International Journal of Current Research and Review
DOI: http://dx.doi.org/10.31782/IJCRR.2022.141105

Research Article

IJCRR
Section: Healthcare
ISI Impact Factor (2021-22): 2.176
IC Value (2020): 91.47
SJIF (2020) = 7.893

A Study to Assess the Effect of Nursing Interventions on Selected Minor Ailments Among Antenatal Primigravida Women in Selected Areas

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ABSTRACT

Introduction: Minor ailments are common throughout pregnancy due to the physiological and psychological changes in women's body. Constipation and foot edema are quite common ailments during pregnancy. As during pregnancy women's increased their weight pressures will also increase to the ankles, knees, and feet. To reduce selected minor ailments selected nursing interventions provided in this study.

Aim: To evaluate the effect of nursing interventions on selected minor ailments among antenatal primigravida women in selected areas.

Methods and Material: Quasi - experimental pre-test post-test control group design was adapted. The study was conducted among antenatal primigravida women with selected minor ailments. 60 samples were selected using non-probability purposive sampling and data collection was done by using demographic variables, Pitting Edema Scale & Modified Constipation Assessment Scale. Nursing interventions provided to experimental group. No intervention to control group.

Results: The study findings showed that antenatal foot and leg exercises and consumption of fibrous fruits led to improvement in foot edema and constipation in experimental group as compared to control group who do not get any nursing interventions.

Conclusion: Study concluded that selected nursing interventions were significantly effective in improvement of foot edema and constipation among antenatal primigravida women.

Key Words: Antenatal, Constipation, Edema, Minor ailments, Nursing interventions, Primigravida

INTRODUCTION

Pregnancy means the time during which one or more offspring develops in the womb of the women. Result of the pregnancy will be live birth or any minor or major complications may cause.[1] About 50 million women affect minor disorders of pregnancy in India.[2] Minor ailments can directly or indirectly related to increased levels of estrogen and progesterone present during pregnancy.[3]

Constipation and foot edema are quite common ailments during pregnancy. Constipation having Atonicity of the gut due to effect of progesterone diminished physical activity and pressure of gravid uterus on pelvic colon due to which unable to pass stool properly.[4]

Foot edema is caused by the abnormal fluid retention in the tissues of the lower extremities. Exercising daily by pregnant women, throughout pregnancy will improve blood circulation, reduce edema. Common intervention to reduce edema includes Foot exercises. To reduce or maintain constipation, fibrous and vitamin c fruits will be helpful.

If some minor ailment left unattended or no care provided than can became worsen and complicate pregnancy. The midwife nurses have very important role in educating mothers and managing minor ailments.

The overall prevalence rate of foot edema during pregnancy was 8.5%.[5] At some of stage in pregnancy 8 out of 10 women have foot edema. Foot edema found in about 80% of all pregnancies.[6] It is necessary that pregnant women should be aware about how to take care of her during pregnancy so as to reduce the risk of minor disorders.

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ISSN: 2231-2196 (Print) **ISSN:** 0975-5241 (Online)

Received: 11.04.2022 **Revised:** 02.05.2022 **Accepted:** 20.05.2022 **Published:** 03.06.2022

A study was conducted, to evaluate knowledge of pregnant women regarding antenatal exercise and effect of antenatal exercise on antenatal mothers. Study was conducted at Smt. Kashibai Navale Medical College and general Hospital, Pune. Data collected from pregnant women by structured questionnaire and demonstrated antenatal exercise to pregnant women. Out of 30 samples 11 were primigravida and 14 were second gravida and 5 were third gravida this shows that multigravida women had adequate knowledge regarding antenatal exercise than the primigravida women. Study conclude that most of antenatal women were not having adequate knowledge and aware about antenatal exercise.[7]

A study was conducted to check intake of dietary fibre and the effect of fibre supplementation, 40 women have constipation were selected. Recorded their diet and bowel pattern for 4 weeks. After 2 weeks observation of the women's were checked and divide them into three groups and asked them to take about 10 g dietary fibre supplements per day. Result shown that changes were followed by an increase in the number of bowel movements and a stool became softer in Group A and B, and no any changes in Group C who were not taking intervention. Hence study concluded that there was an effect of dietary supplements on constipation during pregnancy.[8]

If pregnant women consume high fiber diet, during pregnancy constipation can be reduced. Fiber rich food will be helpful to keep intestinal system running smoothly or soluble fiber also helpful for water to remain in stool and make waste more softer and easier to pass through intestine.[9] If minor ailments neglected by pregnant women these ailments which minor leads to major complications to the mother and fetus.

That's why want to demonstrate and teach them about foot and leg exercise and importance of using fibrous fruit in diet. The mother has to take care of herself and get nursing intervention to prevent from complication of selected minor ailments; therefore, this study aimed to determine the level of selected minor ailments & evaluate the effect of nursing interventions on selected minor ailments among antenatal primigravida women,

MATERIAL AND METHODS

RESEARCH DESIGN

In this study Quasi-experimental, pre-test post-test control group design was used to assess the effect of nursing interventions on selected minor ailments among antenatal primigravida women in selected areas..

SETTING

The setting of the study was Dr. D. Y. Patil Hospital and Research Centre, Pimpri, Pune.

SAMPLE

The sample selected for present study comprised of the antenatal primigravida women from 18 to 35 years of age.

INSTRUMENT

In this study, the tool consisted of following:-

- Demographic Variables: this includes 9 questions which obtain information regarding demographic data such as age of the women, type of family, education, occupation, religion, gestational age, socio economic status, and weight and bowel pattern of antenatal primigravida women.
- Pitting Edema Scale: It consists of Pitting Edema Scale to assess the foot edema among antenatal primigravida women. Measured the depth of the indention. Recorded how long it takes for skin to rebound back to its original position. Grading has been done on a scale from 1-4.
- Modified Constipation Assessment Scale: It consists of Modified Constipation Assessment Scale to assess constipation. In this 16 questions was asked to women which was present on the scale according to her answer soring was given to her.

The score for each item in the scale as follows: Scoring:

- No Problem – 0 Mild Constipation – 0-5
- Some Problem – 1 Moderate Constipation – 6-10
- Severe Problem – 2 Severe Constipation – 11-16

INTERVENTION

- **Clinical Performa of foot exercises Assessment.**

Nursing interventions-(Demonstrated antenatal foot and leg exercise). Exercises done by antenatal primigravida women two times a day for 30 minutes each time (morning and evening) for 15 days. After 15 days again assessment was done by using Pitting Edema Scale to check level of foot edema and to check effect nursing intervention.

- **Diet recall of antenatal primigravida women consuming fruit (orange and banana)**

(One Banana in morning as well as one Orange in evening for 15 days). After 15 days on 16th day assessment of constipation was done with Modified Constipation Assessment Scale on experimental and control group to check the effect of fruits on constipation.

ETHICAL CONSIDERATION

The research study was approved by Sub Ethical Committee (DYPV / CON/ 523/ 2020), Research & Recognition Committee (DPU / 656 / - 15 / 2020) of Dr. D. Y. Patil Vidyapeeth Pune.

DATA COLLECTION

After obtaining administrative permissions was procured from hospital authorities. The actual data was collected from 07/02/2021 to 22./02/2021

SCHEMATIC DIAGRAM

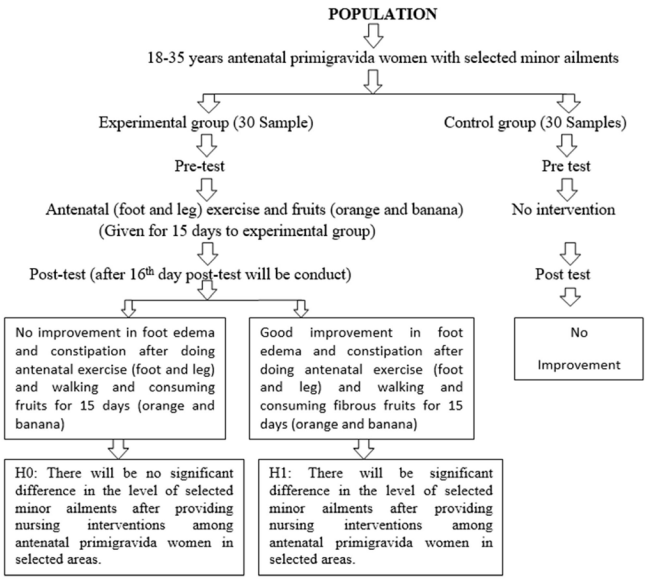

Figure 1: Schematic diagram showing procedure for data collection.

Figure 1 depicts the step by step procedure followed during the study for collection of data.

DATA ANALYSIS

Descriptive and analytical statistics were done. The data is represented in mean and standard deviation. The association of the selected minor ailments with selected socio-demographic variables was analysed by Fisher's exact test. The paired sample t-test and two sample t- test were used to check to mean differences. The level of significance was kept at $p<0.05$. The software used was R Software.

RESULTS

Table 1: Demographic variables of samples both experimental & control group (N=30, 30)

Sr. No.	Demographic variable		Experimental group		Control group	
			(f)	(%)	(f)	(%)
1	Age (in years)	18-20 years	1	3.3	0	0.0
		21-25 years	17	56.7	13	43.3
		26-30 years	11	36.7	15	50.0
		31-35 years	1	3.3	2	6.7
2	Type of family	Nuclear	14	46.7	17	56.7
		Joint	12	40.0	11	36.7
		Extended	2	6.7	1	3.3
		Other	2	6.7	1	3.3
3	Education	Primary	3	10.0	1	3.3
		Secondary	3	10.0	4	13.3
		Higher Secondary	10	33.3	12	40.0
		Graduate and above	14	46.7	13	43.3
4	Occupation	Home maker	13	43.3	8	26.7
		Self employed	6	20.0	14	46.7
		Government	9	30.0	4	13.3
		Own business	2	6.7	4	13.3
5	Religion	Hindu	19	63.3	20	66.7
		Muslim	5	16.7	3	10.0
		Christian	4	13.3	2	6.7
		Other	2	6.7	5	16.7
6	Gestational age (in weeks)	13-18	2	6.7	1	3.3
		19-24	6	20.0	5	16.7
		25-30	10	33.3	13	43.3
		31-36	12	40.0	11	36.7
7	Socioeconomic status	Upper Class	5	16.7	8	26.7
		Middle Class	15	50.0	18	60.0
		Lower Middle Class	4	13.3	1	3.3
		Upper Lower Class	6	20.0	3	10.0
8	Weight (in kg)	< 40	2	6.7	0	0.0
		41-50	1	3.3	3	10.0
		51-60	21	70.0	18	60.0
		60 Above	6	20.0	9	30.0
9	Bowel pattern	Regular Pattern	7	23.3	2	6.7
		Painful stool	11	36.7	12	40.0
		Difficulty to pass stool	12	40.0	16	53.3

Table 1, describes the demographic details of the samples involved in the study in terms of frequencies & percentages.

Table 2: Existing level of edema among antenatal primigravida women both experimental & control group (N=30, 30)

Edema grade	Experimental group Pre-test		Control group Pre-test	
	Frequency (f)	Percentage %	Frequency (f)	Percentage %
1+ (Immediate)	5	16.7	7	23.3
2+ (8 seconds or less)	17	56.7	16	53.3
3+ (10-12 seconds)	8	26.7	7	23.3
4+ (More than 20 seconds)	0	0.0	0	0.0

Table 2 shows, Majority antenatal primigravida women have 2+ grade edema 56.7% in experimental group and 53.3% in control group.

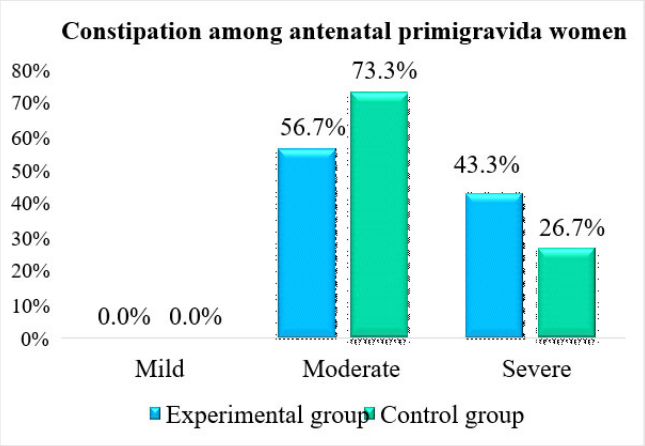

Figure 1: Existing level of constipation among antenatal primigravida women in experimental &control group. (N=30, 30)

Figure 1 shows that, majority samples of this study had moderate constipation (Score 6-10), 56.7% in experimental group & 73.3% in control group.

Table 3: Fisher's exact test to check effect of nursing interventions on edema grade among antenatal primigravida women in experimental group. (N=30)

Edema	Pre-Test	Post-test	p-value
1+ (Immediate)	5	21	
2+ (8 seconds or less)	17	9	0.000
3+ (10-12 seconds)	8	0	

Table 3 shows, that Researcher applied Fisher's exact test for the comparison of edema grades in pre-test and post-test to check the effect of nursing intervention on experimental group. Since p-value is small (less than 0.05), the null hypothesis is rejected.

Table 4: Paired t-test for the effect of nursing interventions on constipation among antenatal primigravida women. (N=30, 30)

Experimental group	Mean	SD	t	df	p-value
Pre-Test	10.2	1.8	5.3	29	0.000
Post-test	9.2	1.6			

Table 4 shows, paired t-test to check the effect of nursing interventions on constipation among experimental group. p-value was small (less than 0.05), so the null hypothesis is rejected.

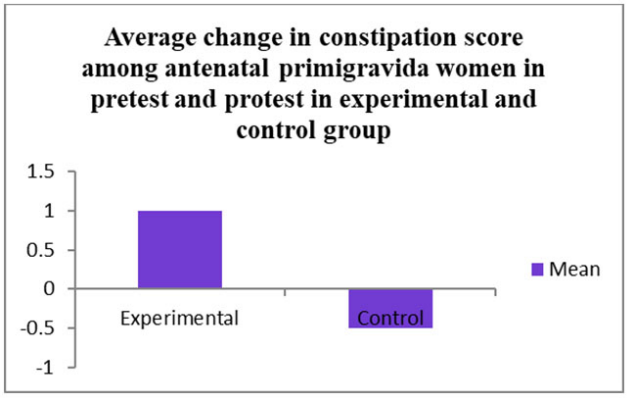

Figure 2: Two sample t-test to check effect of nursing interventions on Constipation grade among experimental group.

Researcher applied two sample t-test to check effect of nursing interventions on constipation among samples. Average change in constipation score in experimental group was 1.0 which is less -0.5 in control group. "t-value" for this test was 5.4 with 58 degrees of freedom. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. Average change in experimental group was significantly higher than that in control group.

It is evident that the nursing interventions were significantly effective in improving constipation among antenatal primigravida women

Table 5: Fisher's exact test for association between edema grades among antenatal primigravida women with selected demographic variables. (N=60)

Sr. No	Demographic variable		Edema grade			p-value
			1+ (Immediate)	2+ (8 seconds or less)	3+(10-12 seconds)	
1	Age (in years)	18-20 years	0	1	0	0.011
		21-25 years	1	19	10	
		26-30 years	10	11	5	
		31-35 years	1	2	0	
2	Type of family	Nuclear	6	17	8	0.936
		Joint	4	13	6	
		Extended	1	1	1	
		Other	1	2	0	
3	Education	Primary	1	2	1	0.522
		Secondary	1	3	3	
		Higher Secondary	2	14	6	
		Graduate and above	8	14	5	
4	Occupation	Home maker	1	13	7	0.050
		Self employed	4	10	6	
		Government	5	8	0	
		Own business	2	2	2	
5	Religion	Hindu	7	24	8	0.053
		Muslim	0	3	5	
		Christian	1	4	1	
		Other	4	2	1	
6	Gestational age (in weeks)	13-18	1	1	1	0.659
		19-24	3	7	1	
		25-30	5	11	7	
		31-36	3	14	6	
7	Socioeconomic status	Upper Class	4	7	2	0.298
		Middle Class	6	16	11	
		Lower Middle Class	0	3	2	
		Upper Lower Class	2	7	0	
8	Weight (in kg)	< 40	1	1	0	0.189
		41-50	1	2	1	
		51-60	5	21	13	
		60 Above	5	9	1	
9	Bowel pattern	Regular Pattern	3	3	3	0.471
		Painful stool	3	13	7	
		Difficulty to pass stool	6	17	5	

Table 5 shows, association between nursing interventions on selected minor ailments. Since p-values corresponding to age and occupation are small (<=0.05) were found to have significant association with the edema grade among antenatal primigravida women.

Table 6: Fisher's exact test for association between constipation among antenatal primigravida women with selected demographical variables (N=60)

Sr. No	Demographic variable		Constipation		p-value
			Moderate	Severe	
1	Age	18-20 years	1	0	0.075
		21-25 years	19	11	
		26-30 years	19	7	
		31-35 years	0	3	
2	Type of family	Nuclear	21	10	0.624
		Joint	13	10	
		Extended	3	0	
		Other	2	1	
3	Education	Primary	1	3	0.356
		Secondary	4	3	
		Higher Secondary	15	7	
		Graduate and above	19	8	
4	Occupation	Home maker	13	8	0.937
		Self employed	14	6	
		Government	8	5	
		Own business	4	2	
5	Religion	Hindu	28	11	0.447
		Muslim	4	4	
		Christian	3	3	
		Other	4	3	
6	Gestational age	13-18	2	1	0.645
		19-24	9	2	
		25-30	14	9	
		31-36	14	9	
7	Socioeconomic status	Upper Class	9	4	0.923
		Middle Class	22	11	
		Lower Middle Class	3	2	
		Upper Lower Class	5	4	
8	Weight	< 40	1	1	0.838
		41-50	2	2	
		51-60	26	13	
		60 Above	10	5	
9	Bowel pattern	Regular Pattern	7	2	0.665
		Painful stool	15	8	
		Difficulty to pass stool	17	11	

Table 6 shows that, all the p-values were large (greater than 0.05), so none of the demographic variable was found to have significant association with the constipation among the antenatal primigravida women.

STATISTICAL ANALYSIS

Descriptive and analytical statistics were done. The data is represented in mean and standard deviation. The association of the level of selected minor ailments with selected socio-demographic variables was analysed by Fisher's exact test. The paired sample t-test and two sample t- test were used to check to mean differences. The level of significance was kept at $p<0.05$. The software used was R Software.

DISCUSSION

The aim of the study was to assess the effect of nursing interventions on selected minor ailments among antenatal primigravida women.

A quasi experimental, study was conducted at selected hospitals of central Gujarat. Two group pretest post-test design was used & 70 samples selected for study. Group A or Group B. Data of the participants was collected. Observational check list was used to assess foot edema during Pretest. Thereafter participants were asked to do foot exercise 2 times a day for 3 days for 20 minutes, Posttest was done. Result showed that standard deviation for right foot edema during pretest was 7.08 which was reduced in posttest 6.78. Standard deviation for left foot edema during pretest was 6.87 which was reduced in posttest 6.77. It shows that there was significant effect of foot exercise on foot edema with p value < 0.001 for both the feet. Study revealed that significant effect found in relieving of foot edema at 0.05 level of significance. (Mamta Vasaiya et.al, 2018)[10]

An experimental study conducted to check the existing level of constipation during third trimester and to assess effect of fruit laxative on reduction of constipation among antenatal mothers. Antenatal mothers from Bangalore having constipation were selected. After data collection structured questionnaire was provided as interview schedule to antenatal mothers and observation will be done by the use of ROME II criteria to as check the existing level of constipation. After that administered fruit laxative that was 100 gm of grapes and 100 gm of banana twice a day for 3 days to antenatal mothers. Post-test will be done after 3 days to check the level of constipation after intervention. Study concluded that improvement in constipation due to fruit laxative among antenatal mothers.(Ms. Dineshwori Paonam, 2008)[11]

A Descriptive study was conducted in 2018 to check the knowledge of antenatal mothers on management of minor ailments during pregnancy at NMCH, Nellore by. antenatal mothers were selected by using Non-probability convenient sampling who was admitted in antenatal ward at NMCH, Nellore. Demographical variables was provided to mothers to obtain their data and a self-structured knowledge questionnaire to check the knowledge of antenatal mothers regarding management of minor ailments during pregnancy. Results of the study shows that the level of knowledge among mothers was 30/60 which means 50% mothers had inadequate knowledge, 22/60 which means 36.7% mothers had moderate knowledge, and 8/60 means 13.3% mothers had adequate knowledge regarding management of minor ailments during pregnancy. The study concluded that most of antenatal mothers, 30/60 means 50% antenatal mothers had inadequate knowledge related to management of minor ailments during pregnancy. (Kommuri Vennela Kumari, 2019)[12]

Present study was conducted to assess existing level of minor ailment, effect of selected nursing interventions on selected minor ailments and association between selected minor ailments among antenatal primigravida women with selected demographical variables. In these study 60 antenatal primigravida women was selected and divide them into two groups experimental and control group. Pitting edema assessment scale and modified constipation assessment scale was used to check the existing level of selected minor ailments. Researcher demonstrated Antenatal foot and leg exercise and advised to take one banana and one orange daily and again after 2 weeks posttest done by the researcher. Data was analyzed and interpreted by descriptive and inferential statistics. Study result found that T-value for this test was 5.4 with 58 degrees of freedom. Fisher's exact test was used to find out association between edema grades among antenatal primigravida women with selected demographic variables. P-values corresponding to age and occupation are small (< = 0.05), demographic variables age and occupation were found to have significant association with the edema. The null hypothesis is rejected. Study concluded that nursing intervention were significantly effective in improving the edema and constipation among antenatal primigravida women.

Many advantages occur from providing selected nursing interventions that reduce selected minor ailments during pregnancy. This study reflects the effects of exercising and consuming fibrous fruits to reduce edema and constipation which was shown within experimental group compared with control group. Therefore, all governmental/educational hospitals should provide effective planned in-service training programs for midwifery nurses regarding nursing interventions advantages during pregnancy. Further more research is required to assess effect of nursing intervention on multiparous women having selected minor ailments. A comparative study can be done between multi gravida and primigravida women with minor ailments.

CONCLUSION

The overall experience of conducting this study was a satisfying one, as there was good cooperation from antenatal primigravida women. The study was new learning experience for

the researcher. This study highlights that antenatal foot and leg exercise and intake of fibrous fruits will improve foot edema and constipation during pregnancy. Present study suggest that there is a need to improve knowledge of antenatal primigravida women regarding complications of minor ailments during pregnancy and importance of antenatal foot and leg exercise and use of fibrous fruit in diet during pregnancy.

Study concluded that nursing interventions were significantly effective in improving edema and constipation among antenatal primigravida women.

ACKNOWLEDGEMENT

Authors acknowledge the immense support received from Dr. D. Y. Patil College of Nursing and Dr. D. Y. Patil Hospital staff, Antenatal primigravida women and family for completing this study. Authors are grateful for the help received from the scholars whose articles are cited and included in references of this manuscript. The authors are also thankful to authors/ editors / publishers of all those articles, journals and books from where the literature for this article has been reviewed and discussed.

Source of Funding: None

Conflict of Interest: None

Authors' Contribution: All the authors have contributed to the planning, implementation and analysis of the research study and its presentation in the form of the manuscript.

REFERENCES

1. Eunice Kennedy "Pregnancy: Condition Information" Shriver National Institute of Child Health and Human Development. 19 March 2015.
2. George M S, effectiveness of planned teaching program on the management of selected minor ailments in terms of home remedies of primigravidae mothers during first trimester of pregnancy in selected hospitals, Bangalore, Karnataka, I-XIV: 1-175. 2005
3. Abdellah F G, Levine E. Better Patient Care through Nursing Research. New York: Macmillan Publishing Co. 1979
4. Konar H, Dutta D C, Comprehensive textbook of obstetrics, antenatal care, (6th ed.). Jaypee brothers Medical Publishers. 2006
5. Davison J M, Edema in pregnancy, Kidney International Supplements, 59:S90 1997
6. Vasaiya M, Tiwari A, effect of foot exercise and warm water .foot soak on foot edema among antenatal women - a literature review Int. J. Adv. Res. 1st, 7(3), 83-87. 2019
7. Bhanari A, Effectiveness of demonstration of antenatal exercise on the Knowledge of antenatal mothers attending antenatal OPD, Sinhgade J. Nurs, Vol. IV, Issue II/12,: 37-38,2016
8. Rachelle A. Pretorius, Debra J. Palmer, High-Fiber Diet during Pregnancy Characterized by More Fruit and Vegetable Consumption, Nutrients , vol-13(1): 35,2020
9. Anderson A S, Dietary factors in the etiology and treatment of constipation during pregnancy, BJOG BJOG-INT J OBSTET **GY.**93(3), 245-9, 1986
10. Vasaiya M, Tiwari A, Effect of foot exercise and warm water foot soak on foot edema among antenatal women- a literature review, Int. J. Adv. Res., 7(3), 83-87, 2019
11. Paonam D, A study to assess the effectiveness of fruit laxative on reduction of constipation among antenatal mothers in third trimester in selected areas, Bangalore,:1-13, 2008
12. Vennela K K, Knowledge on management of minor ailments during pregnancy among antenatal mothers in NMCH, Int J Gynaecol Obstet 1(2): 20-22, 2019