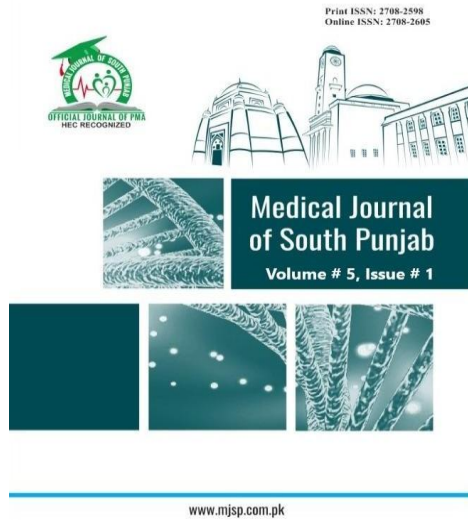


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## Emotional Intelligence and Its Relationship with Perceived Stress and Antenatal Depression Among Primary Gravida Women.

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### Authors and Affiliation:

Hafsa bibi<sup>1</sup>, Parveen Akhter<sup>2</sup>, Fatima Soomro<sup>3</sup>,  
Irum Qureshi<sup>4</sup>, Syed Azmat Hussain Shah<sup>5</sup>, Badil<sup>6</sup>

<sup>1-4</sup>People's Nursing School, LUMHS, Jamshoro,  
<sup>5</sup>P&D, PIMS Islamabad, Pakistan, <sup>6</sup>Dow Institute of  
Nursing and Midwifery, DUHS, Karachi, Pakistan

### \*Corresponding Author Email:

[hafsash4@gmail.com](mailto:hafsash4@gmail.com)

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## Emotional Intelligence and Its Relationship with Perceived Stress and Antenatal Depression Among Primary Gravida Women.

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<sup>1-4</sup>People's Nursing School, LUMHS, Jamshoro, <sup>5</sup>P&D, PIMS Islamabad, Pakistan, <sup>6</sup>Dow Institute of Nursing and Midwifery, DUHS, Karachi, Pakistan

\*Corresponding Author Email: [hafsash4@gmail.com](mailto:hafsash4@gmail.com)

### ABSTRACT

**Objective:** *To assess the relationship of emotional intelligence with perceived stress and antenatal depression among primary gravida women.*

**Methods:** *Using purposive sampling technique, 303 participants were examined. Validated tools; EPDS, SSEIT, and PSS-10 were used to assess antenatal depression, emotional intelligence and perceived stress respectively. Data was analyzed using SPSS 26.0; Descriptive analysis including frequencies, percentages and mean was performed along with Spearman rank correlation test was applied to identify significant correlations ( $p < 0.05$ ).*

**Results:** *Among 303 participants, mean EI score of  $113.97 \pm 19.56$  showed participants' diversified emotional assessment, management, and utilization. 60.4% reported moderate stress with mean PSS-10 score  $16.92 \pm 6.08$ . EPDS mean score  $12.48 \pm 5.19$  (64.7%) reported depression and 14.2% suicidal ideation. Significant negative relationships exist between EI and PS ( $r = -0.621$ ,  $p < 0.01$ ) and depression scores ( $r = -0.549$ ,  $p < 0.01$ ). Additionally, PS significantly linked with AD ( $r = 0.667$ ,  $p < 0.01$ ).*

**Conclusion:** *EI helps primigravida women manage stress and reduce AD. Results emphasize that higher EI is linked to decreased stress and depression. Thorough mental health assessment and EI training are recommended to reduce stress and antenatal depression including focused treatments to improve maternal mental health.*

**Keywords:** *Antenatal depression, Emotional Intelligence, Maternal mental health, Perceived stress, Primigravida, Pregnant women*

## 1. INTRODUCTION

Pregnancy is one of the most important phase in a woman's life, in which various physiological and psychological changes occur, which have a profound effect on the state of expecting mothers<sup>1</sup>. Pregnancy and postpartum are high-risk times for psychological distress (PD), which includes anxiety, stress, and depression<sup>2</sup>. Worldwide, up to 10% of pregnant women and 13% of postpartum women suffer from mental disorders, particularly depression. These rates are higher in developing nations as 15.6% of women during pregnancy and 19.8% after childbirth experience such complaints. These mental health issues can worsen to the extent of causing suicidal intentions; whereby maternal functionality is reduced, growth and development of children are impaired<sup>3</sup>. The World Health Organization (WHO) stresses on maternal mental health and has specially included it in the Sustainable Development Goals 3.1 which stresses on the mental health of women<sup>4</sup>.

There is growing interest in psychological literature on the moderating role of Emotional Intelligence (EI) on the influence of psychological distress during pregnancy. EI is defined as the capacity to recognize, analyze and regulate emotions and is a crucial factor in emotional health<sup>5</sup>. Research has suggested that EI can be a buffer against stress, anxiety, and depression. For example, one study, carried out among students in the southeastern region of the United States revealed that higher EI was positively linked to psychological well-being, and negatively related to stress, anxiety, and depression<sup>6</sup>. The same goes for a research done in China where it showed that the combination of EI and dyadic satisfaction can decrease the adverse effects of stress on prenatal anxiety and depressive symptoms<sup>7</sup>. Various meta-analysis evidence proved the link between EI and

mental health<sup>8</sup>. Another study conducted among Spanish women in Chile stated that another component of the EI, namely, interpersonal management and expression is important in addressing the psychological concerns common during pregnancy<sup>9</sup>.

The aim of this research is to assess the correlation between Emotional Intelligence, perceived stress and antenatal depression among primigravida women in developing countries where women are at a higher risk owing to, poverty, lack of social support, and poor reproductive health<sup>10, 11</sup>. As highlighted earlier, mental illness during pregnancy is likely to have serious adverse effects on both maternal and infant mortality rates<sup>12</sup> and perceived stress levels, as well as antenatal depression, remain widespread in developing countries especially in Thailand and Pakistan<sup>13, 14</sup>. Focusing on these gaps, the purpose of this study is to determine how the EI can help to reduce Psychological distress during pregnancy. The analysis of such relationships will help in filling the gap in knowledge about maternal mental health and may inform interventions that aim at enhancing the health status of mothers and their children.

## 2. METHODOLOGY

An analytical cross-sectional study was conducted in the Liaquat University Hospital (LUH) which is a 2200 bedded tertiary care hospital during May to August 2024. The study involved primary gravida women attending gynecology outpatient department of the hospital with a sample size of 303, determined using Open Epi 3.0, with 95% confidence interval and 5% margin of error. The participants were recruited using non-probability purposive sampling and purposely selected participants who fulfill inclusion criteria i.e. age above 18 years, having no history of mental illness, willingness to participate on their own free will, while those who are multiparous,

who did not willingly give their consent to participate in the study were not recruited for being a part of the study.

Data collection tool contains structured questionnaire included four parts: **Part 1:** Assess Demographic characteristic of participants, **Part 2:** Emotional intelligence was evaluated by the validated tool of Schutte Self-Report Emotional Intelligence Test <sup>6</sup>, **Part 3:** Perceived Stress was assessed by the validated PSS-10<sup>15, 16</sup> and **Part 4:** Antenatal Depression was evaluated by the validated Edinburgh postnatal depression scale (EPDS) <sup>17, 18</sup>. The instruments were translated to the local languages by language expert and the validity of the translated instruments were checked through back translation by experts. This was followed by a pilot study involving participants, 10% of the sample size and the reliability of the scales as confirmed was; PSS-10 (cronbach  $\alpha = 0.777$ ), EPDS (cronbach  $\alpha = 0.756$ ), EI (cronbach  $\alpha = 0.913$ ). Data were entered and analyzed using SPSS version 26.0, with descriptive analysis for frequencies, percentages, means, medians, and standard deviations and inferential analysis with the Spearman Rank Correlation Test to find relationships among the variables. The study was reviewed and approved by the Ethical Review Committee (ERC) with letter NO. LUMHS/REC/-300. of LUMHS. All study participants provided written informed consent with regard to their confidentiality and their ability to withdraw at any time.

### 3. RESULTS

The study comprised 303 participants, of whom the mean age was 23.52 years (SD =  $\pm 3.70$ , range 18-35), majority of the participants (81.8%) fall within the 18 to 26 years range while 18.2% were in the 27 to 35 years range. Everyone who participated were primary gravida. The majority of the respondents (91.7%) were married, while 7.6% were widowed and 0.7% were separated. The majority of participants (74.3%) were

identified as Muslim, while Hindu 14.5% and Christian 11.2%. In terms of employment, 82.8% of the participants were unemployed (housewives), while 17.2% were employed. The family type distribution indicated that 61.1% of individuals resided in joint families, while 38.9% lived in nuclear family system. The results of pregnancy planning indicated that 71.3% of the women had unexpected pregnancies, whereas 28.7% had planned pregnancies. As regards finances, 47.2% of the respondents had insufficient funds to cover utility bills, 36.6% did not have enough money to cover utility bills, and 16.2% had enough money to spend on special items after paying bills. None of the participants had a significant medical history or a history of mental illness. Frequency and percentages of socio-demographic profile of participants.

The study examined the components of EI among 303 primary gravida women, revealing significant differences in their capacities to perceive, manage, and utilize emotions. The mean EI score was  $113.97 \pm 19.56$ , with scores ranging from 48 to 151. Table 1 presents average score of EI scale along with its subscales.

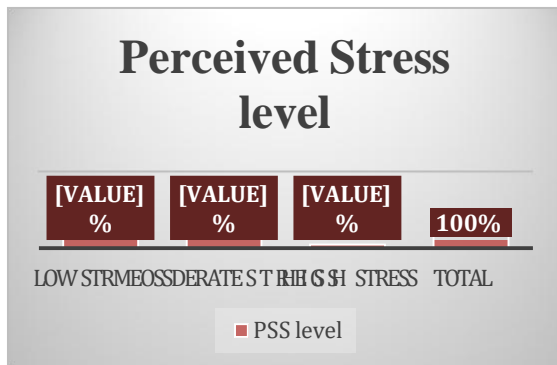
**Table 1: Average score of EI Scale**

Items	Mean (x)	$\pm$ SD	Range
Emotional Intelligence Scoring	113.9670	$\pm 19.56$	48 to 151
Perception of Emotions	31.7822	$\pm 6.08$	11 to 46
Managing Own Emotions	32.2211	$\pm 5.67$	13 to 44
Managing Others' Emotions	28.9142	$\pm 5.69$	10 to 37
Utilization of Emotions	21.0495	$\pm 4.51$	7 to 30

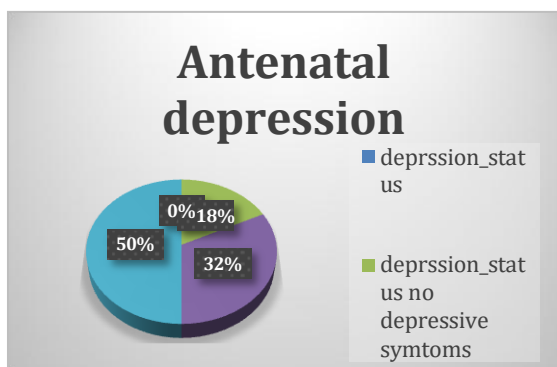
The findings indicated that 30.4% of the individuals surveyed reported low levels of stress, whereas 60.4% reported moderate levels of stress, and 9.2% reported severe levels of stress. Figure 1

presented level of PS among primary gravida women. Regarding antenatal depression, EPDS mean score was  $12.48 \pm 5.19$ , with minimum and maximum score of 0 and 29. Results indicated that a substantial proportion of participants, namely 64.7%, having depressive symptoms, emphasizing the need for focused mental health treatments. In addition, 14.2% of the individuals reported having thoughts of suicide. Among them, 10.9% had these thoughts sometimes, while 3.3% experienced them frequently. Figure 2 has shown antenatal depression status.

**Figure 1: Perceived Stress level among primary gravida women**



**Figure 2: Antenatal Depression status among primary gravida women**



The Spearman rank correlation test was implemented to evaluate the correlation among the study variables, as the results indicated that the data is not normally distributed. This analysis disclosed numerous significant

relationships, supported the research hypothesis by indicating that higher EI significantly correlates with reduced levels of PS and AD. A significant negative correlation was found between EI and PS ( $r = -0.621, p < 0.01, CI 95\%$ ), and between EI and AD ( $r = -0.549, p < 0.01, CI 95\%$ ). Additionally, a significant positive correlation was observed between PS and AD ( $r = 0.667, p < 0.01, CI 95\%$ ). These correlations indicate that higher EI is associated with lower PS and lower depression scores, while higher PS is associated with higher depression scores. Table 2 illustrates the results of correlation tests between EI, PS and AD. A p-value  $\leq 0.05$  treated as significant and the correlation coefficient (r) denotes the strength and direction of the relationship of the variables.

**Table 2: Correlation Among Major Variables (EI, PS and AD)**

Spearman Rank Correlation Pair	Correlation Coefficient (r)	p-value
Emotional Intelligence Scoring and Perceived Stress Scale Scoring	-0.621	< 0.01
Emotional Intelligence Scoring and Edinburgh Postnatal Depression Scale Scoring	-0.549	< 0.01
Perceived Stress Scale Scoring and Edinburgh Postnatal Depression Scale Scoring	0.667	< 0.0

#### 4. DISCUSSION

The purpose of this study was to assess the correlation between emotional intelligence, perceived stress, and antenatal depression among primary gravida women. The findings showed that participants mean EI was  $113.97 \pm 19.56$ , revealed that most of them had a moderate

level of EI. Limited studies assess EI among primary gravida women and therefore our results are somewhat lower but similar to those reported by Yılar Erkek and Özer<sup>19</sup> (2021), who reported an average EI score of  $126.30 \pm 28$  in pregnant women. In their research they established that high EI was correlated with good mental health, less depression, preparedness for childbirth and good stress coping strategies. Another study conducted in Beijing<sup>7</sup> also reveals that along with socio-economic status, marital status and more importantly EI, decreases anxiety and depression in pregnant females and therefore, has the capacity to greatly improve mental health in high risk pregnancies.

Among 303 participants, 60.4% participants had moderate stress while the rest had severe and low level of stress. This is in line with the study done by Omran et al.<sup>20</sup> (2020) and Pooja et al.<sup>21</sup> (2021) wherein primary gravida women are known to experience moderate stress levels due to the physical, emotional and social changes experienced during pregnancy. However, contrary evidence by Abdi et al.<sup>22</sup>, 2020 of the present study indicated that enhanced social support lowered stress levels amongst pregnant ladies. Essentially, this disparity suggests that factors related to pregnancy context, including social support, can play a highly influential role in determining stress levels during pregnancy.

A significant percentage of participants 64.7% had antenatal depression and some of whom even thought of suicide. This finding supports the studies which were conducted in different setting like, Waqas et al.<sup>14</sup> (2020) and Castelao Legazpi et al.<sup>23</sup> (2021) in their studies has highlighted the high prevalence of antenatal depression and its severe consequences like suicidal ideation. The results of this study underscore the call for targeting pregnant women for

mental health services to pregnant women especially where they may face serious financial and social challenges. On the contrary, the studies conducted in well-endowed facility regarding mental health problems in women of child bearing age showed lesser prevalence of antenatal depression meaning thus emphasizing the effect of socio economic status in pregnant woman's mental health<sup>24</sup>.

Lastly, the present study also indicated a significant negative relationship between EI and PS and AD indicating that high EI is negatively related with stress and depression. This correlation is in agreement with the works done by Fu et al.<sup>7</sup> (2022) and Özer and Erkek<sup>19</sup>(2021) wherein the authors demonstrate that people with higher levels of emotional intelligence are better fitted to deal with stress and thus, avoid depression. On the other hand, the positive significant relationship found between PS and AD in this study is consistent with findings from studies done in Ethiopia<sup>25</sup>, Karachi<sup>11</sup> and Shanghai<sup>26</sup> where stress was established to predict antenatal depression. These correlations, therefore, underscore the need to implement EI training while pregnant to improve psychological well-being among pregnant women, given that stress and depression can have severe consequences during pregnancy.

Additionally, some limitations were also found in this research, data was collected using self-administered questionnaire and this could pose some bias and could develop some recall bias hence reducing the accuracy of the data collected as compared to the structured interviews. Reporting temporal relations was also done marginally due to cross-sectional research approach used in the current study. Use of informant and self-report measures of EI, PS, and AD suggest that the future research should include objectively assessable measures of AD. Moreover, the study was confined to

single health care facility in Hyderabad and only Pakistani were included due to which generalizability of the findings was limited. Further longitudinally and larger population based studies could offer further insight into prenatal mental health in pregnant women.

## 5. CONCLUSION

Present study emphasizes the significance of emotional intelligence to reduce perceived stress and antenatal depression among primary gravida women. Scholarly investigation should be conducted at the larger scale and more specific approaches towards handling EI should be employed for the treatment of such specific types of psychological distress in primary gravida women.

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