PREVALENCE OF DEPRESSION AND ITS ASSOCIATED FACTORS DURING 2ND WAVE OF COVID-19 AMONG PREGNANT WOMEN IN A TERTIARY CARE HOSPITAL, LAHORE

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Abstract

Purpose of the study: Antenatal depression is a significant predictor for postnatal depression, and pregnant women with depressive symptoms have an increased risk of frequent non-scheduled medical and emergency visits. The purpose of this study is to evaluate the antenatal depression and its related factors and effects of the COVID-19 pandemic on the frequency of antenatal visits.

Methodology: A descriptive cross-sectional study was conducted from July to September 2020 with 220 pregnant women from the Gynae Outpatient Department at the Tertiary Care Hospital of Lahore. Women aged 18–45 years with no pregnancy-related complications were included. The Patient Health Questionnaire-9 tool was used to screen for antenatal depression, and a self-structured questionnaire was developed to explore depression-related factors.

Main Findings: Antenatal depression prevalence was found very high among pregnant women during the second wave of Covid-19 and pandemic did not affect regular antenatal visits of women.

Applications of this study: Mental disorders are associated with several individuals and societal factors, including feelings of insecurity and hopelessness, exposure to violence, physical ill health, and rapid social change. The existing pandemic situation, working from home, temporary unemployment, home-schooling of children, lack of contact and social support, it is important to look after mental and physical health especially women in pregnancy who can suffer from more severe mental health problems and can affect ANC visits that directly related to maternal and child health.

Novelty/Originality of this study: Depression in pregnancy is associated with severe complications and prevents patients from taking an active role in their healthcare. Women with depressive symptoms have an increased risk of frequent non-scheduled antenatal care (ANC) visits and emergency healthcare visits for pregnancy-related emergencies especially in the 2nd wave of COVID-19. It was very important to study the factors related to antenatal depression during this pandemic. Counselling and awareness may improve the physical and mental health of pregnant women.

Keywords: Antenatal Depression, Pregnant Women, Mental Health, Covid-19, Antenatal Care Visits.

INTRODUCTION

Mental illnesses constitute a significant portion of the global burden of disease (Health, 2016) and they are among the most important causes of morbidity and disability in primary care settings. Mental disorders are associated with several individual and societal factors, including feelings of insecurity and hopelessness, exposure to violence, physical ill health, and rapid social change (Patel & Kleinman, 2003). They also have significant public health implications. If left untreated, mental health problems can contribute to significant global health issues, especially in resource-limited settings where mental health services are scarce (A. Rahman, Bunn, Lovel, & Creed, 2007). The main aim of this study is to evaluate the prevalence of antenatal depression and its association with demographic risk factors.

The most common mental disorders are depressive and anxiety disorders, classified in the International Classification of Diseases Tenth Revision ICD 10 as "neurotic, stress-related and somatoform disorders" and "mood disorders" (Patel & Kleinman, 2003). Among pregnant women, rates of depression range from 10–37% and anxiety from 27–54% (Williams et al., 2016). Depression in pregnancy is associated with caesarean delivery, preterm birth, anemia, diabetes, preeclampsia, infant death, low birth weight, and congenital malformations. Perinatal depression also can negatively affect innate defenses, exacerbate other illnesses, and prevent patients from taking an active role in their healthcare (Straub, Adams, Kim, & Silver, 2012). Mothers with prinatal depression were more likely to stop breastfeeding before six months (Belay, Moges, Hiksa, Arado, & Liben, 2018). Although many treatment options are available but not all pregnant women are assessed for depression and received its treatment (The American College of Obstetricians and Gynecologist, 2018). Women with depressive symptoms have an increased risk of frequent non-scheduled antenatal care

(ANC) visits and emergency healthcare visits for pregnancy-related emergencies (Belay, Moges, Hiksa, Arado, & Liben, 2018) especially in the 2nd wave of COVID-19 when people were combating with disease epidemic and facing restricted social life and financial issues. Fear, worry, and stress are normal responses to perceived or real threats, and at times when people are faced with uncertainty or the unknown. Added to the fear of contracting the virus in a pandemic such as COVID-19 are the significant changes to our daily lives as our movements are restricted in support of efforts to contain and slow down the spread of the virus. Faced with new realities of working from home, temporary unemployment, home-schooling of children, and lack of physical contact with other family members, friends, and colleagues, we must look after our mental, as well as our physical, health (Uwambaye et al., 2020). In this situation, it was very important to explore the mental health of individuals especially women in pregnancy who can suffer from more severe mental health problems and can affect ANC visits that directly related to maternal & child health (Kotlar, Gerson, Petrillo, Langer, & Tiemeier, 2021). Moreover, antenatal depression is a significant predictor of postnatal depression. ANC consultations are helpful to promote a healthy lifestyle by educating mothers about the good sources of nutritious food, early diagnosis, treatment of pre-existing illness, counselling, and provide support to women who encounter domestic violence (Uwambaye et al., 2020).

Addressing these issues may involve individualized care to women throughout pregnancy and during the newborn period to help with self-care, guidance, counselling, healthy habits, and involving the family in preparing for childbirth and unforeseen emergencies also are important (Sarfraz, Tariq, Hamid, & Iqbal, 2015).

The study aimed to assess the frequency of antenatal visits, the prevalence of antenatal depression during the COVID-19 pandemic, and its associated risk factors among pregnant women in an urban setting in Pakistan.

REVIEW OF LITERATURE

For most women, pregnancy is generally considered a time of fulfilment and joy, but for many, it can be a worrisome period. Prenatal care has been known as services before birth and done in different forms by various providers in the world. According to WHO, prenatal care involved integrated methods to medical care, psychological and social assistance and its best conditions start earlier in pregnancy and continue after birth (Roozbeh et al., 2016).

In South Asia, this period is usually associated with cultural stigmas that revolving around gender discrimination, birth defects, genetic abnormalities, and stillbirths immigration (Field, 2017). Antenatal depression caused complications up to 10%-37% of pregnancies, while antenatal anxiety complicated about 27%-54% of cases (Williams et al., 2016). At least one stressful event was reported by 41% of women with PPD due to, economic problems, job difficulties, unemployment, separation or divorce, and recent immigration (Field, 2017). Post-partum depression (PPD) affecting 10-15% of women worldwide, showed very common psychological health problems faced by women after pregnancy. In a different part of the world, the prevalence of PPD varies, whereas women of USA ranked at mid-point and European, Australian women were fell at the lowest level of PPD. In contrast, in Asia, Africa and South America highest score of PPD symptoms have been seen in women (Roshaidai Mohd Arifin et al., 2018). The estimated prevalence of PPD in North America, Europe, Australia, and Japan was reported 13%. According to recent estimates which showed the highest prevalence in Asia and the Middle East. Similarly, the prevalence of PPD 21% in Lebanon, 37% in Bahrain, and 36% was reported in Pakistan (Fathi-Ashtiani et al., 2015). Pregnant females with depression had Inadequate ANC, malnourishment (Aamir, 2017), inadequate dietary intake, and had increased rate of Fetal Growth Retardation, premature birth, and small Apgar score (Saeed et al., 2016). During the first year of postpartum PPD can develop at any time. Commonly, 50%-80% of women experience mood disorder during 1st week, which peaks at 5th day and maybe complete settled within 10-14 days of postpartum. Mood disturbance can start after 3rd week of childbirth or up to one year and can convert into PPD, which can affect both mother and child health (Abdulghani & Alharbi, 2014).

Mental health is a neglected part of reproductive health. The impact of mental and behavioural disorders in public health is established by the fact that in community primary care they are among the main causes of morbidity and produce substantial disability. Many factors like hopelessness, the experience of insecurity, physical ill-health, and risks of violence and rapid social change may describe the more vulnerability of psychosomatic disorders (Patel & Kleinman, 2003). Studied risk factors of antenatal depression were fear of childbirth, conflicts with husband, (Humayun et al., 2013) education, marital status, economic status, obstetric history, intimate partner violence, and experiencing negative life (Kaiyo-Utete et al., 2020). Furthermore, living in an extended family, without medicare insurance, unemployed, working as civil servants or health care workers and lower household income also contributed to antenatal depression. On the contrary, satisfaction with marital status, knowledge of perinatal care have been considered as protective factors (Chen et al., 2019).

In Pakistan, women older than 35 years old who experience domestic violence, poverty, or previous miscarriage are at risk for postpartum depression (Karmaliani et al., 2009). The number of children and the number of daughters is associated with a higher score on an anxiety scale and a negative association on the social support scales (Waqas et al., 2015). In developed cities people migrated for employment, to achieve better health care services and education. Many of couples have to live alone and during the antenatal period females faced many problems to manage their daily needs especially in case of primiparity and absence of relational support from friends or emotional support from spouses and family members, the difficulty of movement, and access to health care facilities for antenatal care visits (Marcos-Nájera

et al., 2019). Risk factors for pregnancy-related depression include economic instability, gender-based discrimination, history of psychiatric disorders, puerperal complications, miscarriage, and instrument-facilitated or surgical delivery. Other factors include gravidity, whether the pregnancy was planned, previous history of stillbirth or prolonged labor, and level of social support (Aamir, 2017).

For these reasons, the Countries vary in their prioritization of mental health issues (Al-Hejji, Al-Khudhair, Al-Musaileem, & Al-Eithan, 2019). Lower Middle-Income Countries (LMICs) like Pakistan allocated meager health budget, only 0.4% is allocated to mental health (Jooma, Minhas, & Saxena, 2009). The proportion of health budget spent on mental health in Pakistan is lower than in other South Asian countries (Rathod et al., 2017). There is no social insurance scheme for mental patients. Pakistan has five mental hospitals and a dismally low rate of 1.9 beds per 100,000 population. On average, mental patients spend 49.9 days at hospitals with 84% of the patients leaving the hospital in less than a year's time (Jooma, Minhas, & Saxena, 2009). LMIC's have limited mental health professionals accessible to fulfill the population's needs. To improve the access to health care services and specially services for the mental disorders, the emerging effective way is task shifting and task sharing to non-specialist health workers (NSHW). These include non-professionals (lay providers) and health care practitioners (community health workers, nurses & doctors) (Chowdhary & Psychiatrist, 2014).

Studies showed that in developed countries, psychological and psychosocial interventions of antenatal and postpartum care are most effective in reducing perinatal depression (Chowdhary & Psychiatrist, 2014; Rahman et al., 2019). antenatal care included the individualized care to pregnant female throughout the maternity period and newborn, support her in personalized care, guidance, counselling, and educating with better community health habits and training the family in preparation for newborn and for unseen emergencies. Skilled care during childbirth is highly advocated, in fact, it providing widely "one of the most important predictors in preventing maternal deaths" and "the rate of births attended by skilled health workers" is the single most important target indicators to measure the development toward the attainment of improving mother's health. A low level of communication between health professionals and mothers in the community has led to delayed uptake of prenatal care visits and deliveries by skilled health care attendants (Sarfraz et al., 2015).

METHODOLOGY

A descriptive cross-sectional study was conducted from July to September 2020 and 220 pregnant women were recruited from the Gynae Outpatient Department, visited average of 1200 obstetric patients per month in OPD, having 78 beds at the Tertiary Care Hospital in Lahore. The statistics related to Maternal Mortality (MMR) & Infant Mortality Rate (IMR) are still high in the Asian region. Data of 2015 showed that the approximately 5,500,000 babies were born in Pakistan, or around 14,900 every day. Among young women (aged 20-24), 8 percent gave birth by age 18 years. Approximately 671 babies will die each day before reaching their first month, about 665 stillbirths occur every day, and MMR 178 per 100,000 at age of 19-49 years. In Pakistan, the main causes of neonatal deaths in 2015 were prematurity (39.3 percent) ("Unicef, 2016 Maternal and Newborn Health Disparities (Pakistan)).

Women were recruited using non-probability sampling. The institutional review board of the hospital approved the study (ID SZMC/IRB/EXTERNAL/PhD/210/2020). Data was collected by QA, who was trained by a psychiatrist on psychological assessment tools. Interested participants were given detailed information about the study. All participants provided informed consent before taking part in the research.

The inclusion criteria for study participants were as follows: pregnant women aged 18–45 years in the 24th–26th week of pregnancy. Women diagnosed with a serious medical conditions requiring inpatient or outpatient treatment, pregnancy-related illness (except for common conditions, such as anemia), substantial physical or learning disabilities, or other form of psychosis were excluded.

To elicit demographic details regarding age, education, and family characteristics self-administered questionnaire was developed. For the screening of maternal depression Patients Health Care Questionnaire-9 (PHQ-9) was administered, which is a standardized questionnaire used to assess depression on a 4-point Likert scale, with a score range from 0 to 27 (higher scores indicate more severe illness). This study used an adapted version of PHQ-9, which has been shown to be highly accurate among pregnant women in Pakistan (Cronbach's alpha=0.83) (Gallis et al., 2018). It was used a cutoff of ~10 (Woldetensay et al., 2018). The sensitivity and specificity of PHQ-9 at a cutoff of ≥10 were 94.7% and 88.9%, respectively. The positive and negative predictive values were 75.2% and 97.9%, respectively, and the area under the curve was 0.959 (Gallis et al., 2018). SPSS Software version 25 was used to conduct a descriptive analysis of the data and a Chi-square test was applied for qualitative variables to find the association.

RESULTS/FINDINGS

Of the 220 pregnant women in the study, 64% (140) women scored 0–10 on the PHQ-9 (mild symptoms), 21% (47) scored 11–15 (moderate symptoms), 13% (29) scored 16–20 (moderately severe symptoms), and 2% (4) scored 21–27 (severe symptoms). Overall, 36% (80) of the women showed moderate to severe symptoms of depression and anxiety.

Nearly half (46%; 102) of the women were 26–30 years old. Almost all of the participants (96%; 212) lived with their spouse, and 28% (62) had an age difference of 4–6 years with their spouse. In relation to education, 31% (69) had a

graduate degree and 25% (55) had a postgraduate degree; among their spouses, 33% (72) had a graduate degree and 23% (51) had a postgraduate degree. Most (90%; 199) were housewives, many (76%; 168) lived in joint family systems, and 34% (75) lived in a household with more than eight members. Only 10% (21) of the women worked, whereas 88% (193) of the husbands were employed: 41% (91) had an income between 16,000–30,000 rupees, and 47% (103) had three to four dependents. About half (43%; 94) of the women were primiparous. Most (82%; 172) of them attended at least their four antenatal visits during the COVID-19 pandemic. Only 10% (21) had a family history of psychiatric illness. No association was found between depression and any of the studied demographic factors (p-value>0.05). When we found a correlation of age with depression, found a significant (p-value<0.05) negative correlation which showed that by increasing age depression scores were decreasing. By fitting the regression model, no predictor variable was found significant with depression scores.

Table 1: Study population characteristics (n= 220)

Characteristics	Frequency	Percent (%)
Age		
18-25	65	30
26-30	102	46
31-35	44	20
36-40	9	4
Participant education		
No schooling	11	5
Primary education	4	2
Middle school	7	3
Matric	39	18
Intermediate	35	16
Graduate	69	31
Post graduate	55	25
Husband education		
No schooling	8	4
Primary education	4	2
Matric	34	16
Intermediate	51	23
Graduate	72	33
Post graduate	51	23
Family structure		
Nuclear	47	22
Joint	168	76
Extended	5	2
Family members		
1-2	10	4
3-4	19	9
4-5	56	26
6-7	60	27
>8	75	34
Participant employment status		
Not employed	199	90
Employed	21	10
Husband employment status		
Employed	193	88
Business	27	12
Income		
<15000	17	8
16000-30000	91	41
31000-45000	40	18
46000-60000	36	16
61000-75000	30	14
>80000	6	3
Family dependents		
1-2	40	18
3-4	103	47
4-5	46	21
6-7	23	10
>8	8	4
Parity		
0	94	43
1	48	22

2	41	18
3	29	13
>3	8	4
Do you live with husband?		
No	8	4
Yes	212	96
Partner's age difference		
<1	38	17
2-3	56	26
4-6	62	28
7-9	31	14
>10	33	15
Family history psychiatric illness		
No	199	90
Yes	21	10
Regular antenatal visits (Visit=4)		
No	48	22
Yes	172	82
Poor appetite or overeating.		
Not at all	114	52
Yes	106	48
Trouble falling or staying asleep, or sleeping too much.		
Not at all	131	60
Yes	89	40
Trouble concentrating		
Not at all	140	64
Yes	80	36

Table 2: PHQ-9 Score ((n= 220)

Characteristics	Frequency	Percent (%)
Depression		
0-4 (Normal)	72	33
5-10 (Mild)	68	31
11-15 (Moderate)	47	21
16-20 (Moderately severe)	29	13
21-27 (Severe)	4	2
Total	220	100
Difficulty index		
Not difficult at all	145	66
Somewhat difficult	45	21
Very difficult	25	11
Extremely difficult	5	2
Total	220	100

Table 3: Association of depression with studied factors

Variables	Depressed (PHQ-9 ≥10)	Not depressed (PHQ-9 <10)	Chi-square	p-value
Age	n=80	n=140		
18-25	24	41	3.2	0.36
26-30	39	63		
31-35	12	32		
36-40	5	4		
Participant education				
No schooling	3	8	5.6	0.58
Primary education	0	4		
Middle	4	4		
Matric	12	27		
Intermediate	11	24		
Graduate	27	42		
Postgraduate	24	31		
Husband Education				
No schooling	2	6	2.7	0.74

Primary education	2	2		
Matric	10	24		
Intermediate	17	34		
Graduate	27	45		
Postgraduate	22	29		
Family structure				
Nuclear	10	17	0.16	0.92
Joint	40	65		
Extended	2	2		
Family members				
1-2	6	4	3.23	0.66
3-4	6	13		
4-5	20	36		
6-7	21	39		
>8	27	48		
Participant employment status				
Not employed	69	130	2.57	0.12
Employed	11	10		
Husband employment status				
Employed	67	126	1.84	0.17
Business	13	14		
Income				
<15000	9	8	11.68	0.039
16000-30000	25	66		
31000-45000	18	22		
46000-60000	17	19		
61000-75000	11	19		
>80000	0	6		
Family dependents				
1-2	13	27	4.01	0.404
3-4	36	67		
4-5	22	24		
6-7	6	17		
>8	3	5		
Partner age difference				
<1	10	28	6.96	0.22
2-3	18	38		
4-6	26	36		
7-9	15	16		
>10	11	22		
Family history psychiatric illness				
No	63	131	4.33	0.03
Yes	12	9		

Table 4: Correlation of age with depression scoring

Correlations		Age	Depression scoring
Age	Pearson Correlation	1	-.152[*]
	Sig. (2-tailed)		.024**
	N	220	220

*. Correlation is significant at the 0.05 level (2-tailed).

Figure 1: Graphical presentation of Age and Depression scores

Table 5: Regression model

	Coefficients						
	Unstandardized Coefficients		Standardized Coefficients			95.0% Interval	Confidence
Model	B	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound
1 (Constant)	12.586	3.230		3.896	.000	6.218	18.953
Age	-.171	.107	-.128	-1.590	.113	-.382	.041
Family members live in home	.011	.098	.008	.116	.908	-.183	.206
Number of dependents	.189	.248	.055	.763	.446	-.299	.677
Number of children	-.285	.425	-.058	-.670	.504	-1.123	.553
Partner's age difference	.158	.328	.035	.484	.629	-.487	.804
a. Dependent Variable: Depression scoring							

DISCUSSION

Postpartum depression can have serious negative consequences for mothers and their children. Maternal–child interactions in the postpartum period are critical for optimal child growth and development (Dayan, Javadifar, Tadayon, Malehi, & Komeili Sani, 2018). In this study, the overall rate of depression is 36% (80) diagnosed by the PHQ-9 tool, among pregnant women in a private tertiary care institution in Lahore, including 21% (47) with moderate symptoms, 13% (29) with moderately severe symptoms, and 4 (1%) with severe symptoms. Our findings also align with previous studies on the prevalence of anxiety and depression in Pakistan. For example, a high prevalence of antenatal depression was observed in Rawalpindi, Punjab-Pakistan (A. Rahman et al., 2007), and a study conducted in Kahuta, Punjab-Pakistan, reported that 25% of pregnant women showed depressive symptoms were diagnosed with the help of Structured Clinical Interview for Depression (SCID) (Atif Rahman, Iqbal, & Harrington, 2003). Our results are consistent with Sleath et al. (2005) study, who assessed 73 pregnant women for depression by using the famous tool, Beck Depression Inventory. Their results indicated 19% of women had moderate to severe symptoms (Sleath et al., 2005). In our study, we found 36% of depressive symptoms among pregnant women by using the Patient Health Care Questionnaire-9 Scale. Our results are somehow similar to the previous studies that assessed depression in Pakistan pregnant women but differences in depressive symptoms might be justified with that different tools were used for assessing anxiety and depression, and the current study was conducted in the urban clinical setting. Along with that, the ongoing COVID-19 pandemic might be one of the reasons for high depressive symptoms.

Mental health problems like depression during pregnancy, often remain untreated, and leads to significant global health issues (Jacob et al., 2007), especially in resource-limited settings where mental health services are scarce. The negative consequences of postpartum depression are evident (Alder, Fink, Bitzer, Hösli, & Holzgreve, 2007), and there are evidences that maternal-child interactions in the postpartum period are critical for optimal child growth and development (Stein et al., 2014). But due to lack of knowledge and government resources, it has zero implementation and psychiatric wards have failed to treat it.

In our urban setting, 90% (198) of the pregnant women were educated, including 25% (55) who completed graduate or post-graduate education. These findings align with those from a study conducted in Karachi, in which 83% of participants were educated (Hussain, 2020).

Age-related findings showed a higher rate of depression found in the age range 26-30 years who had no or one child, that support the results of Humayun et al. (2013) and found also significant correlation (pvalue<0.05) which showed that most of the females were newly married and have of lack of experience than older females (Humayun, Haider, Imran, Iqbal, & Humayun, 2013). A study in the United States found the maternal age was associated with antenatal and postnatal depression, which could be attributed to financial problems, unplanned pregnancy, and lack of husband's support (Rich-Edwards et al., 2006).

Depression is the most common mental health problem in Pakistan. It affects everyone, including many pregnant women. About 80% of the women who experience postpartum depression require prompt treatment to avoid long-term adverse outcomes (Karmaliani et al., 2009). We hypothesized that low socio-economic status (low wages), husband's unemployment, and husband's lack of education would be positively correlated to depression among pregnant women, as suggested by Faisal and Menezes (2007) (Faisal-Cury & Rossi Menezes, 2007). Karmaliani et al. (2009) suggest that low income, physical and verbal abuse, and husbands' unemployment are important factors contributing to anxiety and depression among pregnant women (Karmaliani et al., 2009). Reid and Taylor (2015) further suggest that household

responsibilities, employment conditions, low socioeconomic status, and large family size are important determinants of health in pregnant woman that can lead to depressive symptoms (Reid & Taylor, 2015). In our study, these factors did not show any significant association with depression. Lower and middle-income countries posed a greater burden of common mental disorders and have limited access to mental health professionals to fulfill the population's needs. The meager proportion of budget spent on mental health in Pakistan as compare to other South Asian countries. Due to these problems, a large number of the population remained undiagnosed and untreatable (Wainberg et al., 2017).

Our findings of family history of psychiatric illness also were not associated with antenatal depression that similar to the results of previous studies suggested that females had different social, cultural, and financial conditions (Humayun, Haider, Imran, Iqbal, & Humayun, 2013) and can be discussed in the context-specific situation.

According to World Health Organization's new ANC model recommends four to eight visits for prenatal care include integrated approaches to medical care and psychological and social support, all of which should start before pregnancy and continue after birth (A. Rahman et al., 2007). In the present study, 82% of women had regular ANC visits (at least four visits) during the COVID-19 pandemic and only 18% missed their consultation during that period.

In Pakistan, a policy is known as "Mental Health Policy" was introduced in 1997 that laid out a structure preventing psychological and neurological disorders. The policy emphasized on the methods that should be taken to handle mental disorders as well as clarifying the objectives for the government. The core aim of this project is to encourage the government to provide training to all hospitals, psychiatric and detoxification centers. Thus emphasizing on development of more mental hospitals and providing facilities and counseling to all patients. The total budget in countries allocated for the mental health sector is 0.4% of total health services, due to which this sector is ignored and mental diseases are increasing all around the world (Javed, Khan, Nasar, & Rasheed, 2020; Jooma et al., 2009).

CONCLUSION

The current study examined the relationship between demographic and social factors and depressive symptoms among pregnant women in Pakistan. The prevalence of antenatal depression was very high among women who visited the Gynae Outpatient Department at the Tertiary Care Hospital in Lahore. Many factors associated with depression can be addressed through counselling and by improving awareness of physical and mental health. Preventive measures to improve maternal and child health may help minimize maternal and infant mortality rates.

LIMITATION AND STUDY FORWARD

Limitations of this study is that it's a self-funded study include data taken from a single site and the small sample size. Increasing the sample size and locations would make the results more generalizable.

RECOMMENDATIONS

Governments should prioritize pregnancy-related health care and support legislation and policy to treat depression in the early stages. Such resources could include psychological tests that can be done in the early stages of pregnancy. Moreover, mental health hospitals and centres should be increased so that counselling and medical treatments can be provided where needed. There is a dire need to implement mental health policies into medical care at all scales in Pakistan. Improving maternal and child health will require a collective approach involving obstetricians and public health experts. In Pakistan, the next Five-Year Plan and Vision 2025 platform are based on the principles of providing resources, increasing community awareness, and establishing affordable and accessible services. Mental health during pregnancy is a critical component of these initiatives. It demands on international agencies and the government to take an instant action to take up maternal mental health as a part of health care services.

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AUTHORS CONTRIBUTION

Quratulain Ahsan: Acquisition of data, drafting the manuscript, statistical analysis.

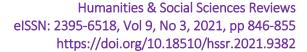**Jaweria Hassan:** Critical analysis with intellectual output.

Tazeem Akhtar: Writing the results & interpretation.

Aasia Khan: Drafting the manuscript.

Abid Malik: Conception and design of the study, critical analysis with intellectual output.

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