

## MATERNAL MENTAL HEALTH IN URBAN AND RURAL AREAS OF AHMEDABAD DISTRICT, GUJARAT DURING COVID-19

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### ABSTRACT

**Background:** Stress, anxiety, and depression has determined effects on maternal and child health. Higher anxiety during pregnancy period cause more health complication for pregnant women and child. The objective of the study is to access the knowledge, awareness of pregnant women regarding mental health during Covid-19.

**Method:** The study was carried out among 380 pregnant women regularly or irregularly attending the antenatal clinic in a rural area's and urban area's private and government health center over a period of August 2020 to December 2021. Their awareness regarding the mental health during Covid-19 pandemic were studied.

**Result:** According to the data and analysis we have found that there is some association between mental health problems like fears of Covid-19, loneliness, getting infected from Covid-19, future, losing someone close, awareness regarding Covid-19 and area habitat of pregnant women.

**Keywords:** Pregnant women, mental health, depression, Covid-19, awareness.

### INTRODUCTION

The mothers' physical and emotional health are often neglected in discussions about public health in general. In India, maternal mental health is a major public health issue. According to estimates, 10% to 35% of women worldwide have mental health issues. According to research, women who are pregnant or just gave birth are more likely to have mental health issues. It should be emphasised that women's rates of depression during and after pregnancies have increased as a consequence of the COVID-19 and the uncertain environment. Women who are expecting may experience social isolation and an increased fear of infection for both themselves and their unborn children. Due to a shortage of medical facilities and a rise in home births, which occur without the assistance and support of trained experts, women are suffering more and are more likely to experience depression. Women in rural parts of India have more severe hardships and mental health issues. Regulations and local health professionals are unable to attend often because of the remoteness and social alienation. Due to the present situation, this is not feasible, and many expectant moms and nursing mothers will be left behind. Another problem is that there aren't many rural health professionals working on Covid-19-related projects.

According to recent estimates from the United Nations Population Fund, the incidence of unintended births has substantially risen throughout

the isolation, and women are far more likely to experience abuse and violence.

There will likely be 2.3 million unintended pregnancies in India, which will raise the threat of unsafe abortions. In this case, we significantly affect women's health, especially their mental health. It is well known that women who have an unintended pregnancy endure severe depression both throughout pregnancy and after giving birth. According to the study, women who are physically ill—such as those who are pregnant, are having a miscarriage, or are dealing with another medical issue—are most vulnerable to mental health problems during Covid-19. During pregnancy, support from family and friends is essential. According to various studies, the Covid-19 epidemic has significantly impacted women. Prenatal Covid-19 anxiety was significantly influenced by six families who had low socioeconomic position, low education, poor living conditions, and little social support.

Reduced stress is strongly advised for pregnant women who had infants within the past 5 to 6 months, and they must be given all pertinent information regarding Covid-19. Additionally, they must be able to rely on the support of their spouses and communities, and they are urged to exercise and manage their mental health issues.

### METHOD

An observational, cross-sectional research was conducted in India. The Snowball sampling method

was used. A permission form was attached to an online semi-structured questionnaire that was created using Google Forms. The link to the questionnaire was sent to the investigators' connections through emails, Whatsapp, and other social media. The survey was made available to as many individuals as possible, and the participants were urged to do so. As a result, recipients other than the first point of contact received the link, and so on. The participants were automatically sent to the study's informed consent material after receiving and clicking the link. After agreeing to participate in the survey, participants filled out the demographic information. The participants were then instructed to respond to a series of questions that came after one another.

An online and offline research was conducted. Some research participants who had internet connection were eligible to take part. And several individuals from remote areas who lack internet access provided a straightforward response on the surveys. Initiated in August 2020 and completed in December 2021, the data collecting. In Gujarat's Ahmedabad district, both urban and rural regions allowed us to gather data. Age, employment, education, region of residence, religion, kinds of families, parity, and other socio-demographic factors were among the variables.

The following six parts pertaining to awareness (knowledge), attitude, anxiety, and perceived need for mental health treatment during the new coronavirus pandemic were included in the online self-reported questionnaire that the researchers constructed. The study's results have been examined using descriptive statistics. The data were

imported into MS Excel and evaluated using IBM SPSS Statistics for Windows, Version 20.0 from the IBM Corporation in Armonk, New York. Chi square test and p-value were computed to estimate the study's findings. Some research results have also been expressed in percentages.

## DISCUSSION

According to the NFHS-5 around 8.4% women phase mildly elevated blood pressure (systolic 140-150 mm of Hg and/or Diastolic 90-99 mm of Hg)(%) in Gujarat. Around 3.3% women moderately or severely elevated blood pressure (systolic  $\geq$ 160 mm of Hg and/or Diastolic  $\geq$ 100 mm of Hg) (%) in Gujarat. And even elevated blood pressure (systolic  $\geq$  140 mm of Hg and/or Diastolic  $\geq$ 90 mm of Hg) on taking medicine to control blood pressure (%) were observed in 18.5% of women in Gujarat.

Pregnant women have lot of thoughts, questions in their mind and extreme fear regarding pregnancy and their babies. Here this research shows small parts of feeling depression and anxiety regarding covid-19. There are some other psychological factors two affecting the same. But in this research we have included only some common and normal facts.

H<sub>0</sub>: There is no association between the area habitat i.e. rural/urban and demographic parameters pertaining to pregnant women.

H<sub>A</sub>: There exist statistical significant association between the area habitat i.e. rural/urban and demographic parameters pertaining to pregnant women.

**Table 1: Socioeconomic and clinical characteristics of rural and urban area of Ahmedabad district, Ahmedabad**

		Rural (N=190)	Urban (N=190)	Total (380)	Chi square value	P-value
Age	Below 25	100	77	177	5.5946	0.018016
	25 and above	90	113	203		
Education	Literate	110	139	249	9.7974	0.001748
	Illiterate	80	51	131		
Occupation	Working	89	113	196	6.0874	0.013615
	Not working	101	77	184		
No of child before pregnancy	0-2	108	144	252	15.2679	0.000093
	3 or more	82	46	128		
Type of family	Nuclear	84	112	196	8.2609	0.004051
	Joint	106	78	184		
Awareness regarding covid-19	Yes	116	149	265	13.579	0.000229
	No	74	41	115		
Family structure	Yes	80	24	204	20.4902	<0.00001

	No	110	166	176		
Fear of getting infected from covid-19	Yes	86	132	218	22.7682	<0.00001
	No	104	58	162		
Stress regarding Covid-19	Yes	109	140	249	11.1953	0.00082
	No	81	50	131		
Fear of loneliness	Yes	60	100	160	17.2727	0.000032
	No	130	90	220		
Fear of losing someone close	Yes	105	128	233	5.869	0.01541
	No	85	62	147		
Fear of future	Yes	102	126	228	6.3158	0.011967
	No	88	64	152		
Going for regular checkups because of fear of covid-19	Yes	83	111	194	8.2563	0.004061
	No	107	79	196		

**Table 2: Percentage of Socioeconomic and clinical characteristics of rural and urban area of Ahmedabad district, Ahmedabad**

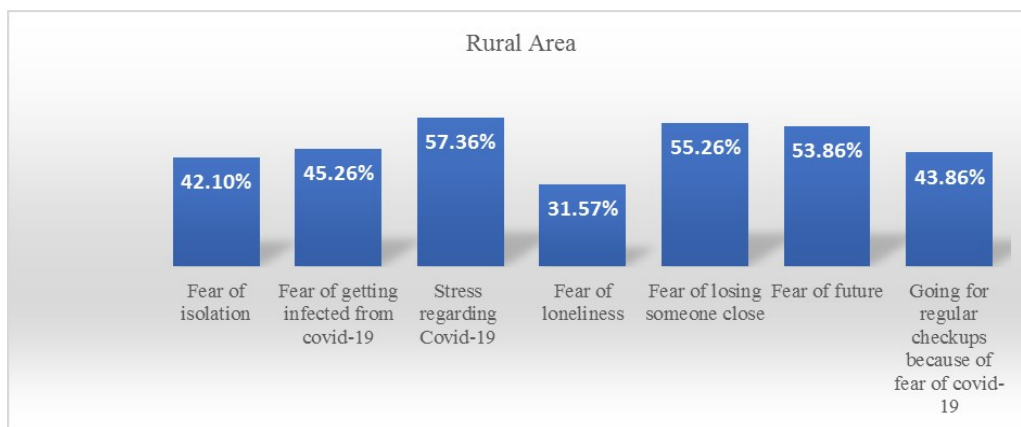
		Rural (N=190, %)	Urban (N=190, %)	Total (380)
Age	Below 25	100, 52.63%	77, 40.52%	177
	25 and above	90, 47.36%	113, 59.47%	203
Education	Literate	110, 57.89%	139, 73.15%	249
	Illiterate	80, 42.10%	51, 26.84%	131
Occupation	Working	89, 46.84%	113, 59.47%	196
	Not working	101, 53.15%	77, 40.52%	184
No of child before pregnancy	0-2	108, 56.84%	144, 74.78%	252
	3 or more	82, 43.15%	46, 24.21%	128
Type of family	Nuclear	84, 44.21%	112, 58.94%	196
	Joint	106, 55.78%	78, 41.05%	184
Awareness regarding covid-19	Yes	116, 61.05%	149, 78.42%	265
	No	74, 38.94%	41, 21.57%	115
Fear of isolation	Yes	80, 42.10%	24, 12.63%	204
	No	110, 57.89%	166, 87.36%	176
Fear of getting infected from covid-19	Yes	86, 45.26%	132, 69.47%	218
	No	104, 54.73%	58, 30.52%	162
Stress regarding Covid-19	Yes	109, 57.36%	140, 73.68%	249
	No	81, 42.63%	50, 26.31%	131
Fear of loneliness	Yes	60, 31.57%	100, 52.63%	160
	No	130, 68.42%	90, 47.36%	220
Fear of losing someone close	Yes	105, 55.26%	128, 67.36%	233
	No	85, 44.73%	62, 32.63%	147
Fear of future	Yes	102, 53.86%	126, 66.31%	228
	No	88, 43.31%	64, 33.68%	152
Going for regular checkups because of fear of covid-19	Yes	83, 43.86%	111, 58.42%	194
	No	107, 56.31%	79, 41.57%	196

**Table 3: Some factors affecting the mental health of pregnant women on rural areas of Ahmedabad district**

Factors	Rural area (%)
Fear of isolation	42.10%
Fear of getting infected from covid-19	45.26%
Stress regarding Covid-19	57.36%
Fear of loneliness	31.57%

Fear of losing someone close	55.26%
Fear of future	53.86%
Going for regular checkups because of fear of covid-19	43.86%

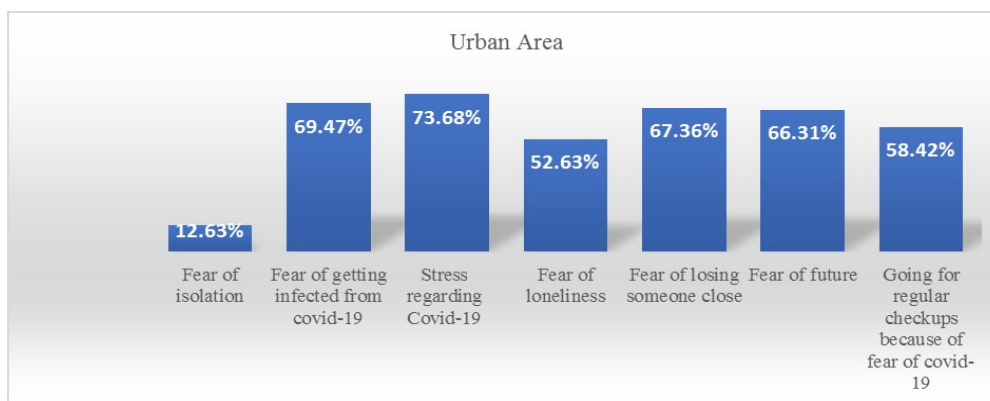
**Graph 1: Some factors affecting the mental health of pregnant women on rural areas of Ahmedabad district**



**Table 4: Some factors affecting the mental health of pregnant women on urban areas of Ahmedabad district**

Factors	Urban area (%)
Fear of isolation	12.63%
Fear of getting infected from covid-19	69.47%
Stress regarding Covid-19	73.68%
Fear of loneliness	52.63%
Fear of losing someone close	67.36%
Fear of future	66.31%
Going for regular checkups because of fear of covid-19	58.42%

**Graph 2: Some factors affecting the mental health of pregnant women on urban areas of Ahmedabad district**



**RESULT**

If we refer to chi square table at 1 degree of freedom the value of chi square for 5% is 3.84 and for 2% is 5.41.

From the table 1, The pregnant women who belongs to urban or rural area were found to be significantly associated with age of the pregnant

women with p-value  $0.01801 < 0.05$  and calculated value of chi square were 5.5, which indicate that age and area of a pregnant women had a positive significant association.

According to the table 1, the positive association between education and types of area of the pregnant women. Here calculated chi square is 9.7974 that is

higher than 3.84, and p value is  $0.001748 < 0.05$ . Therefore, null hypothesis is rejected.

According to the table 1 to find the association between occupation and types of area of pregnant women here calculated chi square is 6.0874 that is higher than 3.84 hence alternative hypothesis accepted.

According to the table 1 the value of chi square under probability 0.05 is 15.2679 and p – value is 0.000093 that is very lower and therefore the significance difference was high and null hypothesis rejected. Therefore association find between number of child before pregnancy and types of area of pregnant women.

According to the table 1 association between family and types of areas of pregnant women were also here chi square calculated is 8.2609 and p-value is 0.004051. Here null hypothesis accepted.

Awareness regarding covid-19 and types of areas of pregnant women are found here chi square calculated value is 13.579 and p-value is 0.00029 therefore null hypothesis rejected at 5% level of significance.

Association between fear of isolation and types of areas of pregnant women were found at 5% level of significance and chi square calculated value is 20.4902 and p-value was found  $< 0.00001$ . Here null hypothesis is rejected.

According to the table association between fear of getting infected from covid-19 and types of areas of pregnant women were found calculated chi square value is 22.7682 that is very low from chi square tabulated value 3.84 p-value is  $< 0.00001$  here alternative hypothesis accepted.

From the table 1 association between stress regarding covid-19 and types of areas of pregnant women were found. Here chi square calculated is 11.1953 and p-value 0.000032 here hypothesis is rejected.

According to the table 1 fear of losing someone close and types of areas of pregnant women were found at 5% level of significance. Here chi square calculated value is 5.869 and p-value is 0.01541. Here null hypothesis is rejected.

Chi square calculated value is 6.3158 and p-value is 0.01196 in the calculation of fear of future and

types of areas of pregnant women. Therefore association were found between them and hence alternative hypothesis is accepted.

According to the table association between goings for regular checkups because of fear of covid-19 and types of area of pregnant women were found calculated chi square is 8.2563 and p value is 0.004061 which is less than 0.05 here null hypothesis is rejected.

Table 2, shows that 61.05% rural pregnant women had awareness regarding covid-19 and 78.42% urban pregnant women had awareness regarding covid-19. Here awareness means following some covid-19 protocol like using face mask, washing hands frequently, maintain social distance and avoid going to crowded places. 42.10% rural pregnant women had fear of isolation and around 12.63% urban pregnant women had fear of isolation. 57.36 % rural pregnant women have stress regarding covid-19 and 73.68% urban pregnant women had stress regarding covid-19. 55.26% rural pregnant women had fear of losing someone close and 97.36% urban pregnant women had fear of losing someone close. According to the table 2, 53.68% rural pregnant women had fear of future and 66.31% urban pregnant women had fear of future. 43.68% rural pregnant women had fear of going for the regular antenatal checkups because of covid-19 and 58.42% urban pregnant women had fear of going for the regular checkups because of fear of covid-19.

### Conclusion

Results showed that pregnant women who lived in urban area had more stressful life than rural area. Rural pregnant women had more difficulties than urban area in reality but they maintained their life. There are lots of problems regarding covid-19 pandemic situation and in pregnant women there are more difficulties they have to face. Some efforts with limited success were also made to address the covid-19 specific mental health issues. Addressing challenges during a pandemic can improve mental health services during public health emergencies and disasters in the future.

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