduate	15	18.8%
	e. Post-graduate and above	4	5%
A.2 Pregnancy related data			
11	**Is your current pregnancy planned?**		
	a. Yes	44	55%
	b. No	36	45%
12	**Gravida of pregnant women**		
	a. Primigravida	35	43.8%
	b. Multigravida	45	56.3%
13	**Gestational age of pregnant women**		
	a. 1-13 weeks (first trimester)	26	32.5%
	b. 14-27 weeks (second trimester)	30	37.5%
	c. 28-34 weeks (third trimester)	24	30%
14 (a)	**Do you have any previous knowledge regarding antenatal health?**		
	a. Yes	26	32.5%
	b. No	54	67.5%
14 (b)	**If yes, please specify:**		
	a. Previous pregnancy experience	**16**	20%
	b. Sister's pregnancy experience	1	1.25%
	c. Mother-in-law	1	1.25%
	d. Anganwadi	1	1.25%
	e. ASHA	4	5%
	f. Nurse by profession	3	3.75%

15 (a)	Do you know the sources of getting right pregnancy related information?		
	a. Yes	28	35%
	b. No	54	65%
15 (b)	If yes, please specify:		
	a. Hospital	7	8.75%
	b. Doctor	11	13.75%
	c. Nurse/Midwife	1	1.25%
	d. ASHA/ANM	5	6.25%
	e. Anganwadi	2	2.5%
	f. Dai	1	1.25%
	g. Mother-in-law	1	1.25%
16 (a)	Did you attend any antenatal class?		
	a. Yes	7	8.8%
	b. No	73	91.3%
16 (b)	If yes, then specify:		
	a. At Anganwadi by ASHA	7	8.8%
17 (a)	Do you want any other information regarding pregnancy?		
	a. Yes	24	30%
	b. No	56	70%
17 (b)	If yes, then specify:		
	a. Childbirth process	8	10%
	b. Childbirth in 2nd pregnancy	1	1.25%
	c. Danger signs in pregnancy	1	1.25%
	d. Diet during pregnancy	5	6.25%
	e. Sleep during pregnancy	1	1.25%
	f. National education schemes for girls	1	1.25%
	g. Minor ailments in pregnancy	3	3.75%
	h. Methods of family planning	2	2.5%
	i. Everything regarding pregnancy	2	2.5%

Objective 1: To assess the knowledge regarding antenatal health promotion among pregnant women.
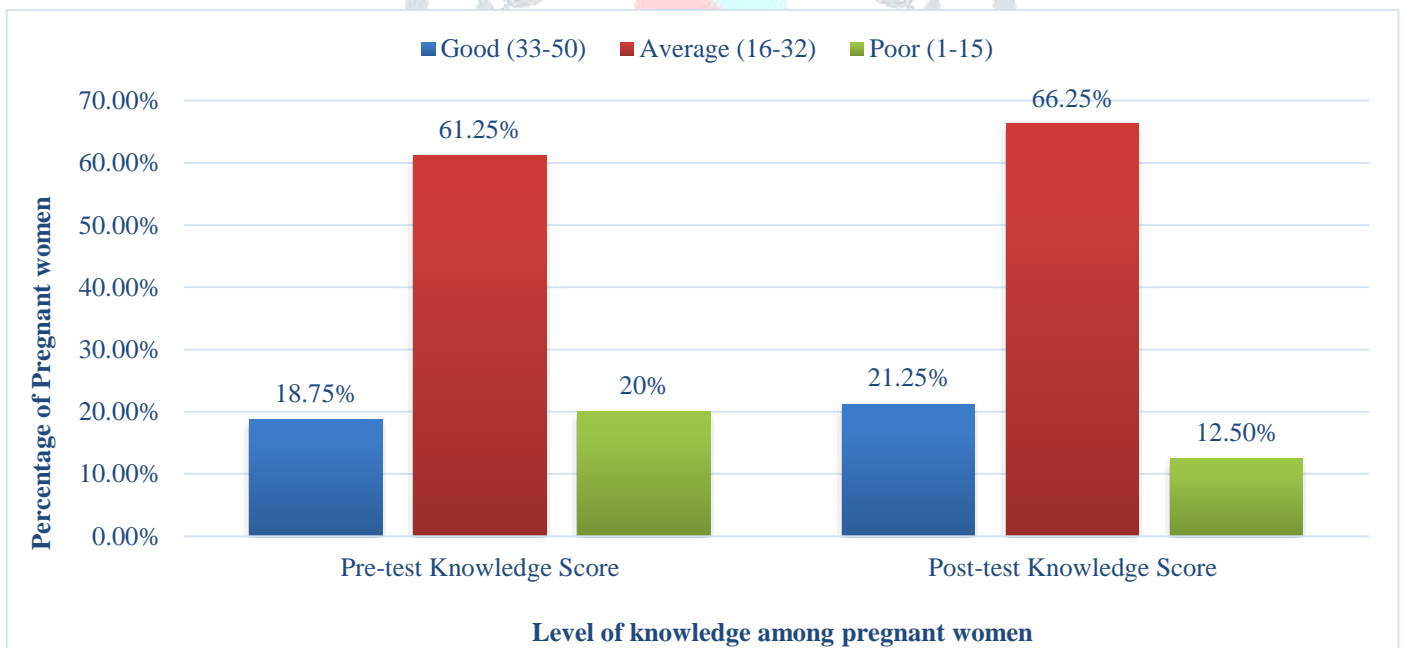
Figure 1: Comparing the pre-test and post-test level of knowledge regarding antenatal health promotion among pregnant women according to arbitrary scoring   **(n=80)**

Data presented in the figure no. 1 shows the arbitrary scoring of the level of knowledge regarding antenatal health promotion among pregnant women at pre-test and post-test level. In the pre-test knowledge score 18% pregnant women had good knowledge, 61.25% had average knowledge and 20% had poor knowledge regarding antenatal health promotion. At post-test level 21.25% had good knowledge, 66.25% had average knowledge and 12.50% had poor knowledge regrading antenatal health promotion.

Table 2: Overall mean, standard deviation, mean difference and mean percentage distribution of knowledge level regarding antenatal health promotion among pregnant women   **(n=80)**

As shown in table no. 2 Mean difference of 2.14 was observed in between overall knowledge of pregnant women at pre-test and post-test level. Indicating that there was increase in the level of knowledge of pregnant women after the antenatal health promotion intervention was given.

Table 3: Mean, standard deviation and mean percentage distribution domain wise of pre-test and post-test knowledge level of regarding antenatal health promotion among pregnant women   **(n=80)**

Overall level of Knowledge	Max. score	Range of score	Mean ± S.D	Mean Difference	Mean %
Pre-test	50	10 - 40	23.21±8.11	2.14	46.42 %
Post-test		11 - 42	25.35±7.57		50.70%

S.No	Knowledge Domains	Max Score	Range of score		Mean ± S.D		Mean Diff.	Mean %	
			Pre	Post	Pre	Post		Pre	Post
1	Antenatal visits	6	0-6	0-6	3.04±1.496	3.54±1.449	0.5	50.6%	59%
2	Maternal assessment Investigation	7	1-7	1-7	3.03±1.492	3.56±1.491	1.54	43.2%	50.8%
3	Immunization	3	0-3	0-3	1.60±1.086	1.65±1.069	0.05	53.3%	55%
4	Antenatal advices	8	0-8	1-7	4.53±2.222	4.69±2.072	0.16	56.6%	58.6%
5	Nutrition in pregnancy	7	0-6	0-7	2.86±1.456	3.25±1.514	0.39	47.6%	46.4%
6	Supplementation during pregnancy	4	0-4	0-4	1.41±1.002	1.68±1.028	0.27	35.2%	42%
7	Physical activity	7	0-6	0-6	2.93±1.705	3.03±1.622	0.10	48.8%	50.5%
8	Rest and sleep	3	0-3	0-3	1.98±1.018	2.05±1.005	0.07	66%	68.3%
9	Preparation for labor	5	0-4	0-4	1.66±1.252	1.91±1.265	0.25	41.5%	47.7%

Data presented in Table no. 3 shows pre-test level and post-test level of knowledge regarding antenatal health promotion among pregnant women according to the domains. In pre-test knowledge score the maximum mean score was observed in antenatal visits (3.04±1.496) and the lowest mean score was observed in supplementation during pregnancy (1.41 ± 1.002); while in post-test knowledge score the highest mean score was observed in antenatal advices (4.69±2.072) and the lowest mean score was observed in immunization (1.65±1.069).

Objective 2: To assess the effectiveness of antenatal health promotion intervention on knowledge and self-care practice among pregnant women.

Table 4: Effectiveness of antenatal health promotion intervention on knowledge regarding antenatal health promotion among pregnant women   **(n=80)**

Knowledge score	Mean ±S .D	Mean diff.	t-value
Pre-test score	23.03 ± 8.105	2.32	9.748
Post test score	25.35 ± 7.574		

t_{79}=**1.664** at level of **p <0.05**

Table no.4 shows that the post-test knowledge mean (25.35±7.574) regarding antenatal health promotion was higher than pre-test knowledge mean (23.03±8.105) and the mean difference was 2.32. The calculated value (9.748) was higher than tabulated value (1.664). Since post-test mean knowledge was significantly higher than pre-test mean knowledge. Hence research hypothesis accepted and it can be inferred that antenatal health promotion intervention was effective.

Objective 3: To find the association between pre-test level of knowledge regarding antenatal health promotion among pregnant women with their selected demographic variables.

Table 5: Association between pre-test levels of knowledge regarding antenatal health promotion among pregnant women with their selected demographic variable   **(n=80)**

S.No	Sample Variable	Below median	At & above median	χ^2	p
1	**Age** a. 19-28 years b. 29-28 years	 31 9	 29 11	0.26	0.60
2	**Religion** a. Hindu b. Others	 35 5	 32 8	0.82	0.36
3	**Education qualification** a. No formal education b. Primary and above	 11 29	 7 33	1.14	0.28
4	**Occupation** a. Home maker b. Employed	 36 4	 35 5	0.12	0.72*
5	**Family type** a. Joint family b. Nuclear family	 27 13	 31 9	1.00	0.31
6	**Dietary pattern** a. Vegetarian b. Non- vegetarian	 12 28	 15 25	0.50	0.47
7	**Place of residence** a. Rural place b. Urban place	 38 2	 38 2	0.00	1.00*
8	**Occupation of husband** a. Daily wages b. Service (Govt/ Private) c. Self-employed	 14 17 9	 12 20 8	0.45	0.79
9	**Family Income/month** a. ≤10,000 Rupees/month b. >10,001 Rupees/month	 27 13	 24 16	0.48	0.48
10	**Education of husband** a. No formal education b. Primary and above	 14 26	 9 31	1.52	0.21
11	**Is your current pregnancy planned?** a. Yes b. No	 23 21	 21 19	0.20	0.65
12	**Gravida of pregnant women** a. Primigravida b. Multigravida	 20 20	 15 25	1.27	0.29
13	**Gestational age of pregnant women** a. 1-13 weeks (1st Trimester) b. 14-27 weeks (2nd Trimester) c. 28-34 weeks (3rd Trimester)	 12 14 14	 14 16 10	0.95	0.62
14	**Do you have previous knowledge regarding antenatal health?** a. Yes b. No	 10 30	 16 24	2.05	0.15
15	**Do you know the sources of getting right pregnancy related information?** a. Yes b. No	 12 28	 16 24	0.87	0.34
16	**Did you attend any antenatal class?** a. Yes b. No	 3 37	 4 36	0.00	1.00*

$df_1=3.84$ $df_2=5.99$ *Yate's Correction   #p value at level of significance <0.05

Table no. 5 depicts a description of the relationship between level of knowledge and their chosen demographic factors. The Chi square test was used to determine the relationship between level of knowledge and their chosen demographic factors, and the results reveal that there was no significant relationship discovered between levels of knowledge and their chosen demographic characteristics. As a result, it can be concluded that demographic factors had no effect on knowledge level. As a result, the null hypothesis was accepted.

4. DISCUSSION

In the present study findings revealed range of knowledge score regarding antenatal health promotion among pregnant women at pre-test level were (10-40) and post-test knowledge were (11-42). The level of knowledge was categorized into three level good (33-50), Average (16-32), Poor (1-15). In pre-test 18% pregnant women had good knowledge, 61.25% had average knowledge

regarding antenatal health promotion and 20% had poor knowledge regarding antenatal health promotion. At post-test level 21.25% had good knowledge, 66.25% had average knowledge and 12.50% had poor knowledge regarding antenatal health promotion. The findings were supported by study conducted by Bhabhor and Koshy in 2013 yielded results that were consistent with the current study. It was discovered that post-test scores increased following the implementation intervention. The 't' test, which was computed between the pre-test and post-test scores, indicated that the level of knowledge among pregnant women had improved. There was a significant difference in knowledge scores between the pre-test and post-test. Umar et al. pre- and post-test control group designs used for quasi-experimental research study to assess effects of health education on pregnant women. After the intervention, the mean score was 93.25, with a t value of 3.01. At the 0.05 level of significance, the null hypothesis is rejected since the t-calculated (3.00) > the t-tabulated (1.96). There was a strong correlation between health education and pregnancy outcomes. A t-value of 3.73 was larger than the table value of 1.96, rejecting the null hypothesis at the level of 0.05 significance. Health promotion is a vital aspect of nursing practice, nurses working in hospital and community health center can provide information and timely help the women during the antenatal period, teaching the antenatal mothers on preventive and promotive care during pregnancy. The data of the study findings could be used by nurses, doctors, midwives or nursing students to prepare an educational material for pregnant women, Antenatal care guidelines should be implicated in maternal health nursing curriculum so that nursing students could gain new evidence based knowledge and could educate mothers in clinical. Hospital obstetrics unit can prepare pamphlets containing information which are mostly asked by pregnant women, Along with antenatal visits pregnant women should be provided with a booklet in which she can maintain a health record of her pregnancy. These findings provide nurses a background data regarding the surrounding population, which can help the nurses to prepare any guideline or policy for the hospital which can help the women in need, Provides future basis for the nursing research in the respected area of antenatal care or a detailed experimental study in specific health promotion behaviour, Health camps can be organized and information can be provided to married women regarding antenatal health promotion.

5. CONCLUSION

According to the study's findings, the majority of pregnant women had an average level of prenatal health promotion knowledge. Pregnant women's post-test knowledge scores for prenatal health promotion increased significantly. The Antenatal Health Promotion Intervention improved pregnant women's knowledge. Hence, the intervention was effective in increasing the knowledge of the pregnant women in accordance with their antenatal health promotion behaviors.

6. REFERENCES

1. Dutta D.C. Textbook of obstetrics. 9th Edition. New Delhi: Jaypee publishers; 2019.
2. Al-Ateeq, Al-Rusaiess M, Amal. Health education during antenatal care: The need for more. International journal of women's health. 2019; 7; 239-242.
3. Pandey S, Singh A, Gaur A. Utilization of maternal health care services in Uttarakhand A comparative study between two divisions: kumaun and Garhwal. International Journal of Integrated Medical Sciences. 2019; 6; 1; 760-764.
4. Centers for Disease Control and Prevention. Recommendations to improve preconception health and health care - United States: A report of the Preconception Care Work Group and the Select Panel on Preconception Care. 2006; 55:1–23.
5. Kaur A, Singh J, Kaur H, Kaur H, Devgun P, Gupta VK. Knowledge and practices regarding antenatal care among mothers of infants in an urban area of Amritsar, Punjab. International journal of community medicine and public health. 2018; 5; 10.
6. Herval, Moreira A, Oliveira, Peruzzo D, Graduatinga D, Gomes, Elisângela V, Duarte AM. Health education strategies targeting maternal and child health, Medicine. 2019; 98; 26; 161-174
7. WHO recommendations on antenatal care for a positive pregnancy experience. Geneva World Health Organization. 2016
8. Myles textbook for midwives.16th ed. United Kingdom: Elsevier limited; 2014. Pregnancy [3] antenatal care; 179-188.
9. National Family Health Survey (NFHS-4) 2015-16. International Institute for population sciences. Ministry of Health and family welfare. 2018.
10. Trends in maternal mortality: 2000 to 2017: estimates by WHO, UNICEF, UNFPA
11. Pinal Bhabhor, Sijo Koshy. Effectiveness of Structured Teaching Programme on Knowledge Regarding Antenatal Care among Pregnant Women. International Journal of Science and Research (IJSR). Volume 5 Issue 5, May 2016. 678-681.
12. Umar N. Jibril1, Garba N. Saleh, Olusegun Badaki, Emmanuel E. Anyebe, Aliyu Umar, Abdukadir Kamal. Health Education Intervention on Knowledge and Accessibility of Pregnant Women to Antenatal Care Services in Edu, Kwara State, Nigeria. International journal of womens health and reproductive sciences. 2018; 6; 2; 154-160.