

MATERNAL VULNERABILITY IN HIGH RISK PREGNANCY: PREVALENCE OF PHYSICAL AND PSYCHO-SOCIAL CHALLENGES IN PUNJAB, PAKISTAN

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ABSTRACT

The purpose of current study was to identify the prevalence rates of physical and psycho-social challenges faced by women with high-risk pregnancies. Convenience sampling technique was used to collect data from (N=642) high-risk pregnant women in public and private hospitals and maternity clinics in six cities of the province of Punjab, Pakistan. The Multidimensional Inventory of Psycho-social Challenges for High-Risk Pregnant Women (MIPC-HRP) and the Maternal Physical Burden & Care Access Barrier Scale (MPBCAS) scales were used to collect data, results showed high internal consistency with reliability coefficients of .94 and .96, respectively. Descriptive statistics and frequency distribution were used to analyze the data. Results indicated that 24.6% of high-risk pregnant women face high levels of physical difficulties and barriers to healthcare access, and 55.5% of women faced moderate levels of physical difficulties. On the other hand, 26.5% of the women face high levels of psycho-social distress, and 57.3% of them face moderate levels of psycho-social discomfort.

Keywords: High Risk Pregnancy, Prevalence, Physical difficulties, Care access barriers, Psycho-social Distress.

INTRODUCTION

High-risk pregnancy refers to pregnancies in which concerns about maternal or obstetric health increase the risk of adverse pregnancy outcomes. The geographical distribution of these risks varies widely across the globe. Hypertensive diseases of pregnancy, including pre-eclampsia and eclampsia, are estimated to affect 2 to 8 percent of pregnancies globally and are still major contributors to maternal and infant morbidity and mortality (Karra et al., 2024). Gestational diabetes mellitus is another risk factor for high-risk pregnancy. According to global statistics, hyperglycemia in pregnancy affects 14 percent of pregnancies, with estimates varying depending on the criteria used for diagnosis (Gica & Huluta, 2023). These

conditions show that high-risk pregnancy is a widespread issue with major implications for maternal health across the globe. Complications during pregnancy may necessitate restricted activity due to physical symptoms of pregnancy, such as fatigue, pain, and treatments. Antepartum hospitalization and the need for bed rest have been linked to emotional distress, loss of autonomy, and changes in family roles within the family system (Louis et al., 2020). Continuous medical evaluation and the unpredictability of the progression of disease may be linked to cumulative stress during pregnancy. The findings from the perinatal mental health studies have suggested that prolonged exposure to the stressors of pregnancy

could have a negative impact on maternal mental health and may pose a risk to psychological well-being if supportive care is not provided (McCarthy et al., 2021).

Ongoing surveillance in high-risk pregnancy is often coupled with intense emotional experiences. Women who are told that their pregnancy is at high risk tend to express fear of complications, worries about the baby's well-being, and apprehensions about the outcome. In a systematic review of women's experiences of high-risk pregnancy, anxiety, fear, and emotional distress were found to be prevalent emotional states, especially when there is a need for regular surveillance or hospitalization (Mphego et al., 2020). In another systematic review, it was concluded that women with high-risk pregnancies have significantly higher levels of psychological distress than those with low-risk pregnancies (Basirat et al., 2023). These findings together indicate that psycho-social issues are inextricably linked with medical issues.

Psycho-social factors during pregnancy have been linked to decreased emotional stability and the ability to adapt to changes associated with pregnancy. Results from perinatal mental health studies suggest that increased stress, anxiety, and depressive symptoms during pregnancy are associated with decreased well-being and adaptive coping (Howard & Khalifeh, 2020). While not all women experiencing high-risk pregnancies will develop significant psychological distress, the prolonged presence of medical uncertainty, physical discomfort, and stressors can impact overall adaptation. Physical challenges, care accessibility, and psycho-social challenges are interrelated factors that impact maternal functioning during high-risk pregnancy (Mohammadi, 2022). The impact of high-risk pregnancy is mostly felt in low- and middle-income countries. Estimates showed that 94 percent of maternal deaths are witnessed in developing or resource poor countries, which is an indicator of inequality in accessing quality maternal healthcare (Bauserman, 2020). It is evident that hypertensive disorders, hemorrhage, infection, and indirect medical conditions continue to be the main causes of maternal morbidity and mortality in these countries (Nakimuli et al., 2016).

The South Asian region accounts for a large proportion of maternal deaths worldwide and

has a high prevalence of anemia, hypertensive disorders, and under antenatal care coverage compared to high-income countries (Shabil et al., 2025). In the Pakistani context, the available evidence suggests that hypertensive disorders, hemorrhage, and indirect medical causes are still important contributors to maternal morbidity, although there is a lack of comprehensive consensus estimates for the overall prevalence of high-risk pregnancy as a complex phenomenon (Amna, 2015). Additionally, there is a lack of evidence regarding the prevalence of physical and psycho-social challenges faced by high-risk pregnant women. However, existing literature in the Pakistani context appears to focus on individual medical issues such as gestational hypertension, diabetes, or anemia, rather than exploring the cumulative impact of physical challenges, care access barriers, and psycho-social issues. While antenatal anxiety and depression have been reported in community and clinical settings, respectively, in the Pakistani context, the assessment tools used in many studies are generic mental health screening tools rather than tools specifically designed for high-risk pregnancies. Currently, no indigenous multidimensional tool has been found to be widely accepted that can measure maternal physical challenges, barriers to healthcare access, and psycho-social issues in this context. The estimation of the prevalence of these complex issues using appropriate tools that are culturally valid is critical in order to effectively define the level of maternal vulnerability. The current study attempted to estimate the prevalence of maternal physical challenges, difficulties in accessing healthcare, and psycho-social issues among women with high-risk pregnancies in the particular region.

Objectives of the Research

- a) To investigate the levels of physical burden in high-risk pregnant women.
- b) To measure the levels of psycho-social challenges of women with high risk pregnancies.

Research Design

The current research utilized a cross-sectional design to estimate the prevalence of physical difficulties and psycho-social issues among HRP women.

Targeted Population

The study population was high-risk pregnant women selected from public, private hospitals and maternity clinics from different cities of Pakistan. To preserve confidentiality, specific names of hospitals, clinics have been left out.

Sampling Technique

The high-risk pregnant women were recruited using convenience sampling technique.

Sample Size

The sample of 642 women were selected of various trimesters and parity groups.

Inclusion and Exclusion Criteria

The participants included were pregnant women with HRP taking antenatal care in the hospitals. Women were not included in the study in case they had chronic medical or psychiatric

conditions and women who could not make informed consent or were unwilling to participate in the study.

Measures

The research used two standardized tools, Maternal Physical Difficulties & Care Access Barrier Scale (MPBCAS) and the Multidimensional Inventory of Psycho-social Challenges (MIPC-HRP), in addition to a demographic form.

Demographic Form

The subjects were given demographic form where they were asked to fill in details about their age, gestational age, parity, gravidity, education level, socioeconomic status, family system, the status of the spouse's employment, pregnancy planning status, Antenatal care registration time and cause of pregnancy.

Table-1: Frequencies and Percentages of Demographic Variables (n=642)

Variable Categories		<i>f</i>	%
Age	15-25	141	22.0
	26-30	219	34.2
	31-35	183	28.6
	36 and Above	97	15.2
Gestational Age	First Trimester	81	12.7
	Second Trimester	287	44.8
	Third Trimester	272	42.5
Residential Area	Urban	408	63.8
	Rural	232	36.2
Socio-Economic Status	Low	209	32.7
	Middle	317	49.5
	High	114	17.8
Family System	Nuclear	388	60.6
	Joint	252	39.4
Education Level	No formal education	85	13.3
	Under Matric	102	15.9
	Matric	193	30.2
	Graduation and above	260	40.6
Monthly Family Income (PKR)	Below 30,000	171	26.7
	30,000-60,000	304	47.5

	60,000 and above	165	25.8
Pregnancy Planning Status	Planned	373	58.3
	Unplanned	267	41.7
Gravida	1-2	240	37.5
	3-4	278	43.4
	5 and above	122	19.1
Number of Live Births	None	174	27.2
	1-2	329	51.4
	3 and above	137	21.4
Number of Stillbirths	None	545	85.2
	One	77	12.0
	Two or more	18	2.8
Birth Order of Current Pregnancy	First	193	30.2
	Second	230	36.0
	Third or later	217	33.8
Spouse Employment Status	Employed	581	90.8
	Unemployed	59	9.2
Spouse's Attitude Toward Pregnancy	Supportive	536	83.8
	Indifferent	81	12.7
	Negative	23	3.5
Time of Registration for ANC	First Trimester	155	24.2
	Second Trimester	336	52.5
	Third Trimester	149	23.3
Cause of High-Risk Pregnancy	Chronic medical conditions	216	33.8
	Obstetric / pregnancy-related conditions	187	29.2
	Socio-demographic / lifestyle factors	138	21.6
	Fetal / placental complications	59	9.2
	Other causes	40	6.2

Maternal Physical Burden & Care Access Barrier Scale (MPBCAS)

To assess the level of physical strain and barriers to accessing healthcare for women with high-risk pregnancies, a 43-item instrument known as the Maternal Physical Burden and Care Access

Barrier Scale was developed. Pregnancy-related physical discomfort, restriction in physical mobility, problems in managing health related issues, need for medical monitoring and systemic impediments to accessing prenatal care are all evaluated by the scale. The items are rated

using a likert- type response structure, which indicates the level or frequency of burden encountered. Higher overall scores suggest greater physical burden and more obvious challenges in accessing maternity healthcare services. Total scores range from 0 to 172, with predefined cutoff groups denoting low, moderate, and high levels of load. The instrument demonstrated great internal consistency in the current study, .94 implies strong reliability for assessing physical strain and access-related problems in high-risk pregnancy groups.

Multidimensional Inventory of Psycho-social Challenges of women for high risk pregnant women (MIPCHRP)

A 62-item scale, Maternal Psycho-social Inventory for High Risk Pregnancy, was created to measure the psycho-social problems associated with high-risk pregnancy. The scale measures social pressure, perceived ambiguity, emotional distress, worry about maternal and fetal health, cognitive load, family-related stressors, and contextual factors that emerge during high-risk pregnancies. The items are scored using a Likert-type scale, which measures the degree of the respondent's psycho-social problems. A higher total score indicates more psycho-social problems, with a potential score ranging from 0 to 248. Respondents can be categorized into low, moderate, and high levels of psycho-social challenges based on predetermined cut-off scores. The scale has high reliability in measuring psycho-social stressors among women with high-risk pregnancies, as indicated by its excellent internal consistency and Cronbach's alpha of .96.

Procedure

Prior to the commencement of data gathering, formal ethical clearance and consent were sought from both public and private hospitals and clinics. Direct communication with the administration and maternity staff of the hospitals made it easy to gain access to potential participants. Women with high-risk pregnancies were approached during their scheduled visits to antenatal clinics and outpatient services. Each participant was provided with a thorough explanation of the study. Written informed

consent was sought prior to the participation of each individual. Participants were assured that the information they provided would be used for research purposes only and would be treated with confidentiality. Anonymity was also ensured since there was no request for personal information that would identify them. A convenience sampling method was used, and 642 pregnant women with high-risk pregnancies volunteered for the study. To ensure privacy and avoid disruptions, questionnaires were administered individually with each woman. The researcher was available to answer any questions or concerns throughout the process. The average time taken to complete the maternal psychosocial inventory for high risk pregnancy, the maternal physical burden & care access barrier scale and the demographic information form was twenty to twenty-five minutes. After completion, participants were thanked for taking the time to participate.

Ethical Considerations

Before data collection, the research obtained approval from the Advanced Studies & Research Board of the University of Gujrat. In addition, permission was sought from both public and private hospitals participated in the research. The objectives of the research were made known to the respondents, and written consent was sought. Participation in the research was voluntary, and women were free to withdraw from the research at any time without affecting their medical services. Data was used only for research purposes, and confidentiality and anonymity were ensured. There were no intrusive methods used, and the respondents were not at risk of harm.

Statistical Analysis

After data collection, the responses were coded and analyzed using SPSS version 29. Descriptive statistics and frequency distributions were used to describe the demographic variables of the participants. Cronbach's alpha was used to check the internal consistency of the research instruments. Frequencies and percentages were used to establish the prevalence of maternal physical difficulties & barriers to health care access, and psycho-social issues among women with high-risk pregnancies.

Results

Table 2: Reliability Analysis of the Maternal Physical Burden and Psycho-social Scales (N = 642)

Variable	No. of Items	Cronbach's α
MPBCAS	43	.94

Table 2 shows that, among high-risk pregnant women, the Maternal Physical Burden & Care Access Barrier Scale ($\alpha = 0.94$) had excellent internal consistency, and as such, is highly reliable in assessing physical strain and healthcare access barriers among this sample.

Table 3: Descriptive Statistics of Maternal Physical Burden & Care Access Barriers (N = 642)

Variables	Mean	SD	Skewness	Kurtosis	Shapiro-Wilk
MPBCAS	78.42	21.65	0.32	-0.84	.001

Note. SD = Standard Deviation. Shapiro-Wilk significance values below .05 reflect a violation of the normality assumption

Table 3 exhibited that the population at high risk had a moderate level of physical burden & barriers to healthcare ($M = 78.42$, $SD = 21.65$). The distribution was skewed to the right (2.13) and a bit platykurtic (-0.84). The normality was violated as the Shapiro-Wilk test was significant ($p < .05$).

Table 4: Frequencies and Percentages of Maternal Physical Burden (N=642)

MPBCAS	Ranges	f	%
Low	(0-57)	128	19.9%
Moderate	(58-114)	356	55.5%
High	(115-172)	158	24.6%

Note. Classification based on score ranges of the Maternal Physical Burden & Care Access Barriers

Results in Table 4 Indicated that according to the cutoff scores, 24.6% of high-risk pregnant women had a high degree of physical burden and barriers to healthcare access, and 55.5% were found in the moderate range.

Table 5: Reliability Analysis of the Multidimensional Inventory of Psycho-social Challenges (N = 642)

Variable	No. of Items	Cronbach's α
MIPC-HRP	62	.96

Findings presented in Table 5 the Multidimensional inventory of psycho-social challenges had high reliability ($\alpha = .96$), indicating that the items have very high item-to-item consistency to measure psycho-social distress among high-risk pregnancy.

Table 6: Descriptive Statistics of Multidimensional Inventory of Psycho-social Challenges (N = 642)

Variables	Mean	SD	Skewness	Kurtosis	Shapiro-Wilk
MIPC-HRP	112.73	29.88	0.41	-0.72	.000

Results of Table 6 showed that the psycho-social distress score was moderate on average ($M = 112.73$, $SD = 29.88$). The skewness was mildly positive (0.41), and the Shapiro-wilk test was not normal ($p < .05$).

Table 7: Prevalence of Multidimensional Inventory of Psychosocial Challenges (N = 642)

MIPC-HRP	Ranges	<i>f</i>	<i>P</i>
Low Psychosocial Distress	0-82	104	16.2%
Moderate Psychosocial Distress	83-165	368	57.3%
High Psychosocial Distress	166-248	170	26.5%

Note: Classification based on score ranges of the Maternal Psycho-social Inventory for High Risk Pregnancy (0-248). Findings of Table 7 demonstrate that 26.5 percent of high-risk pregnant women reported high psycho-social distress, 57.3 percent reported moderate and 16.2 percent reported low distress.

Discussion

High-risk pregnancy is increasingly acknowledged as a multidimensional challenge for maternal health that goes beyond the boundaries of medical diagnosis to include significant physical demands and psychosocial risks. It is an indicator of the cumulative effects of medical complications, surveillance, and environmental constraints that impact women's daily functioning during pregnancy. The current study adds to the growing literature by showing that women with high-risk pregnancies in Punjab experience significant levels of physical demands and psychosocial risks. These results confirm the notion that maternal risk during high-risk pregnancy is not merely a biomedical concern but a multidimensional issue. The results show that physical challenges and health care access are common among women with high-risk pregnancies. A significant number of the study participants showed a great deal of struggle in coping with fatigue, mobility, treatment, and changes in daily routines. This is consistent with global studies, which show that complicated pregnancies are often linked with physical fatigue, loss of autonomy, and dependence on a medical routine (Louis et al., 2020). On the other hand, global evaluations of maternal morbidity have shown that high-risk pregnancies are often associated with a loss of functional ability and dependence on continuous medical care (World Health Organization, 2023). In low- and middle-income countries, other structural issues such as late antenatal registration, lack of transportation, and lack of money have been shown to increase maternal burden.

The pattern of severity established in this research study suggests that while a large number of women continue to operate within manageable levels of strain, a significant number

of women experience a significant physical burden that may interfere with their daily activities and participation in healthcare services. Such patterns have been established in regional studies, where high-risk pregnancy is associated with moderate to severe levels of maternal morbidity and reduced quality of life (Asim et al., 2021). Such similarities suggest that the physical burden associated with high-risk pregnancy is a graded phenomenon. Apart from the physical issues, the psycho-social challenges also stood out as a significant feature of high-risk pregnancy in this group. The respondents showed increased emotional distress, situational stress, and long-term worries about the health of the mother and the baby. This finding is supported by systematic evidence that there is a significant link between high-risk pregnancy and anxiety, fear of complications, and emotional instability (Mphego et al., 2020). Howard and Khalifeh (2020) also highlighted that medical risk during pregnancy significantly raises the vulnerability to psycho-social distress. The psycho-social burden of stress distribution, as found in the study, encompasses a continuum of emotional adaptation. While a large number of women experience moderate levels of distress, which are often within the limits of coping, a significant group of women experience increased levels of psychological distress. Chronic medical uncertainty, frequent monitoring, and the fear of adverse outcomes are well-known factors that contribute to chronic emotional distress (McCarthy et al., 2021). In this context, the current findings support the hypothesis that high-risk pregnancy is associated with chronic psychological pressure that requires systematic mental health assessment.

Cumulatively, the study establishes that high-risk pregnancy in Punjab is a condition that is marked by physical and psycho-social challenges.

The fact that high-risk pregnancy in Punjab is marked by physical challenges, lack of access to care, and psycho-social factors suggests that the condition is cumulative in nature. This is consistent with the existing literature on maternal health, which suggests that high-risk pregnancy is a holistic condition that requires holistic care (Rajbanshi et al., 2020). The study suggests that high-risk pregnancy, which is primarily addressed from a physical perspective, may not address the overall issue of maternal health.

Implications

Healthcare systems need to establish routine multidimensional screening tests which should be integrated into standard antenatal assessments for women who experience high risk pregnancy. The process of detecting physical challenges together with psycho-social distress should start the procedure which leads to proper medical assistance and specific treatment and better patient tracking. The accomplishment of early pregnancy registration together with streamlined patient transfer methods will create more efficient medical pathways which decrease unnecessary healthcare demands and improve treatment of urgent health issues. The high prevalence of psycho-social challenges further highlights the importance of incorporating psychological assessment and counseling services into high risk obstetric care. The combination of physical burden treatment together with access barrier resolution and emotional well-being support will enable mothers to function better which will result in better pregnancy outcomes.

Conclusion

The current research shows that high risk pregnancy creates multiple challenges which include maternal health problems and difficulties accessing medical treatment and mental health issues. The study results show that many women face moderate to high stress levels from multiple areas which demonstrates that high risk pregnancy creates effects that go beyond medical problems. The research results show that integrated care which combines physical health treatment and maternal healthcare access and mental health services should be implemented. The implementation of systematic screening together with context specific assistance in antenatal care facilities will

help women with high risk pregnancies adapt better and achieve better pregnancy outcomes.

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