

A Study To Assess The Effectiveness Of Structured Teaching Programme On Maternal Knowledge, Attitude And Practices Regarding Covid-19 And Its Preventive Measures During The Pandemic To Reduce Women And Child Infection Among Pregnant Women in Selected Rural Areas Of Vijayapur.

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Abstract

Background: Corona virus disease (COVID-19) is a severe infectious disease caused by corona virus 2 (SARS-CoV-2), has resulted in several fatalities globally. Several preventive measures have been recommended by Indian government to prevent disease. It was revealed that effective in controlling spread of diseases among peoples.

Aim: Present investigations were to assess the existing level of knowledge, attitude and practice regarding covid-19 and its preventive measures, to evaluate the effectiveness of structured teaching programme on the knowledge, attitude and practices regarding covid-19 and its preventive measures among pregnant women, to correlate the knowledge with attitude and practices on covid-19 and its preventive measures among pregnant women.

Materials and methods: 50 pregnant women are selected by using purposive sampling methods. Knowledge was assessed by structured knowledge questionnaires; attitude was assessed by likert scale and practice was assessed by rating scale. The design selected for the study was pre experimental one group pretest - posttest design.

Result: Present study revealed that among 50 pregnant women majority 42(84%) had inadequate knowledge, 5(10%) had moderately adequate and only 3(6%) adequate level of knowledge on covid-19 its preventive measures. In post-test among pregnant women 8(16%) had inadequate knowledge, 19(38%) had moderately adequate and 23(46%) adequate level of knowledge on covid-19. Regarding the attitude of 50 participant, included in this study; majority 28(56%) of the pregnant women had Negative attitude and remaining 22(44%) had positive attitude about covid-19 and preventive measures. In post-test all participant (50 Pregnant women) demonstrated positive attitude towards covid-19 and its preventive measures. In the present study practice also assessed among 50 participants majority 27(54%) of the pregnant women had good, 17(34%) pregnant women had poor practice and only 6(12%) of pregnant women had very poor practice. In post-test, more 49(98%) of pregnant women had good practice and only 1(2%) had poor practice regarding covid-19 and its preventive measures. There was highly significant difference in the mean score of knowledge; attitude and practice regarding covid-19 and its preventive measure between pretest – posttest group after structure teaching program among pregnant women. The study concluded that Structure teaching programme was effective in improving knowledge, attitude and practice regarding covid-19 among pregnant women.

Key Words: Effectiveness, Structured Teaching Programme, Knowledge, Attitude And Practices, Covid-19, Preventive Measures, Pandemic, Pregnant Women and Rural Areas.

1. INTRODUCTION

Corona virus disease 2019 (COVID-19) is public health problem of global concern, which caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2). It did not take more time to spread its roots in India. The first case of COVID-19 in India, which originated from China. It was reported on 30 January 2020 in the towns of Thrissur, Alappuzha and Kasargod, all in the state of Kerala, among three Indian medical students who had returned from Wuhan.⁽¹⁾

A second wave beginning in March 2021 was much larger than the first, with shortages of vaccines, hospital beds, oxygen cylinders and other medicines in parts of the country.⁽¹⁾

Since its emergence the new corona virus has resulted in 43.7 million infections and over 1 million deaths as of October 25, 2020 among which 20% of deaths are in the United States followed by Brazil (14%), India (10%), Mexico (7.8%), and the United Kingdom (4%).⁽²⁾

2. NEED OF THE STUDY

The novel corona virus disease (COVID-19) is the most challenging health crisis that we are facing today. COVID -19 infections may be a health threat for both mother and the growing child in utero. Appropriate and authentic perception of information on COVID-19 is essential during pregnancy to avoid infection and stay safe and healthy in the changing global situation.

The mode of transmission is by droplets which can occur when the patient sneezes or coughs. The incubation period varies from 2 days to 2 weeks following exposure to the virus.⁽¹⁾

The Retrospective observational analytical study was done in the Department of Obstetrics and Gynecology at Tertiary Care Hospital attached to a Medical College, located in Central Mumbai. The aim of this study was to assess the maternal morbidity and mortality due to covid-19 infection in the pregnant women and to assess the effects of covid-19 infection on the newborn along with assessment of association of co morbidities with worsening of outcome in pregnant woman. A total of 977 patients were included in this study, who was in labour or who had an abortion or an ectopic pregnancy, from 1st April to 15th May 2020. Out of which 141 women tested COVID positive and 836 women were COVID negative. This study result shows that the incidence of COVID positive pregnant women was found to be 14.43%, and also low APGAR score (0-3) was observed in 2(1.52%) neonates of COVID positive mothers and in 15 (1.91%) neonates of COVID negative mothers. Out of all babies tested, 3 were detected positive initially which were retested on day 5 and were found to be negative. This study concludes that there was no significant effect of COVID infection on maternal and foetal outcome in pregnancy and there was no evidence of vertical transmission of the COVID-19 infection but long-term follow-up of these babies is recommended. As several pregnant women are getting infected all over the world, a clear picture will emerge in the coming days about the effect of COVID 19 infection on pregnancy, labour and the neonates.⁽⁵⁾

Due to changes in their bodies and immune systems, we know that pregnant women can be badly affected by some respiratory infection. Pregnant women who are elderly, obese, and have pre-existing medical diseases such as hypertension and diabetes seem to have an increased risk of developing severe COVID-19. When pregnant women develop severe disease, they also seem to more often require care in intensive care units than non-pregnant women of reproductive age.⁽³⁾

Pregnant women should take the same precautions to avoid COVID-19 infection as other people:

- Washing your hands frequently with an alcohol-based hand rub or soap and water.
- Keeping space between yourself and others and avoiding crowded spaces.
- Wear a non-medical, fabric mask where it is not possible to keep sufficient physical distance between yourself and others.
- Avoiding touching your eyes, nose and mouth.
- Practicing respiratory hygiene. This means covering your mouth and nose with your bent elbow or tissue when you cough or sneeze. Then dispose of the used tissue immediately.⁽³⁾

The present study will be undertaking to understand the extent of knowledge and safe preventive measures regarding COVID -19 among non-infected pregnant women.

3. REVIEW OF LITERATURE

A cross sectional study was conducted among (n=150) healthy pregnant women attending OPD/IPD of the Department of Obstetrics and Gynecology at Maharaja Jitendra Narayan Medical College & Hospital, Coochbehar, West Bengal, India. The aim of the study was to understand the extent of knowledge and safe preventive practice followed against COVID-19 among non-infected pregnant women. The study participants were selected by using simple random sampling method. The investigator approached all the selected participants with a pre validated questionnaires. The items of the questionnaire were in the form of multiple choice questions, and 5-point Likert scale-based questions with a scoring system. The result showed that the entire mother was aware about covid-19 transmission and precautions. And also there is no correlation between the age of participants and knowledge of COVID-19, but a strong correlation with level of education and correct knowledge was found ($p < 0.0001$). This study concludes that Most of the pregnant women responded correctly and had fair amount of knowledge on COVID-19 and practicing good preventive measures during their pregnancy.

The cross-sectional survey study was conducted from March 7–23, 2020, in Wuhan. This study aimed to evaluate the socio-demographic characteristics, knowledge, attitudes, and practices (KAP), and anxiety level of pregnant women during the coronavirus disease 2019 (COVID-19). In this study the data were collected by using questionnaires on pregnancy their socio-demographics information and KAP towards COVID-19. The study result was prenatal anxiety prevalence in this population was 20.8% and the mean score of knowledge was 13.2 ± 1.1 on a 0~14 scale. The attitudes and practices data showed that 580/ 817 (71.0%) were very concerned about the news of COVID-19, 455/817 (55.7%) considered the official media to be the most reliable information source for COVID-19, and 681/817 (83.4%) were anxious about the possibility of being infected by COVID-19.⁽⁶⁾

4. OBJECTIVES OF THE STUDY

1. To assess the existing level of knowledge, attitude and practice regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.
2. To evaluate the effectiveness of structured teaching programme on the knowledge, attitude and practices regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.
3. To correlate the knowledge with attitude and practices on covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.
4. To find out the association between pre-test level of knowledge, attitude and practices on covid-19 and its preventive measures during the pandemic to reduce women and child infection with selected demographic variables among pregnant women.

5. ASSUMPTIONS

The study will be based on the following assumptions.

- 1) Pregnant women may have inadequate knowledge, attitude and practices regarding covid-19 and its preventive measures.
- 2) Structured teaching programme may improve knowledge, attitude and practice scores regarding covid-19 and its preventive measures scores among pregnant women which may help in reducing women and child infection.

6. RESEARCH HYPOTHESIS

The hypotheses will be tested at 0.05 of significance.

H₁: There is significant difference between mean pre-test and post-test knowledge, attitude and practice scores regarding covid-19 and its preventive measures during the pandemic among pregnant women.

H₂: There is significant correlation between the knowledge with attitude and practices of pregnant women on covid-19 and its preventive measures.

H₃: There is significant association between pre-test knowledge, attitude and practices scores with selected demographic variable of pregnant women.

7. MATERIAL AND METHODS

Source of data: Data was collected in rural areas at Vijayapur District.

Research design: Pre-experimental one group pre test – post test study design

Setting: The present study was conducted in some selected rural areas at Vijayapur District.

Population: In this study, the population consists of pregnant women in selected rural areas of Vijayapur District.

Method of data collection

Sample: In this study, the sample would consist of pregnant women.

Sampling procedure: In this study purposive sampling method was used.

Sample size: The sample for the present study consisted of 50 pregnant women selected rural areas at Vijayapur District.

Inclusion criteria

- Pregnant women aged between 18-40 years.
- Pregnant women who are willing to participate in the study.
- Pregnant women irrespective of their parity.

Exclusion criteria

- Pregnant women who are not available at the time of study
- Pregnant women who are suffering with covid-19.
- Pregnant women who are suffering with severe medical and mental illness.

Instruments intended to be used

- Structured knowledge questionnaire
- Likert Scale
- Practice questionnaire (Rating Scale)

Data collection method

Step 1: Prior to the study a formal permission was obtained from the concerned authority of selected rural areas of Vijayapur District.

Step 2: The purpose of the study was explained to pregnant women.

Step 3: Pre-test was conducted by using structured knowledge questionnaire to assess the knowledge, attitude and practices regarding covid-19 and its preventive measures.

Step 4: After obtaining pre-test score STP was implemented.

Step 5: After a period of one week post-test knowledge, attitude and practices was assessed for the same group using same structured knowledge questionnaire.

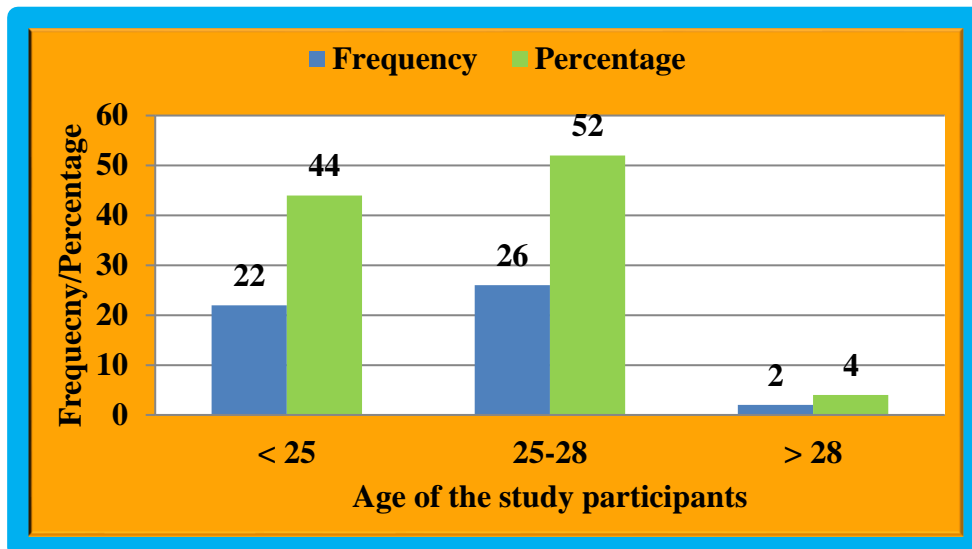
Part-I: Socio-demographical Data:

Table No -1: Shows that distribution of pregnant woman according to their age in year.

N=50

Sl. NO.	Age	Frequency	%
1	< 25	22	44
2	25-28	26	52
3	> 28	02	4
Total		50	100

Fig No 1: Bar diagram shows that distribution of pregnant woman according to their age in year.

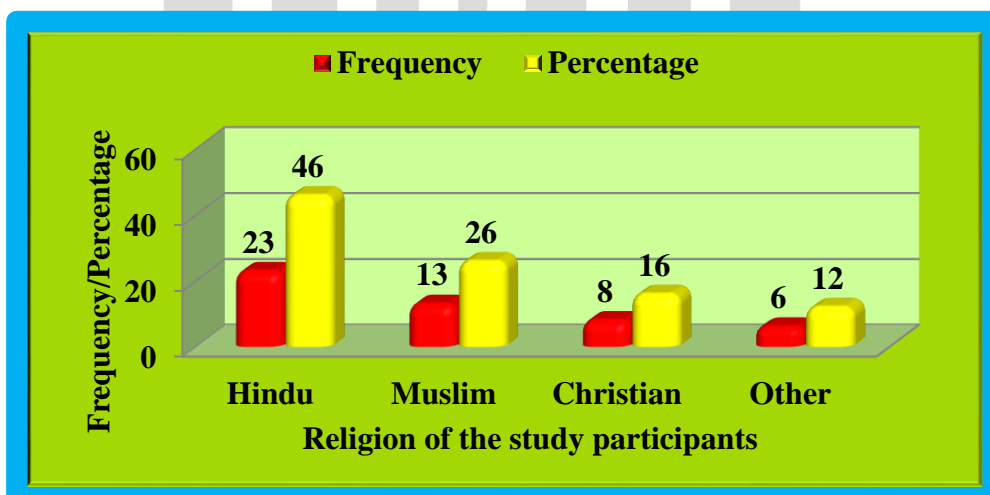


The above table and diagram shows that majority 22(44%) of the pregnant woman were less than 25 years of age followed by 26(52%) whose age was between 25-28 years of age and only 2(4%) of the pregnant woman were more than 28 years of age

Table No -2: Shows that distribution of pregnant woman of according to their religion.

Sl. No	Religion	Frequency	%
1	Hindu	23	46
2	Muslim	13	26
3	Christian	08	16
4	Other	06	12
Total		50	100

Fig No 2: Bar diagram shows that distribution of pregnant woman according to their religion.

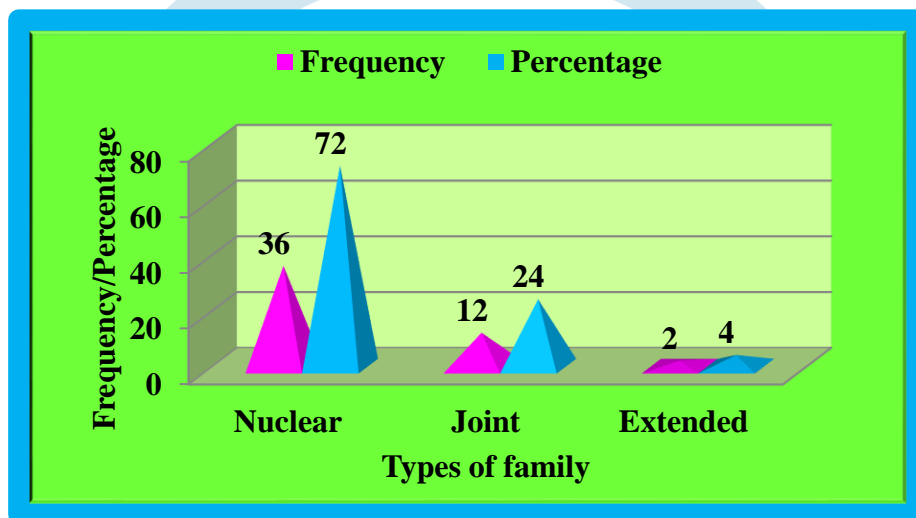


The above table and diagram shows that majority 23(46%) of the pregnant woman were Hindu followed by 13(26%) were Muslims, 8(16%) of the pregnant woman were Christians and remaining 6(12%) were belongs to other caste.

Table No -3: Shows that distribution of pregnant woman according to their types of family.

Sl. No	Types of family	Frequency	%
1	Nuclear	36	72
2	Joint	12	24
3	Extended	02	4
Total		50	100

Fig No 3: Cone diagram shows that distribution of pregnant woman according to their types of family.

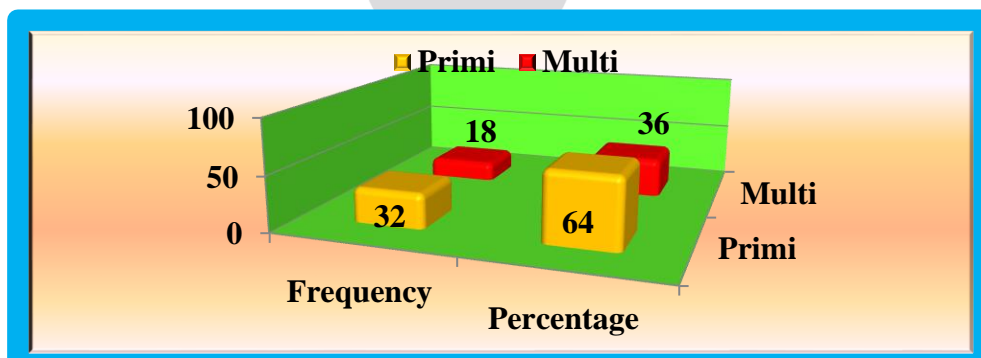


The above table and Cone diagram represents that majority 36(72%) of the pregnant woman were belongs to the nuclear family followed by 12(24%) were belongs to the joint family and only 2(4%) of the pregnant woman were belongs to the extended family.

Table No -4: Represents that distribution of pregnant woman according to her parity.

SI. No	Parity	Frequency	%
1	Primi	32	64
2	Multi	18	36
Total		50	100

Figure No -4: Revealed that distribution of pregnant woman according to her parity.

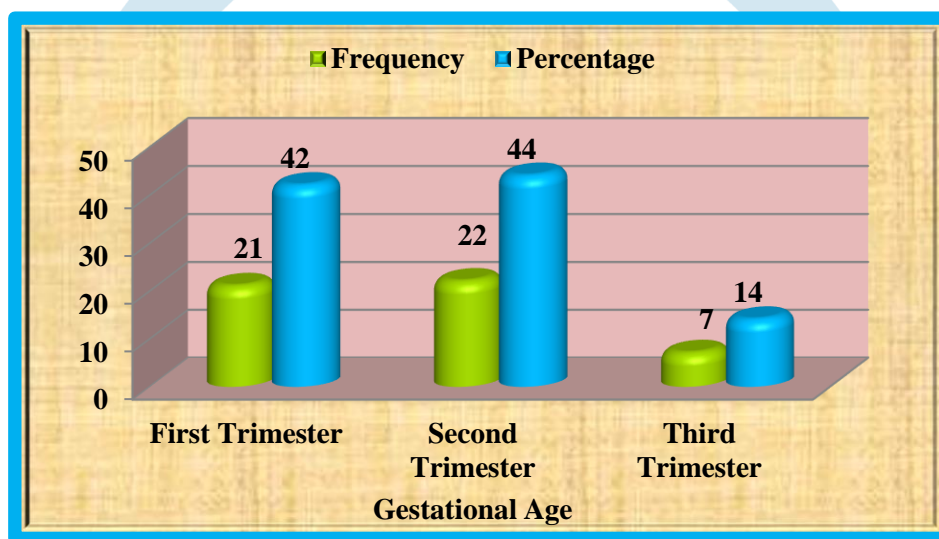


The above table and bar diagram represents that majority 32(64%) of the primi pregnant woman, remaining 18(36%) were multi pregnant women.

Table No -5: Shows that distribution of pregnant woman according to their gestational age.

SI. No	Gestational age	Frequency	%
1	First Trimester	21	42
2	Second Trimester	22	44
3	Third Trimester	07	14
Total		50	100

Figure No -5: Shows that distribution of pregnant woman according to their gestational age.

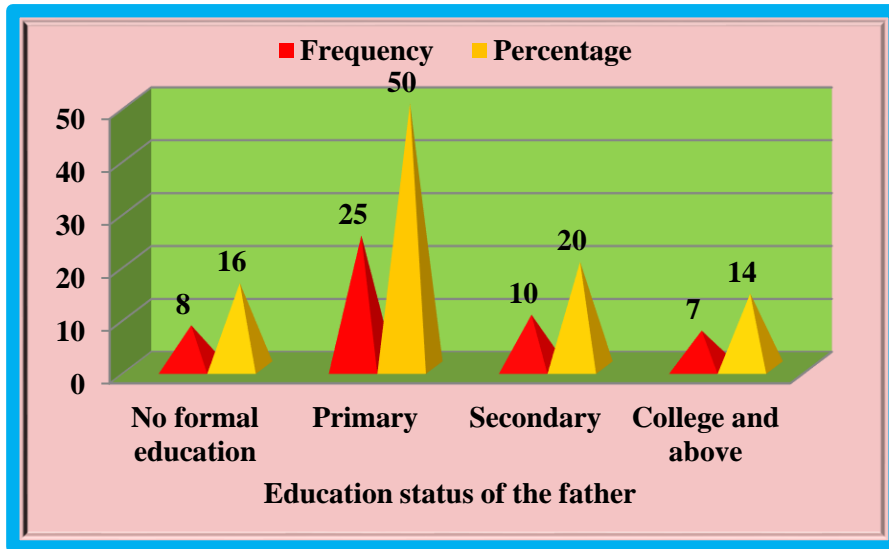


The above table and Cylinder diagram represents that majority 22(44%) of the pregnant woman were in second trimester, 21(42%) were in first trimester, and only 7(14%) of the pregnant woman were in third trimester.

Table No -6: Shows that distribution of educational status of mother.

SI. No	Education status of father	Frequency	%
1	No formal education	08	16
2	Primary	25	50
3	Secondary	10	20
4	College and above	07	14
Total		50	100

Figure No -6: Represents distribution of educational status of mother.

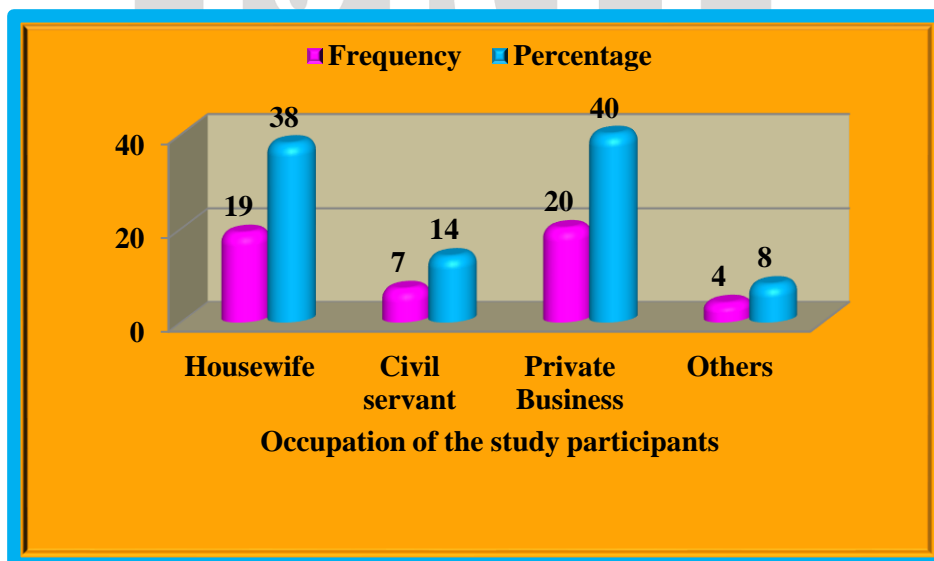


The above table and Cone diagram revealed that, majority 25(50%) of the pregnant woman had primary education followed by 10(20%) of the mothers had secondary education, 8(16%) of the mothers had studied no formal education and only 7(14%) mothers were studied college and above.

Table No -7: Shows that distribution occupation of pregnant woman.

Sl. No	mother's occupation	Frequency	%
1	Housewife	19	38
2	Civil servant	07	14
3	Private Business	20	40
4	Others	04	8
Total		50	100

Figure No -7Shows that distribution of occupation of pregnant woman.



The above table and diagram confirmed that, majority 20(40%) of the pregnant woman mothers were doing private business, 19(38%) of the mothers were housewife, 7(14%) of the mothers were civil servant and only 4(8%) were doing other work.

Table No -8: Shows that distribution of Educational status of her husband.

SI. No	Education of their husband	Frequency	%
1	No formal Education	16	32
2	Primary	09	18
3	Secondary	18	36
4	College and above	07	14
Total		50	100

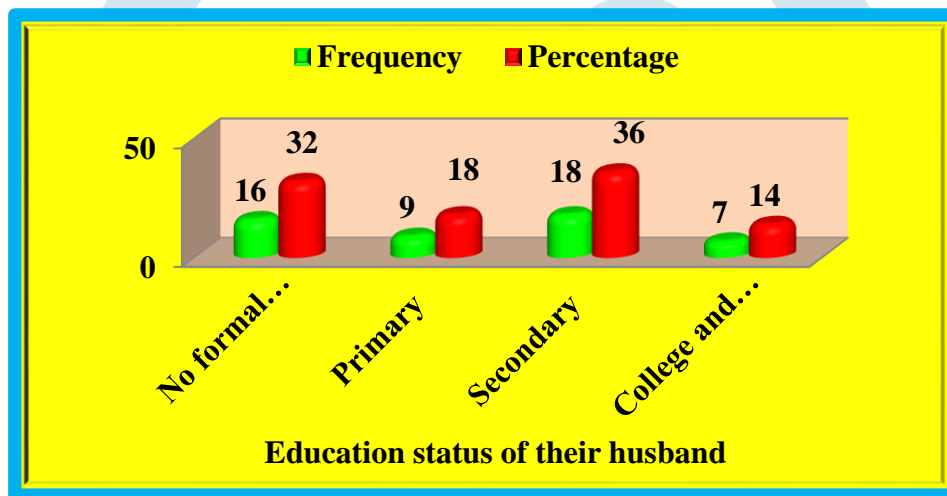
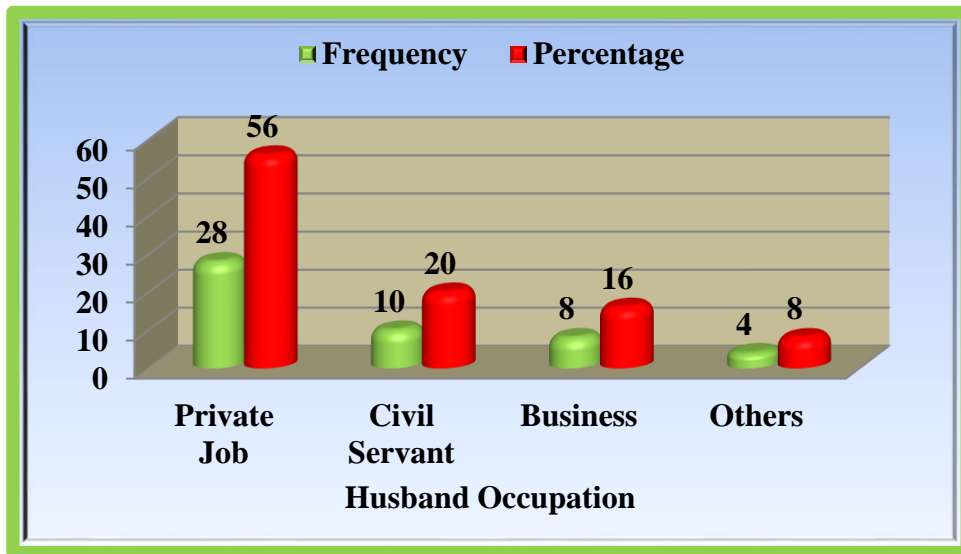
Figure No -8: Shows that distribution of Educational status of her husband.

Figure no 8 revealed that, majority 18(36%) of the Husbands had secondary education followed by 16(32%) of the husbands had no formal education, 9(18%) of the husband had primary education and only 7(14%) husbands were studied college and above

Table No -9: Shows that distribution of pregnant woman according to their husband occupation

SI. No	Husband occupation	Frequency	%
1	Private Job	28	56
2	Civil Servant	10	20
3	Business	08	16
4	Others	04	8
Total		50	100

Figure No -9: Shows that distribution of pregnant woman according to their husband occupation.

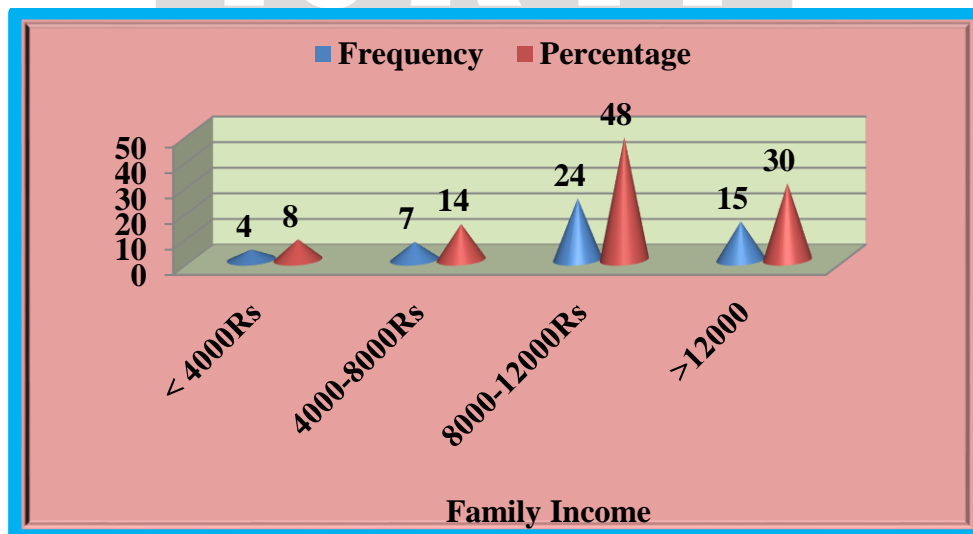


From figure no 9, it was seen that, majority 28(56%) of husband were in private job, 10(20%) were civil servant, 8(16%) of the husbands were doing business and 4(8%) were doing other works

Table No -10 Shows that distribution of pregnant woman according to income.

SI. No	Family income	Frequency	%
1	< 4000Rs	04	8
2	4000-8000Rs	07	14
3	8000-12000Rs	24	48
4	>12000	15	30
Total		50	100

Figure No -10 Shows that distribution of pregnant woman according to their income

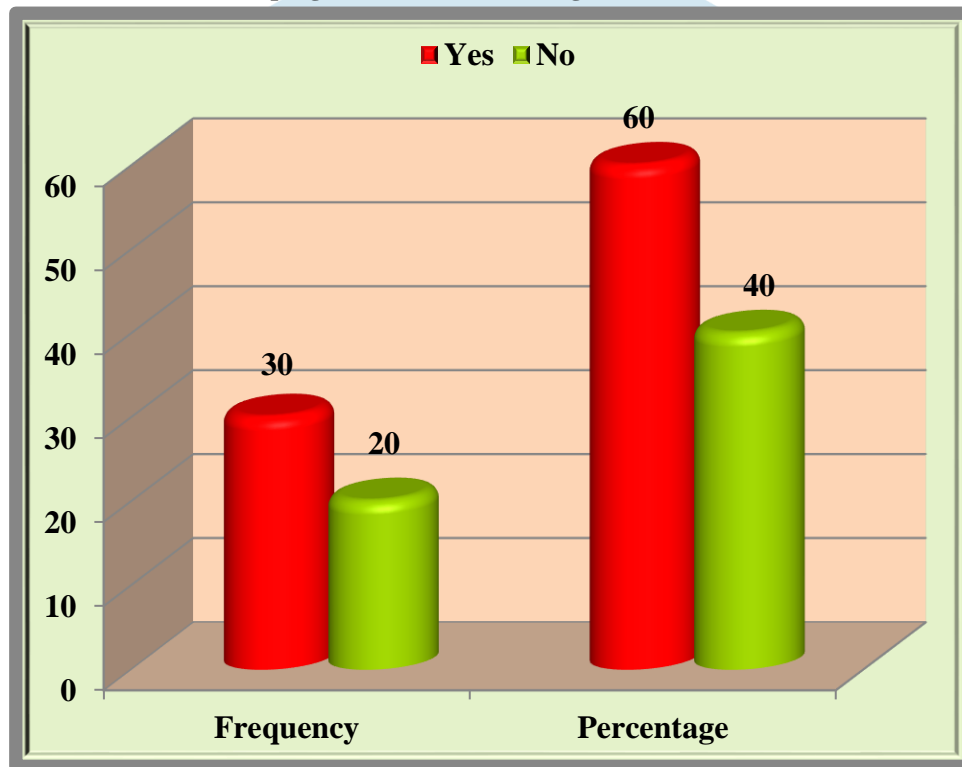


From figure no 10, it was seen that majority 24(48%) of the pregnant woman had income 8000-12000Rs, 15(30%) of mothers had income more than 12000Rs per month, 7(14%) mothers had income between 4000-8000Rs and only 4(8%) mothers had income less than 4000Rs.

Table No -11: Shows that distribution of pregnant woman according to Received covid-19 education at a health facility.

SI. No	Received covid-19 education at a health facility	Frequency	%
1	Yes	30	60
2	No	20	40
Total		50	100

Figure No -11: Shows that distribution of pregnant woman according to Received covid-19 education at a health facility.



From figure no 11, it was seen that majority 30(60%) of the mothers had Received covid-19 education at a health facility and remaining 20 (40%) had not received covid-19 education at a health facility.

Table No-12: assess the existing level of knowledge regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.

SI. No	Knowledge level	Frequency	%
1	Inadequate	42	84
2	Moderately adequate	05	10
3	Adequate	03	6
Total		50	100

Figure No -12: Assess the existing level of knowledge regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.

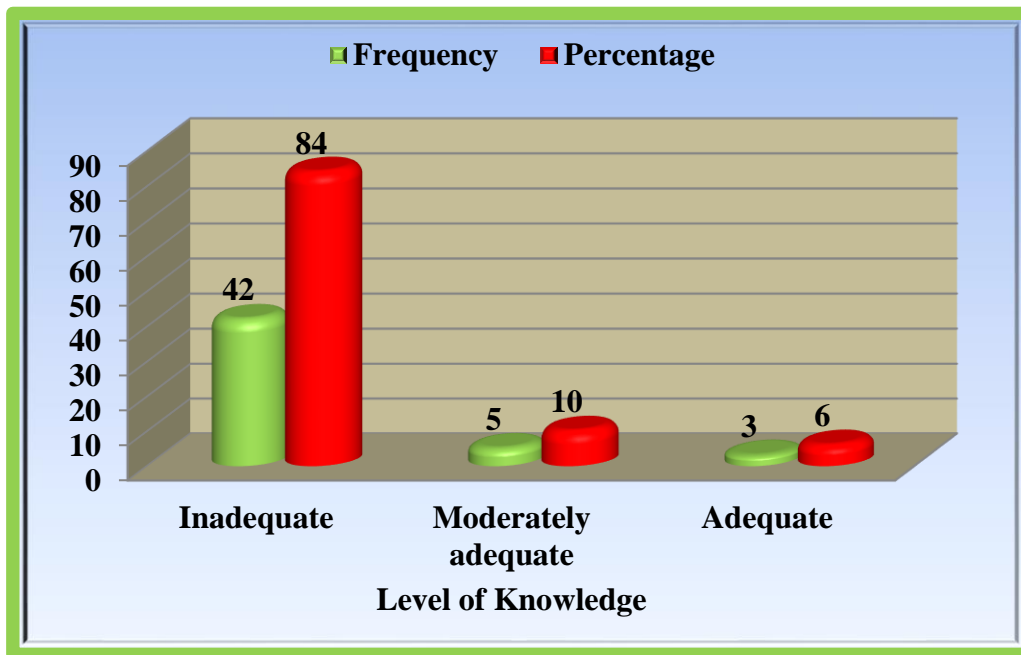


Figure no 12 revealed that majority 42(84%) of the pregnant had inadequate knowledge level regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection, 5(10%) had moderately adequate knowledge level and only 3(6%) had adequate level of knowledge

Table No -13: Comparison of level of knowledge regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.

Sl. No	Knowledge level	Pre-test		Post-test	
		Frequency	%	Frequency	%
1	Inadequate	42	84	08	16
2	Moderately adequate	05	10	19	38
3	Adequate	03	6	23	46
Total		50	100	50	100

Figure No -13: Percentage distribution of level of knowledge of pregnant mothers regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection.

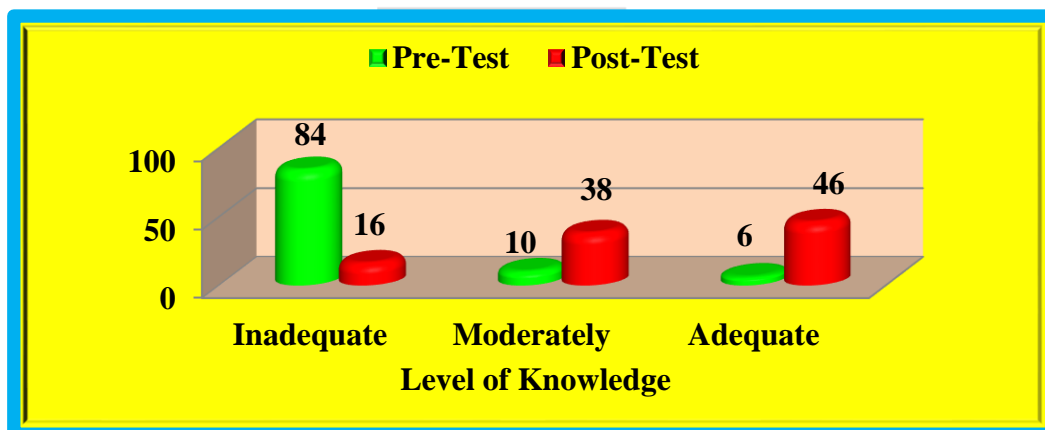


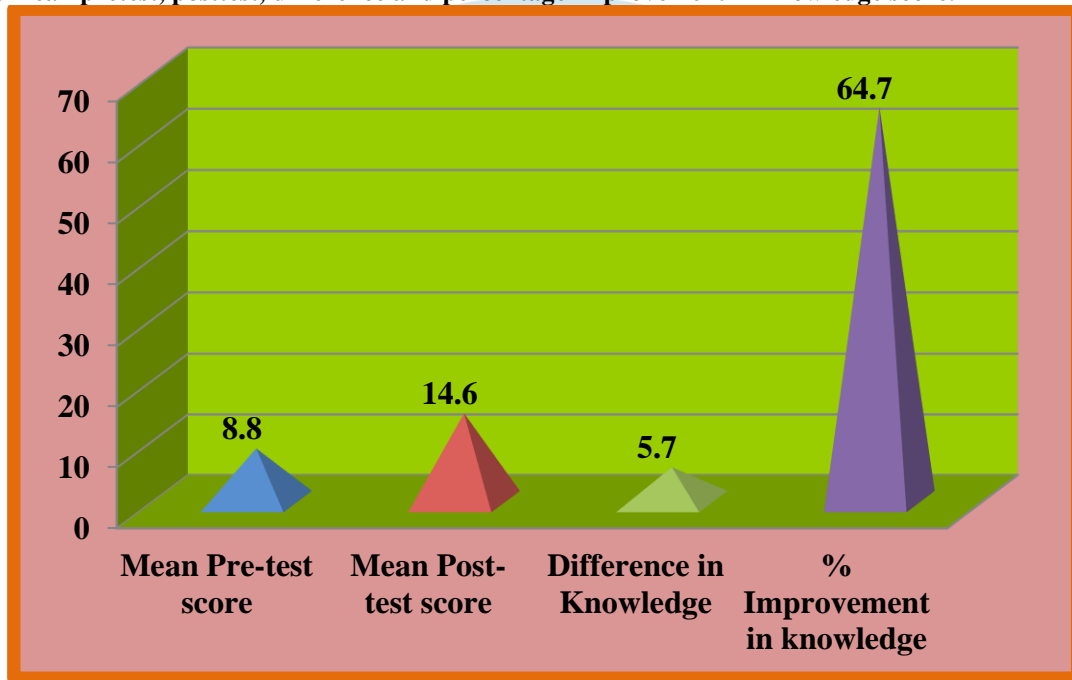
Figure no 13 revealed that after structured teaching program 23(46%) of pregnant women had adequate knowledge and 19(38%) had moderately adequate knowledge and only 8(16%) remained with inadequate knowledge.

Table No -14: paired t-test for comparing knowledge regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.

Paired Differences			‘t’	df	Sig. (2-tailed)
Mean	Std. Deviation	SE Mean			
-5.72	3.45	0.48	-11.69	49	<0.000(S)

Table no 14 showed that mean paired difference in knowledge score was -5.72 with t-value = -11.69 with p-value less than 0.0001 indicates that structured teaching programme on the knowledge, attitude and practices regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women was effective in increasing their knowledge.

Figure no 14: mean pretest, posttest, difference and percentage improvement in knowledge score.

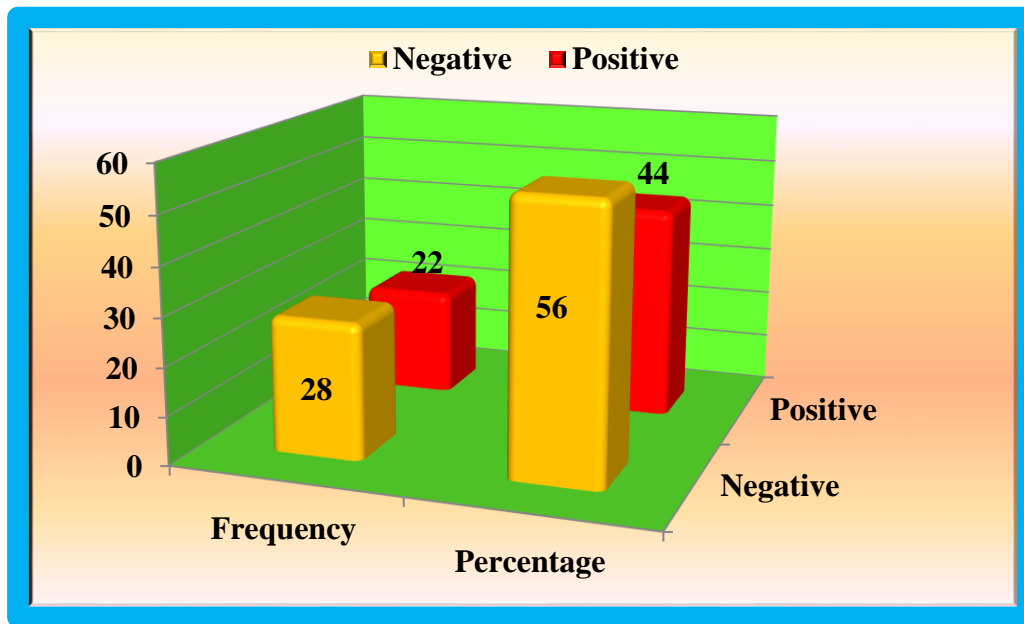


From figure no 14, it was clear that mean pretest knowledge score was 8.8 where as mean post test score was 14.6 and difference in knowledge score was 5.7 with percentage improvement in knowledge was 14.7%

Table No 15: distribution of Existing level of attitude regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women

SI. No	Attitude	Frequency	%
1	Negative	28	56
2	Positive	22	44
Total		60	100

Figure No 15: assess the existing level of attitude regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.



From figure no 15, it was clear that majority 28(56%) of the pregnant women had Negative attitude and remaining 22(44%) of the pregnant mothers had positive attitude towards regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection

Table No -16: Comparison of level of attitude regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.

SI. No	Attitude level	Pre-test		Post-test	
		Frequency	%	Frequency	%
1	Negative	28	56	00	00
2	Positive	22	44	50	100
Total		50	100	50	100

Figure No -16: Comparison of level of attitude regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.

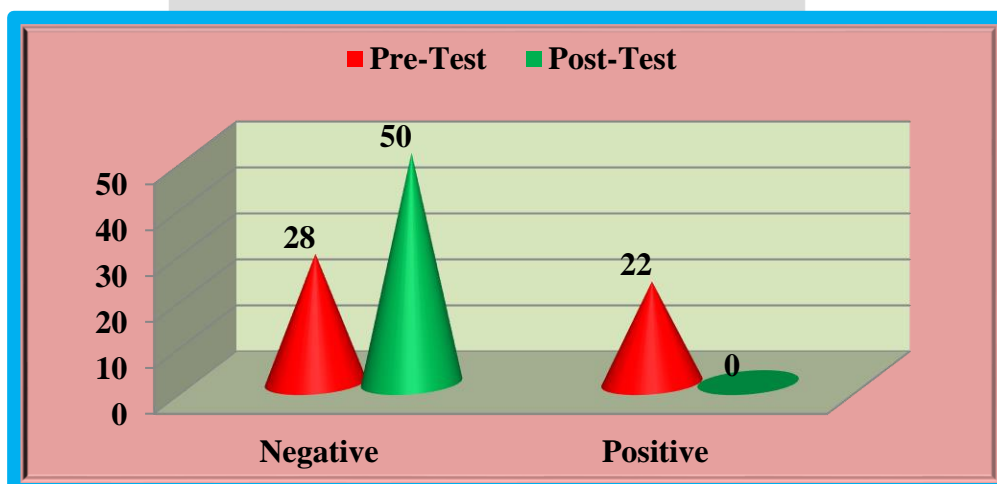


Figure no 16 showed that after structured teaching program, all the pregnant mothers had positive attitude towards covid-19 and its preventive measures during the pandemic to reduce women and child infection

Table No -17: paired t-test for comparing attitude regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.

Paired Differences			‘t’	df	Sig. (2-tailed)
Mean	Std. Deviation	SE Mean			
-44.82	7.30	1.03	-43.41	49	<0.001(S)

Table no 17 showed that mean paired difference in attitude score was -44.82 with t-value = -43.41 with p-value less than 0.0001 indicates that structured teaching programme on the knowledge, attitude and practices regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women was effective in improving the attitude
Figure no 17: mean pretest, posttest, difference and percentage improvement in attitude score.

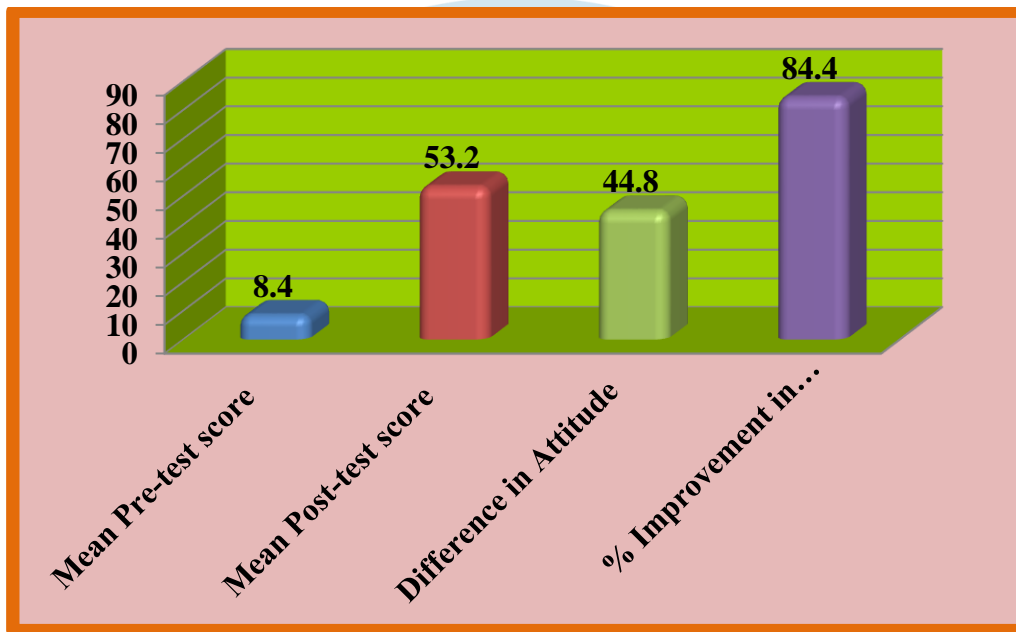
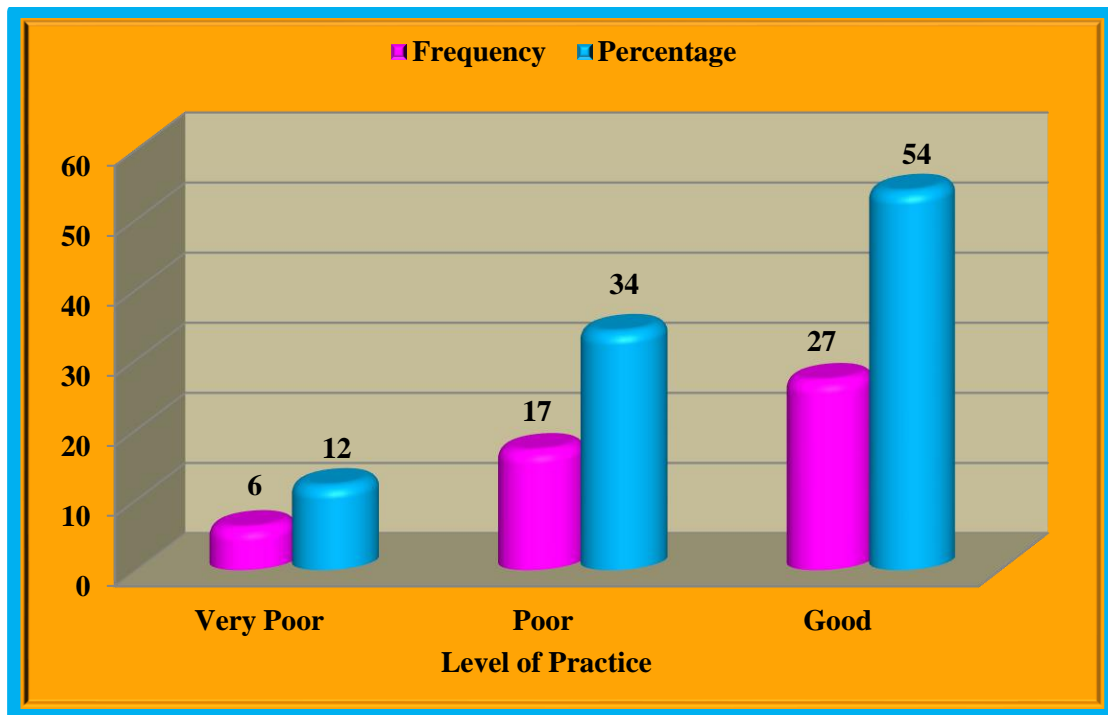


Table no 17 and figure no 17, it was clear that mean pretest attitude score was 8.4 where as mean post test score was 53.2 and difference in attitude score was 44.8 with percentage improvement in attitude was 84.4% .

Table No 18: Assess the existing level of practice regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.

Sl. No	level of practice	Frequency	%
1	Very Poor	06	12
2	Poor	17	34
3	Good	27	54
Total		50	100

Figure No 18: Assess the existing level of practice regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.



From table 18 and the figure no 18, that majority 27(54%) of the pregnant women had good, 17(34%) pregnant women had poor practice and only 6(12%) of pregnant women had very poor practice

Table No 19: assess the existing level of practice regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.

SI. No	Level of practice	Pre-test		Post-test	
		Frequency	%	Frequency	%
1	Very Poor	06	12	00	00
2	Poor	17	34	01	2
3	Good	27	54	49	98
Total		50	100	50	100

Figure No 19: assess the existing level of practice regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.

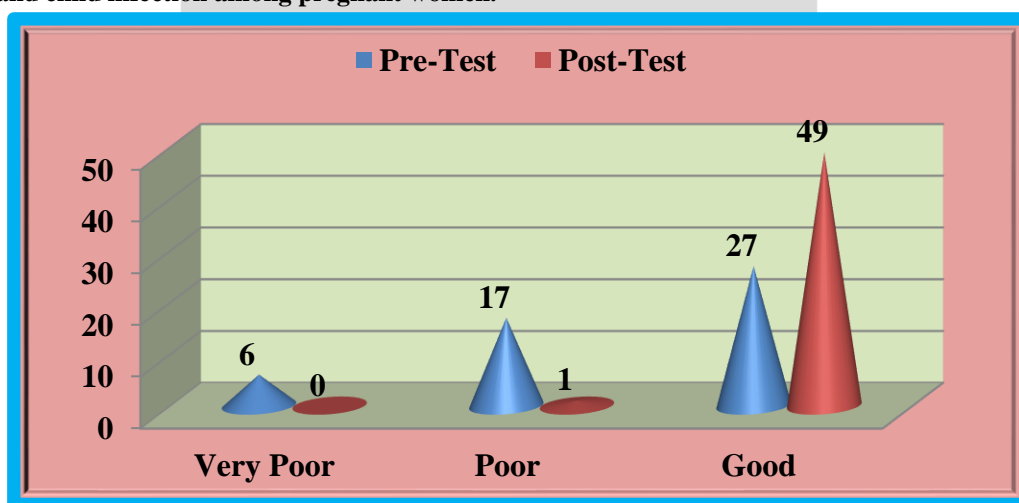


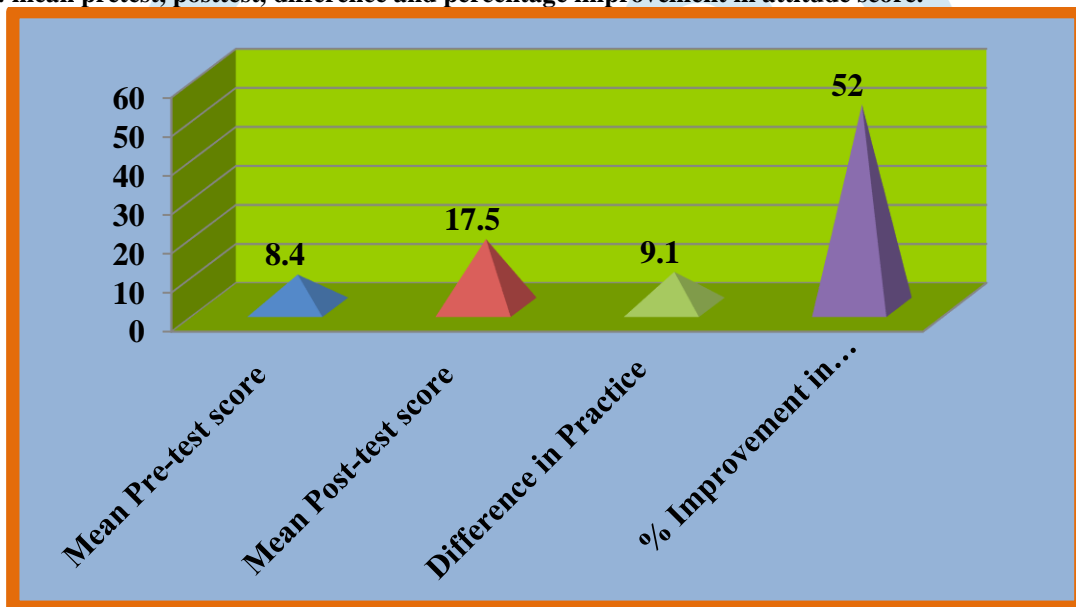
Figure no 16 showed that after structured teaching program, majority 98% of pregnant mothers had good practice towards covid-19 and its preventive measures during the pandemic to reduce women and child infection and only 2% had poor practice.

Table No -20: paired t-test for comparing practice regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.

Paired Differences			‘t’	df	Sig. (2-tailed)
Mean	Std. Deviation	SE Mean			
-9.18	3.32	0.47	-19.52	49	<0.001(S)

Table No 20 showed that mean paired difference in practice score was -9.18 with t-value = -19.52 with p-value less than 0.0001 indicates that structured teaching programme on the knowledge, attitude and practices regarding covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women was effective in increasing Improving the practice.

Figure no 20: mean pretest, posttest, difference and percentage improvement in attitude score.

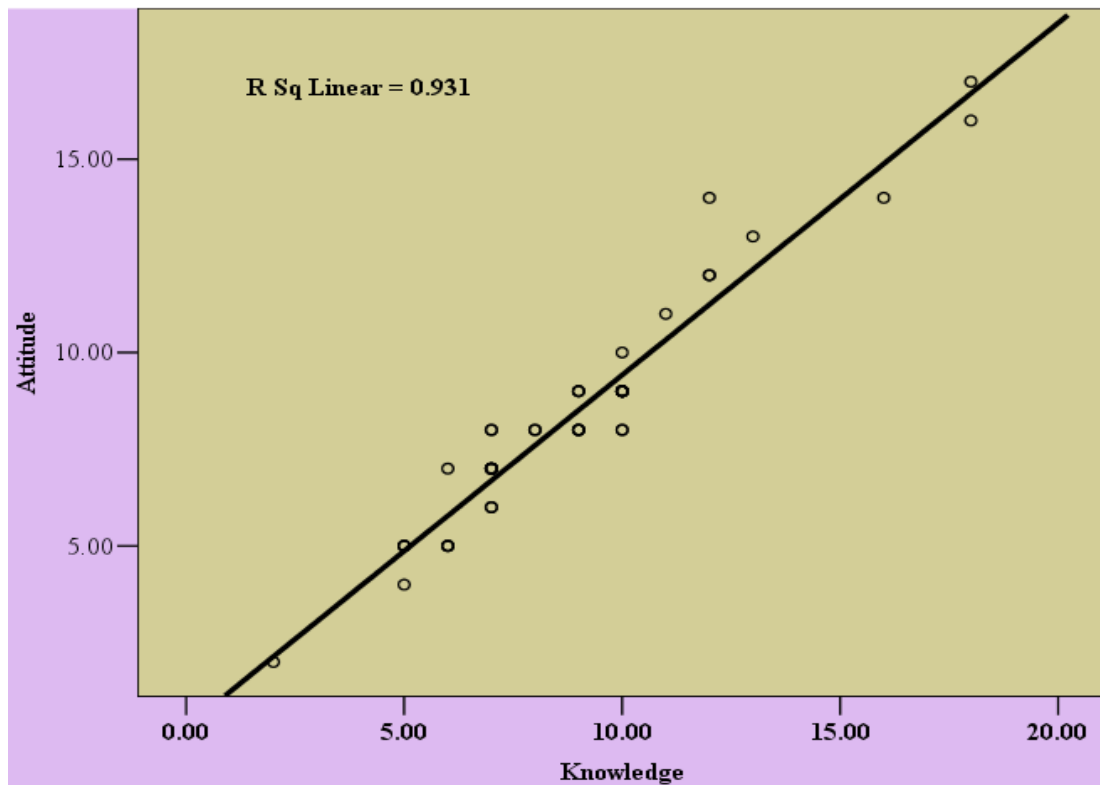


From figure no 20, it was clear that mean pretest practice score was 8.4 where as mean post test practice score was 17.5 and difference in practice score was 9.1 with percentage improvement in practice was 52%.

Table No 21: correlation between knowledge and attitude on covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.

		Knowledge	Attitude
Knowledge	Pearson Correlation	1	0.965(**)
	Sig. (2-tailed)		0.000
	N	50	50
Attitude	Pearson Correlation	0.965(**)	1
	Sig. (2-tailed)	0.000	
	N	50	50

Figure no 21: correlation between knowledge and attitude on covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.



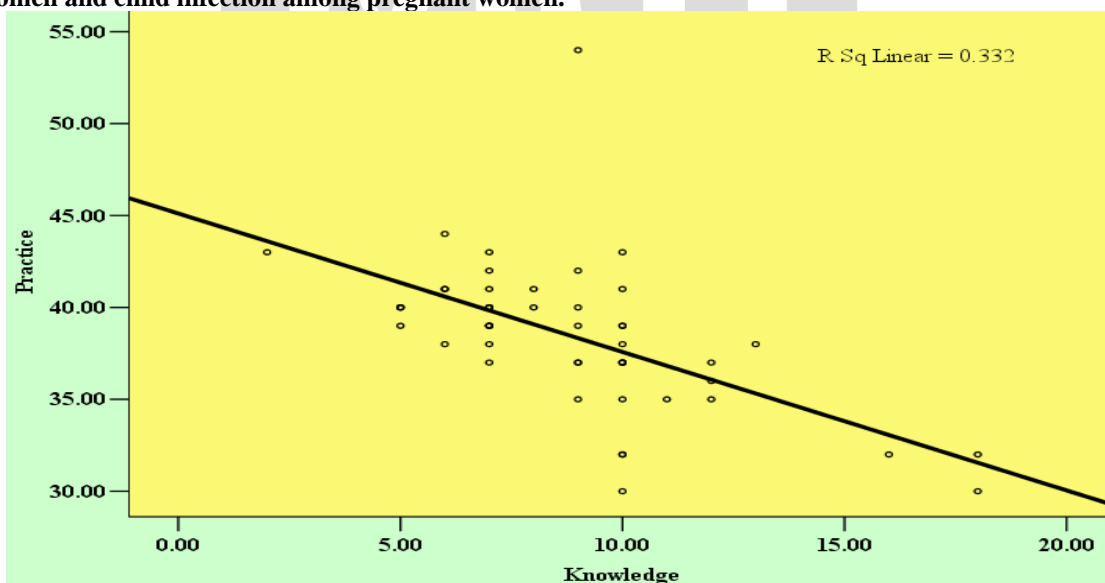
There was significant positive correlation between knowledge and attitude with correlation coefficient = 0.931 and p-value < 0.0001

Table No 22: Correlation between the knowledge and practice on covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.

		Knowledge	Practice
Knowledge	Pearson Correlation	1	-0.577(**)
	Sig. (2-tailed)		0.000
	N	50	50
Practice	Pearson Correlation	-0.577(**)	1
	Sig. (2-tailed)	0.000	
	N	50	50

** Correlation is significant at the 0.01 level (2-tailed).

Figure no 22: correlation between the knowledge and practice on covid-19 and its preventive measures during the pandemic to reduce women and child infection among pregnant women.



There was significant negative correlation between knowledge and practice with correlation coefficient = -0.577 and p-value < 0.0001

Table No 23: The association between pre-test level of knowledge on covid-19 and its preventive measures during the pandemic to reduce women and child infection with selected demographic variables among pregnant women.

Sl. No.	Knowledge		Chi-square	Df	p-value	Result
	< M	≥ M				
Age						
< 25	9	13	5.117	2	0.077	NS
25-28	19	7				
> 28	1	1				
Religion						
Hindu	14	9	5.302	3	0.151	NS
Muslim	8	5				
Christian	6	2				
Other	1	5				
Type of family						
Nuclear	21	15	3.134	2	0.209	NS
Joint	8	4				
Extended	0	2				
Parity						
Primi	19	13	0.069	1	0.793	NS
Multi	10	8				
Gestational Age						
First Trimester	9	12	5.99	2	0.05	NS
Second Trimester	17	5				
Third Trimester	3	4				
Education						
No formal education	7	1	5.404	3	0.144	NS
Primary	14	11				
Secondary	6	4				
College and above	2	5				
Occupation						
Housewife	9	10	1.907	3	0.592	NS
Civil servant	5	2				
Private Business	12	8				
Others	3	1				
Husband Education						

No formal Education	8	8	2.694	3	0.441	NS
Primary	5	4				
Secondary	10	8				
College and above	6	1				
Husband Occupation						
Private Job	14	14	2.38	3	0.497	NS
Civil Servant	7	3				
Business	6	2				
Others	2	2				
Income						
< 4000Rs	3	1	5.37	3	0.146	NS
4000-8000Rs	2	5				
8000-12000Rs	17	7				
>12000	7	8				
Education Received						
Yes	10	20	18.733	1	0.001	S
No	19	1				

From table no 23, it was clear that there was no association between pre-test level of knowledge on covid-19 and its preventive measures during the pandemic to reduce women and child infection with selected demographic variables among pregnant women such as age, religion, types of family, parity, gestational age, education, occupation, Husband education, husband occupation income but it was highly associated with education received with smaller chi-square p-value < 0.0001

Table No 24: The association between pre-test level of attitude on covid-19 and its preventive measures during the pandemic to reduce women and child infection with selected demographic variables among pregnant women.

S.I No.	Attitude		Chi-square	Df	p-value	Result
	< M	≥ M				
Age						
< 25	15	7	3.030	2	0.220	NS
25-28	13	13				
> 28	2	0				
Religion						
Hindu	13	10	0.261	3	0.967	NS
Muslim	8	5				
Christian	5	3				
Other	4	2				
Type of family						
Nuclear	23	13				

Joint	5	7	3.241	2	0.198	NS
Extended	2	0				
Parity						
Primi	18	14	0.521	1	0.470	NS
Multi	12	6				
Gestational Age						
First Trimester	15	6	3.463	2	0.177	NS
Second Trimester	10	12				
Third Trimester	5	2				
Education						
No formal education	4	4	1.298	3	0.730	NS
Primary	14	11				
Secondary	7	3				
College and above	5	2				
Occupation						
Housewife	13	6	2.62	3	0.453	NS
Civil servant	4	3				
Private Business	12	8				
Others	1	3				
Husband Education						
No formal Education	11	5	3.567	3	0.312	NS
Primary	6	3				
Secondary	11	7				
College and above	2	5				
Husband Occupation						
Private Job	19	9	3.199	3	0.362	NS
Civil Servant	5	5				
Business	3	5				
Others	3	1				
Income						
< 4000Rs	1	3	5.92	3	0.115	NS
4000-8000Rs	5	2				
8000-12000Rs	12	12				
>12000	12	3				

Education Received						
Yes	23	7	8.681	1	0.003	S
No	7	13				

From table no 24, shows that there was no association between pre-test level of attitude on covid-19 and its preventive measures during the pandemic to reduce women and child infection with selected demographic variables among pregnant women such as age, religion, types of family, parity, gestational age, education, occupation, Husband education, husband occupation income but it was highly associated with education received with smaller chi-square p-value < 0.0001

Table No 25: The association between pre-test level of practices on covid-19 and its preventive measures during the pandemic to reduce women and child infection with selected demographic variables among pregnant women.

S.I No.	Practice		Chi-square	Df	p-value	Result
	<M	\geq M				
Age						
< 25	11	11	3.79	2	0.150	NS
25-28	17	9				
> 28	0	2				
Religion						
Hindu	12	11	6.351	3	0.096	NS
Muslim	10	3				
Christian	5	3				
Other	1	5				
Type of family						
Nuclear	19	17	0.735	2	0.692	NS
Joint	8	4				
Extended	1	1				
Parity						
Primi	19	13	0.41	1	0.522	NS
Multi	9	9				
Gestational Age						
First Trimester	10	11	2.414	2	0.299	NS
Second Trimester	15	7				
Third Trimester	3	4				
Education						
No formal education	7	1	5.58	3	0.134	NS
Primary	13	12				
Secondary	6	4				
College and above	2	5				

Occupation						
Housewife	9	10	1.29	3	0.731	NS
Civil servant	4	3				
Private Business	12	8				
Others	3	1				
Husband Education						
No formal Education	8	8	1.58	3	0.662	NS
Primary	4	5				
Secondary	11	7				
College and above	5	2				
Husband Occupation						
Private Job	16	12	0.357	3	0.949	NS
Civil Servant	5	5				
Business	5	3				
Others	2	2				
Income						
< 4000Rs	3	1	8.203	3	0.042	S
4000-8000Rs	1	6				
8000-12000Rs	17	7				
>12000	7	8				
Education Received						
Yes	9	21	20.57	1	0.001	S
No	19	1				

From table no 25, revealed that there was no association between pre-test level of practice son covid-19 and its preventive measures during the pandemic to reduce women and child infection with selected demographic variables among pregnant women such as age, religion, types of family, parity, gestational age, education, occupation, Husband education and occupation but it was highly associated with education received and income of pregnant women with smaller chi-square p-value < 0.0001

CONCLUSIONS

The result can be generalized that many pregnant women have poor awareness on covid-19 and its preventive measures in rural areas. At the end of the research work the researcher comes to conclusion that the study has to conduct with more samples then results can be generalized. Many pregnant women have poor knowledge, negative attitude and poor practices regarding covid-19 and its preventive measures. In future more studies have to conduct on pregnant women knowledge, attitude and practices regarding covid-19 and its preventive measures. A comparative study may be carried out on knowledge, attitude and practice regarding covid-19 and its preventive measures for reducing infection among pregnant women.

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DESCRIPTION OF DATA COLLECTION TOOL

Instructions

Dear participants please read the instructions carefully and indicate the response that you choose by placing a tick mark the items given below.

PART – I : It consists of Socio Demographic Data

1. Age in years _____
2. Religion
 - a) Hindu
 - b) Muslim
 - c) Christian
 - d) Any other
3. Type of Family
 - a) Nuclear
 - b) Joint
 - c) Extended
4. Parity
 - a) Primi -para
 - b) Multi-para
5. Gestational age
 - a) First trimester
 - b) Second trimester
 - c) Third trimester
6. Educational status of mother

- a) No formal education
 - b) Primary
 - c) Secondary
 - d) College and above
7. Occupation of pregnant women
 - a) Housewife
 - b) Civil servant
 - c) Private Business
 - d) Others
 8. Educational status of her husband
 - a) No formal education
 - b) Primary
 - c) Secondary
 - d) College and above
 9. Occupational status of her husband
 - a. Private job
 - b. Civil servant
 - c. Business
 - d. Others
 10. Monthly family income in rupees
 - a) <4000
 - b) 4000-8000
 - c) 8000-12000
 - d) >12000
 11. H/O Chronic disease
 - a) Yes
 - b) No
 12. If yes mention _____
 13. Received covid-19 education at a health facility
 - a. Yes
 - b. No

PART – II : It consist of structured knowledge questionnaire to assess the knowledge of pregnant women regarding Covid-19 and its preventive measures

Instructions

This section consists of multiple choice questions. Each question has four options in which one option is correct, other options are incorrect. Please answer the following questions carefully. Every correct response is provided a score of one and every incorrect answer and unanswered is given a score “0” (zero). This Information obtained will be kept confidential and is used only for the intended work.

1. What does the “19” in “COVID-19” refer to?
 - a) There are 19 variants of the corona virus.
 - b) There are 19 symptoms of corona virus disease.
 - c) The corona virus and the disease it causes were identified in 2019.
 - d) This is the 19th corona virus pandemic
2. The first case of novel corona virus was identified in
 - a) Beijing
 - b) Shanghai
 - c) Wuhan, Hubei
 - d) Tianjin
3. Incubation period of Covid-19
 - a) 2-14 days
 - b) 2-7 days
 - c) 7-14 days
 - d) Unknown
4. Which of these is not a common COVID-19 symptom?
 - a) Blurred vision
 - b) Fever
 - c) Inability to taste or smell
 - d) Cough
5. Covid-19 is caused by.....
 - a) Bacteria

- b) Virus
 - c) Fungus
 - d) Parasite
6. Covid-19 is also called as
- a) SARS-COV-2
 - b) SRS-CO
 - c) SarS-2
 - d) SARS-COV
7. Covid-19 is a.....
- a) Heredity disease
 - b) Infectious disease
 - c) Genetic disease
 - d) Heart disease
8. Which of the following organ is most affected by COVID-19 disease?
- a) Brain
 - b) Heart
 - c) Lungs
 - d) Liver
9. When should person suspect Covid-19?
- a) Vomiting
 - b) Weakness
 - c) Swelling
 - d) High grade fever, cold
10. Mild covid-19 infection presents with all of the following except?
- a) Persistent fever
 - b) Runny nose
 - c) Sleeplessness
 - d) Muscle pain
11. What are the covid-19 guidelines for social distancing except?
- a) Avoid public gatherings
 - b) Limit the number of visitors to your home
 - c) Keeping a safe distance from other people
 - d) Going Shopping malls
12. To avoid the spread of Covid-19, how much distance must be maintained?
- a) 6feet
 - b) 5feet
 - c) 7feet
 - d) 4feet
13. All of the following should be done during breastfeeding in mild asymptomatic covid-19 infection except
- a) Totally avoid breastfeeding
 - b) Limit number of visitors
 - c) Wear mask while feeding
 - d) Hand washing prior to handling
14. Which of the following is a risk for pregnant women who have COVID-19?
- a) Death
 - b) ICU admission
 - c) Psychosis
 - e) Pulmonary embolism
15. Which of the following are the most common covid-19 problems in pregnant women?
- a) Preterm labor
 - b) IUD
 - c) Stillbirth
 - d) Both a & c
16. Covid-19 case can be confirmed only by
- a) History collection
 - b) Physical examination
 - c) Laboratory Investigation
 - d) Observation
17. Duration of treatment for covid-19
- a) 10days
 - b) 21days
 - c) 14days
 - d) 30days

18. What are the common adverse reactions associated with covid-19 vaccination?
- Local injection site reaction
 - Chills or mild fever
 - Headache and tiredness
 - All the above
19. Which adverse effects require immediate medical attention for pregnant women or their unborn children following the covid-19 vaccination, except.
- Mild fever
 - Blurred vision
 - Shortness of breathing
 - Chest pain
20. All of the following should be preventive measure for covid-19 infection except
- Vaccination
 - Personal preventive measures (Eg: Mask, Distancing etc.)
 - Disinfection of frequently touched surfaces.
 - Avoid hand washing
21. Which of the following is infection preventive practice in the home setting after diagnosis with covid-19?
- Isolation at home
 - Sneezing and coughing
 - Vaccination
 - Avoid wearing mask

PART-III: It consists of Likert Scale to assess the attitude of pregnant women regarding covid-19 and its preventive measures

Sl. No.	Content	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
1.	Covid-19 is a communicable disease.					
2.	People affected with Covid-19 should not travel.					
3.	Wearing masks protects from spreading of covid-19.					
4.	The virus can infect a person more than once.					
5.	Don't share personal items with other people in the household.					
6.	Frequent hand washing with soap and water is best practice to prevent spreading of Covid-19.					
7.	Avoid close contact with family/extended family members diagnosed with COVID-19.					
8.	People must avoid spitting in public places.					
9.	Cover your nose and mouth with your bent elbow or a tissue when you cough or sneeze.					
10.	Covid-19 transmission can be prevented by following hygiene practices.					
11.	Reduced/postponed antenatal check-up and marketing to stop spread of Covid-19.					
12.	Most common symptoms of covid-19 are fever, cough, tiredness and loss of test or smell.					
13.	The lungs are the organ most affected by Covid-19.					
14.	Transmission of covid-19 can be prevented by washing hands frequently.					
15.	Immediate medical intervention is necessary for covid-19.					
16.	Vaccination reduces the risk of developing COVID-19					
17.	Issues related to COVID-19 are the same for pregnant and non-pregnant people.					
18.	Covid-19 is managed by home remedies.					
19.	Covid-19 condition will affect the mental health of the pregnant women.					
20.	It safe for women to come hospital to deliver her baby					

Part-IV: Check list to assess the self-reported practice of pregnant women regarding covid-19 and its preventive measures.

Sl. No	Precautions	Yes	No
1.	Covid-19 Mother can feed the baby		
2.	How often do you stay home for social distancing?		
3.	Do you wear a mask at home?		
4.	You practice hand washing with water and soap or alcohol-base sanitizer because you want to prevent COVID-19		
5.	Observe physical distancing (at least 1 meter) when in public space?		
6.	Cough or sneeze into a handkerchief or elbow when in public		
7.	Avoid touching your eyes, nose and mouth without washing hands		
8.	You missed any clinic appointments because of the fear of being infected with COVID-19.		
9.	You will prefer hospital to delivery		
10.	Will you avoid visitors		
11.	Once you are fully vaccinated you may not be required to wear a mask in public places.		
12.	Is it important to get an ultrasound once a mother has been diagnosed with COVID-19 in order to monitor fetal growth?		
13.	Drinking hot water is a positive practice that can reduce spreading of the virus		
14.	Cleaning and sanitizing the surfaces of the house can reduce the spread of the virus to mothers and others.		
15.	Wearing a mask can reduce the chance of spreading COVID-19		
16.	You think you will probably get illness.		
17.	Can mother take vaccine during pregnancy?		
18.	Covid-19 vaccination affects fetus		
19.	You wear mask at home		
20.	Covid-19 vaccine have adverse effect		