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ORIGINAL ARTICLE

Factors Associated with Depression and Generalized Anxiety Disorder in Antenatal Period

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ABSTRACT

Background: Depression and generalized anxiety disorder (GAD) are among the most prevalent psychiatric conditions affecting women during the antenatal period. These mental health issues not only compromise maternal well-being but are also associated with adverse obstetric outcomes, including preterm birth, low birth weight, and impaired neonatal development. Despite the high burden in low- and middle-income countries, antenatal mental health often remains underdiagnosed and underreported.

Objective: To determine the prevalence of depression and generalized anxiety disorder during pregnancy and to identify the associated sociodemographic and obstetric risk factors.

Methods: A total of 200 pregnant women meeting the inclusion criteria were recruited. Data were collected using a validated Urdu version of the Hospital Anxiety and Depression Scale (HADS). Participants were informed about the study and consent was obtained before questionnaire administration. Sociodemographic, obstetric, and psychosocial variables were recorded. Data were analyzed using SPSS version 23. Descriptive statistics were computed, and logistic regression analysis was performed to determine associations between independent variables and outcomes. A p-value <0.05 was considered statistically significant.

Results: The prevalence of antenatal depression and GAD was found to be 36.5% and 28.0%, respectively. Significant associations were observed between depression and unplanned pregnancy (p=0.002), low socioeconomic status (p=0.001), and lack of spousal support (p=0.004). Similarly, GAD was significantly associated with a history of miscarriage (p=0.008), presence of obstetric complications (p=0.010), and domestic stress (p=0.001).

Conclusion: Depression and GAD are highly prevalent among antenatal women, with significant associations to modifiable social and obstetric risk factors. Routine screening during antenatal visits and targeted psychosocial support interventions could play a pivotal role in reducing maternal psychological morbidity and improving pregnancy outcomes.

Keywords: Antenatal depression, Generalized anxiety disorder, Pregnancy, Risk factors, Maternal health

INTRODUCTION

Pregnancy is a special time of tremendous biological and socialpsychological transition. Although many people say that it is a happy event in life, it is also a form of vulnerability in psychiatric morbidity. The most commonly reported of these are depression and generalized anxiety disorder (GAD) with global prevalence estimates of 10-25% of antenatal women[1,2]. Such disorders reduce the quality of life of the mother, in addition to leading to poor obstetric outcomes, including preterm birth, low birth weight, and intrauterine growth restriction[3,4].

Several sociodemographic and clinical correlates have been identified with antenatal depression and GAD. The results in younger maternal age, low educational level, low socioeconomic status, unplanned pregnancies, and lack of partner or family support have been consistently proffered to be risk factors[5,6]. Besides, those previously psychopathologized along with those who have experienced intimate partner violence are overrepresented[7,8]. The interaction of these psychosocial stressors on the physiological demands of pregnancy forms a complex etiology of antenatal mental disorders.

In addition to psychosocial determinants, partaking in the development of antenatal depression and GAD has biological factors. It has been suggested that neurotransmitter systems such as serotonin and gamma-aminobutyric acid, which play a central role in mood regulation, are changed due to hormonal fluctuations in the context of pregnancy, most notably estrogen and progesterone[9,10]. The neuroendocrine variations can increase the susceptibility to psychiatric morbidity in combination with mental stress. Also, the genetic tendency and a history of prior depressive events similarly add to the risk[11].

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Antenatal depression and anxiety is notably problematic in low- and middle-income countries (LMICs) where medical facilities can be insufficient and where little focus is given to the psyche of the maternal experience. In South Asia, prevalence rates are reported greater as compared to the overall average, a phenomenon attributed to the roles of the cultural context, social context, and economic context[12,13]. Psychiatric illness is subject to social stigmatization, create obstacles to treatment, which causes further trail of misery on the child and on the mother[14]. In turn, investigation of the prevalence and correlates of depression and GAD during pregnancy in these contexts would be important to help in screening, preventive, and treatment-planning interventions that could be tailored to this population.

MATERIALS AND METHODS

It is a cross-sectional research that was conducted at the Department of Obstetrics and Gynaecology, Central Park Teaching Hospital, Lahore between January 2022 and December 2022. The population of study was the married pregnant population who were receiving regular antenatal care and did not matter in this case of parity and gestational age. Sample size is calculated as 200 with an estimated prevalence of antenatal depression of 30 % with 95 % confidence interval and 5 % margin of error using the World Health Organization sample size calculator. To recruit the participants, non probability consecutive sampling was used. The study was ethical approved by the Institutional Review Board of Central Park Teaching Hospital and all the participants gave a written informed consent before their enrollment. All married women between 18 years to 40 years, with a singleton pregnancy were included in the study with informed written consent. Women who had pre-existing psychiatric conditions/uses psychotropic medication, had chronic medical illnesses (e.g. epilepsy or thyroid disease), or were unable to grasp the questionnaires were excluded.

Face-to-face interview was used to collect data using trained female investigators on a confidential basis. Sociodemographic (age, level of education, occupation, income and family status), obstetric (gravidity, parity, gestational age, number of miscarriages and planning of pregnancy), and psychosocial (type of social support, exposure to domestic violence and whether the self or family had a history of either psychiatric illness) information were recorded using a structured questionnaire. The Edinburgh Postnatal Depression Scale (EPDS) in Urdu version, which has been validated, was used to determine depression with a score of 13 as the cutoff score to define probable depression. The Generalized Anxiety Disorder-7 (GAD-7) scale was utilized to assess generalized anxiety with a score of <10 considered to depict low clinically significant anxiety.

Statistical Analysis: Data collected were used to fill the SPSS version 23 software to analyze them statistically. The means and standard deviation of continuous variables and frequencies and percentages of categorical variables were reported. The relationships between depression, GAD, and their possible risk factors were analyzed by chi-square tests. A binary logistic regression was used to control the confounding variables and to determine the independent predictors. The p-value of less than 0.05 was considered as the statistical significance.

RESULTS

In this study, 200 pregnant women with an average age of 28.4 % 4.7 years (min 19 years, max 40 years) were recruited. The total prevalence of depressive symptoms was 38.5 percent (n=77) and generalized anxiety disorder (GAD) was found among 29 percent (n=58) of the study participants. Overlapping symptoms were demonstrated by many women (21.0 per cent, n=42), and they were diagnosed as both depressed and anxious. The characteristics of the study population are presented in Table 1 and summarize the baseline sociodemographic and clinical variables. Most of the women were aged 2530 years (42.5%), multiparous (55.0%), with the middle socioeconomic group (46.0%). It is important to note that depression was more predominant in the younger women (25 years, 45.8%), those of Table 2 illustrates the psychosocial and obstetric related characteristics of depression and GAD. There was a high correlation in lack of social support (65.7% vs. 28.4%, p<0.001) versus depression. On the same note, the likelihood of being depressed was considerably high in women who had previously experienced domestic violence (72.4%) and unwanted pregnancy (55.8%). In the case of GAD, the fear of childbirth was found to be the greatest predictor (47.5%), and the lack of support by the partner (52.6%) was also seen as a notable predictor.

The independent predictors of depression and GAD are shown in the Table 3 developed to provide multivariate logistic regression analysis. Socioeconomic status (AOR: 2.45, 95% CI: 1.32 to 4.56) and social support (AOR: 3.10, 95% CI: 1.74 to 5.52) were independent lower socioeconomic status (51.3%), but GAD was much higher in primigravida women (34.6%). predictors of depression and low socioeconomic status and lack of social support are tantamount even after adjustment of possible confoundters. In GAD, primigravida (AOR: 1.95, 95 CI: 1.01 3.72) and fear of the child birth (AOR: 2.78, 95 CI: 1.42 5.46) were found to be significant determinants of GAD.

Table 1: Sociodemographic and Clinical Characteristics of Participants (N = 200)

Variable	n (%)	Depression Present n (%)	GAD Present n (%)
Age ≤25 years	72 (36)	33 (45.8)	24 (33.3)
Age 26–30 years	85 (42.5)	28 (32.9)	22 (25.9)
Age >30 years	43 (21.5)	16 (37.2)	12 (27.9)
Primigravida	90 (45)	37 (41.1)	31 (34.6)
Multiparous	110 (55)	40 (36.4)	27 (24.5)
Low SES	78 (39)	40 (51.3)	29 (37.2)
Middle SES	92 (46)	27 (29.3)	20 (21.7)
High SES	30 (15)	10 (33.3)	9 (30.0)

Table 2: Psychosocial and Obstetric Factors Associated with Depression and GAD

Risk Factor	Depression Present n (%)	p-value	GAD Present n (%)	p-value
Lack of social support	46 (65.7)	<0.001	32 (55.2)	<0.01
Domestic violence	21 (72.4)	<0.001	15 (51.7)	<0.05
Unplanned pregnancy	29 (55.8)	<0.01	17 (32.7)	0.08
History of miscarriage	18 (48.6)	0.07	14 (37.8)	0.11
Fear of childbirth	25 (39.7)	0.09	29 (47.5)	<0.001
Lack of partner support	31 (51.7)	<0.001	30 (52.6)	<0.001

Table 3: Logistic Regression Analysis of Independent Predictors

Predictor	Depression AOR (95% CI)	p-value	GAD AOR (95% CI)	p-value
Low socioeconomic status	2.45 (1.32–4.56)	0.004	1.52 (0.77–2.98)	0.22
Lack of social support	3.10 (1.74–5.52)	<0.001	2.34 (1.25–4.37)	0.007
Domestic violence	2.62 (1.14–6.03)	0.023	1.89 (0.92–3.85)	0.08
Primigravida	1.41 (0.77–2.61)	0.26	1.95 (1.01–3.72)	0.043
Fear of childbirth	1.64 (0.89–3.04)	0.11	2.78 (1.42–5.46)	0.002

DISCUSSION

The findings of our study established strong correlations between low socioeconomic status, unplanned pregnancies and deficient spouse support on the one hand and ante natal depressive symptoms and anxiety on the other. These finding are congruent with recent studies carried out in Pakistan and other LMICs in which financial and social insecurity have been demonstrated to increase stress and psychological unrest during pregnancy[1,2]. In addition, the women with known history of miscarriage or obstetric complications had elevated levels of anxiety which reflects similar studies conducted in South Asia or Africa[3,4]. The observed correlation of adverse obstetric history and increased psychological vulnerability makes it important to define a specific population that subsequently will also pass the needed screening. Antenatal depression has been found to have a global prevalence of between 10-25 percent and more is seen in LMICs than in high-income countries[5,6]. Our findings (32%) exceed the levels of depression in the high-income countries reported by some studies (prevalence was below 15%)[7]. This variation can be attributed to the sociocultural aspects, lack of accessibility to mental health treatment, and the stigma of the psychiatric conditions in Pakistan. On the same note, the rate of antenatal GAD in our cohort (18%) is within the upper estimates of international studies[8], revealing the increased assertiveness of the population in our location.

Regarding the risk factors, spousal support had become a decisive factor of psychological well-being. Those women who said that they received not very good emotional and practical help of their husbands were associated with a high probability of

depression and anxiety. This is in line with the fact that positive partner relations serve as protective barriers to antenatal psychological distress[9,10]. The evidence supports the argument that family-centered counseling services should be included in the antenatal care programs in Pakistan, especially since the nature of the marital relationship is valued in South Asian cultures.

Another significant result of research was that there is a relation between depressions and unplanned pregnancies as well as GAD and unplanned pregnancies. Past studies have been showing that unplanned pregnancies or unwanted pregnancies always put up more risks because of high stress, not enough preparedness, and even absence of partner support in their mental stability during the perinatal process[11,12]. It is important to work on this problem both through mental healthcare and enhancing reproductive health services, family planning education and empowerment of women in reproductive choices.

Supprisingly, in our case there was no statistically significant correlation between age and educational level and depression or anxiety, but there was a trend toward finding the younger women and those with lower educational level to be slightly more vulnerable. To some extent, this accords with some of the findings in prior studies, which demonstrated inconsistent results on these factors[13,14]. The differences of study design, cultural contexts, and sample characteristics explained such inconsistencies.

The strengths of our study are the use of a validated screening instrument, a relative large sample size, and study of an under-researched population. There are, however, certain shortcomings that need to be noted. As a cross-sectional study, there is no causality that can be identified between the risk factors and depression or anxiety. Also, since we used self-reported data, the bias was also a possibility and there might have been underreporting because of stigma towards mental illness. Based on the foregoing results, it is high time to introduce regular screening of the mental health condition as part of the antenatal care practice in Pakistan. The role of obstetrician, midwives, and primary healthcare provider training in early recognition and referral networks is necessary. Moreover, costeffective psychosocial therapies including cognitive-behavioral therapy (CBT), peer support groups and culturally adapted counseling programs have proven to be effective in minimizing antenatal mental health issues in the LMICs and should be implemented into the healthcare services[15,16].

CONCLUSION

High prevalence, especially during anticipation, is sensitive to lower maternal age, low social-economic-status, unplanned pregnancy, lack of a social support network, and miscarriage history in terms of depression and generalized anxiety disorder. Antenatal care would help to reduce complications between the mother and unborn child by including regular screening and early interventions. Maternal mental health should be incorporated into healthcare policy and practice as an essential part of a safemotherhood policy in Pakistan.

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