

PSYCHOPATHOLOGY, HEALTH PROMOTING & HEALTH IMPAIRING BEHAVIOR AMONG PREGNANT WOMEN

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ABSTRACT

The objective of the study was to determine how much age, income, education, health promoting and health impairing behavior correlates and predict the psychopathology (depression) among pregnant women. The sample was taken from the maternity units of the government, private hospitals and clinics of Faisalabad district. The sample of 432 pregnant women in 1st trimester was taken by purposive sampling technique. The demographics were age, income, education of pregnant women. Prenatal Health Behavior Scale (PHBS) was used to measure the health promoting and health impairing behavior and Edinburgh Postnatal Depression Scale (EPDS) was used to measure the psychopathology. The findings revealed that age and health impairing behavior positively predicted depression ($\beta = .19, p < .001$), ($\beta = .48, p < .001$) respectively while income, education and health promoting behavior negatively predicted depression ($\beta = -.09, p < .01$), ($\beta = -.08, p < .05$), ($\beta = -.31, p < .001$) respectively. The ΔR^2 value of .38 revealed that 38% change in the variance of model 1 and model 2 with $\Delta F(2,426) = 189.48, p < .001$. The findings revealed that age, income, education, health promoting behavior and health impairing behavior are significantly associated and predictors of depression.

Keywords: Pregnancy, Psychopathology, Health promoting behavior, Health impairing behavior

INTRODUCTION

Pakistan is one of the most populated countries in the region. Pakistan has a total population of 207.8 million people with population growth rate of 2.40%, and 101.3 million are women which are 48.75% of the total population (Pakistan Bureau of Statistics, 2017). The mother's mean age at her first birth is 23.4, the total fertility rate is 2.68, and the maternal death rate is 178 per 100,000 live births (Pakistan Demographics Profile, 2016). Complications from childbirth and pregnancy claim the lives of one in every 89 women. Malnutrition, hemorrhage, eclampsia, sepsis, severe anemia, lack of antenatal and prenatal care accessibility, and inexperienced staff/midwives are the main causes of maternal mortality. When comes to maternal and pediatric healthcare, rural areas are in the worst possible situation. Maternal mortality is 23% greater in rural areas than in urban areas, where it is 14%. Home births are particularly prevalent in rural places due to cultural restrictions and a lack of hospitals that are both accessible and available. Approximately 74% of rural women give birth at home compared to 43% of urban women (Rau, 2015).

Women's poor mental health may be influenced by both biological and psychological causes (Burt & Quezada, 2009; Skalkidou et al., 2012; Yim et al., 2015). Numerous distinct social elements, including socioeconomic position, have been connected to mental health. (Braveman & Gottlieb, 2014).

Depression is defined as depressed, annoyed, or empty thoughts. In addition to physical and cognitive changes including difficulty concentrating, anhedonia, hopelessness, appetite loss, and sleep issues, and suicidal ideation, which all have a negative effect. Antenatal depression is the term used to describe depression that happens during pregnancy. Depression both during and after pregnancy occurs frequently. Women who previously experienced depression before becoming pregnant are much more likely to experience it again while pregnant. Low birth weight, early pregnancy, and intrauterine

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development restriction have all been linked to prenatal depression in some studies, however depression has not been proven to effect pregnancy outcomes including early birth, low birth weight. Prenatal depression can occur at between 20% to 40%, whereas postpartum depression is prevalent at 17%. Pregnancy depression rates have been found to range from 7.4% in the 1st trimester and 12.0 to 12.8% in the 2nd and 3rd trimesters, and even higher proportions have been found in the 1st year following delivery (Xu et al., 2020).

High rates of depression relapse occur during pregnancy, and these women are particularly at risk because of their prior history of depression (Szegda et al., 2017). Researchers have studied a number of risk variables, particularly in low and as well as middle income countries, that are linked with the higher risk of experiencing depressive symptoms. As opposed to that Fischer et al. (2012) discovered that major adverse life events and life stressors, low financial situation, a lack of perceived social or romantic sustain, unwanted or undesired pregnancies and some women's decision to quit taking antidepressant maintenance medication, made in consultation with their doctors were significant risk factors for depression to rise in the antenatal period (Mochache, 2016).

Clinical depression during pregnancy is also associated with a background of psychopathology that is primarily connected to preconception anxiety, depression and young age. Other factors, including as genetic and hormonal predisposition, personality features, chronic sickness, such as acquired immunodeficiency syndrome (AIDS), and are considered to predispose people to depression (Mochache, 2016).

The symptoms of depression and anxiety are comorbid and can anticipate one another at different times in the future, making the interaction between them complex. Further evidence of the significance of distinguishing between the two types of distress can be found in studies that show early pregnancy depression symptoms can indicate later pregnancy anxiety levels, which can indicate later pregnancy depression symptoms that are more severe in the postpartum period. (Heron et al., 2004; Mauri et al., 2010; Skouteris et al., 2009). The issue of comorbidity is addressed by two theoretical frameworks. First the tripartite model of depression and anxiety which examines how these two disorders frequently co-occur (Clark & Watson, 1991). The next, the transdiagnostic method of conducting research in mental health, which can explore symptom concurrence and variation across a wider variety of mental health disorders (Harvey et al., 2004).

A study noted that depressive disorders are associated with poor nutritional habits and low fruit consumption (Leske et al. 2015). A serious issue is the impact of psychological factors on pregnant women's healthy behaviors. There is evidence to support the relationship between pregnant women's healthy behaviors and their psychological characteristics. The likelihood of pregnancy health issues and delivery outcomes are significantly influenced by prenatal health behaviors. Birth deformities have been found to be reduced by healthy habits including eating a balanced diet and taking folic acid. By directly preventing pregnancy problems and unfavorable birth results such as preterm birth and low birth weight, positive health practices have the ability to exert countervailing impacts. Low birth weight and premature birth have been linked to unhealthy lifestyle choices like drinking alcohol and eating poorly. It might raise the possibility of poor mother and newborn health (Centers for Disease Control (CDC), 2016).

Deluca and Lobel used the four categories of exercise, diet, smoking, and drug addiction to determine healthy and unhealthy behaviors during pregnancy (Lobel et al., 2008). Pregnant women's healthy practices have an impact on how their pregnancies turn out. Women who gain more weight during pregnancy or who have a body mass index (BMI) more than 26 kg/m² are more likely to experience negative birth outcomes, like preeclampsia, high birth weight babies, pregnancy hypertension, and emergency caesarean deliveries (Haugen et al., 2014). Low birth weight kids and irregular fetal heart rate tracings during delivery are both more common when mothers smoke (Herman et al., 2016). Maconchi et al. reported that regular consumption of fresh vegetables and dietary supplements lowered the chance of spontaneous abortion during pregnancy (Maconochie et al., 2007).

There is a link between nutrition and psychosocial discomfort. Previous research has demonstrated that psychological distress makes it difficult to eat fruits and vegetables (Kiviniemi et al., 2011; Konttinen et al., 2010).

Particularly in terms of exercise, diet, and weight gain during pregnancy, depression and stress perform a significant role in the harmful behaviors of pregnant women. According to a study, depressed pregnant women frequently engage in risky pregnancy behaviors that have a poor impact on the pregnancy's fate (Bae et al., 2010).

The chance of depression in general has been linked to a number of lifestyle factors, including drug use, smoking, eating, sleeping, exercising, and vitamin D (Hidaka, 2012) whereas perinatal

depression risk factors are more particularly alterations in hormonal levels, psychological and social behavior during pregnancy (Gelaye et al., 2016). Pregnant women who engaged in more physical activity, slept well, and had better nutritional status had a decreased risk of developing depression symptoms (Tham et al., 2016).

A study found that despite improvements in maternity care, women's lifestyles and risky behaviors may still have an impact on their pregnancies (Farquhar et al., 2015; Tan et al., 2012), Pregnancy complications may result from the changing traits and behaviors of pregnant women. Another study found that pregnant women who perform lower levels of physical exercise experienced more symptoms of anxiety (Padmapriya et al., 2016).

Objective

To determine how much some factors such as age, income, education, health promoting and health impairing behavior during pregnancy correlates and predict psychopathology (depression). This study emphasizes the necessity for the design of methods to protect women against psychopathology and discusses the significance of psychopathology linked with health-promoting and health-impairing behaviors. A better environment for mental health care and prevention of psychopathology can be provided in Pakistan with the help of this study's exploration.

MATERIAL AND METHODS

The population of the study was District Faisalabad, Punjab, Pakistan. The target population of the study was pregnant women in 1st trimester. I included pregnant women coming to obstetric clinics for their prenatal checkup in the 1st trimester. The sample was taken from the maternity units of the government, private hospitals and clinics of Faisalabad district. Data for the present study were collected between October 2019 and March 2022.

Inclusion and Exclusion criteria

Pregnant women who come under the age group of 17 to 39 year. Pregnant women with intact marriages. Women from all the socio-economic classes. Minimum level of education was matriculation. Pregnant women who were willing for the study. Women having medical issues such diabetes, high blood pressure, preterm birth, and maternal hemorrhage were not the part of sample.

Measures

Demographics

The sample involve 17-39 year of age pregnant women of 1st trimester participated in the study. Education of pregnant women who participated in the study were matriculation to postgraduate. Women's total household monthly income was 19,000-150,000.

Prenatal Health Behaviors Scale (PHBS)

The Prenatal Health Behavior Scale (PHBS) is use in the study to measure the health promoting and health impairing behavior among pregnant women. This scale has been established 20 years ago and used in several studies (Kuan et al., 2019). The scale measures how frequently women have engaged in activities related to diet, exercise, sleep, vitamins, smoking, and alcohol over the course of the previous two weeks. Items are rated on a 5-point scale with 0 representing never to 4 representing very often. In the initial scale, the Cronbach's alpha was .71 for behaviors that promoted prenatal health while .66 for behaviors that impaired health. (Auerbach et al., 2014)

Edinburgh Postnatal Depression Scale (EPDS)

The Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987) is a well-validated tool that has been formerly used in pregnant women (Rubertsson et al., 2011) was used in this study to measure the depression of pregnant women. Higher scores indicate more intense depressive symptoms experienced over the last week according to the 10-item self-report questionnaire, which is evaluated on a 4-point Likert scale from 0 to 3.

Ethical Considerations

Clearance for carrying out the research was obtained from board of studies at Hazara University, Mansehra. The board represented the professors of psychology from well reputed national universities.

Statistical analysis

All analyses were performed using SPSS software 22 version. The assumptions relevant to a particular testing procedure were checked. As well as actual range, potential range, skewness, kurtosis of the data was checked. Hierarchical regression analyses were performed to determine the independent predictors of depression. Regression analysis was performed by entering the participants' age, income, education into Block 1 and health promoting behavior, health impairing behavior in Block 2.

RESULTS**Table No. 1 Actual Range, Potential Range, Skewness and Kurtosis for the Variables**

Variable	Actual Range	Potential Range	Skewness	Kurtosis
EPDS	28	0-30	.589	-.070
Health promoting Behavior	19	0-40	-.182	-.163
Health impairing Behavior	25	0-40	.662	.197

Table 1 shows the potential range of EPDS was from 0 to 30, health promoting behavior was from 0 to 40, and health impairing behavior was also from 0 to 40 while the actual range that has been observed in the collected data EPDS was 28, health promoting behavior was 19 and health impairing behavior was 25. In the current data EPDS skewness was .589 and kurtosis was -.070, health promoting behavior skewness was -.182 and kurtosis was -.163 and health impairing behavior skewness was .662 and kurtosis was .197.

Table No. 2 Hierarchical Regression Results for EPDS in 1st Trimester

Variables	B	95% CI for B		SE B	β	R ²	ΔR^2
		LL	UL				
Step 1						.20	.20***
Constant	16.93***	15.37	18.49	0.79			
Age	3.76***	2.56	4.97	0.61	.27***		
Income	-0.82***	-1.14	-0.50	0.16	-.24***		
Education	-0.77**	-1.31	-0.22	0.28	-.13**		
Step 2						.58	.38***
Constant	17.30***	14.23	20.38	1.56			
Age	2.65***	1.75	3.55	0.46	.19***		
Income	-0.33**	-0.57	-0.09	0.12	-.09**		
Education	-0.49*	-0.89	-0.09	0.20	-.08*		
Health promoting Behavior	-0.48***	-0.59	-0.38	0.05	-.31***		
Health impairing Behavior	0.53***	0.45	0.61	0.04	.48***		

Note. CI = confidence interval; LL = lower limit; UL = upper limit.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2 shows the impact of age, income, education, health promoting behavior, health impairing behavior on EPDS among pregnant women in 1st trimester. In Step 1, the R² value of .20 revealed that the age, income, education explained 20 % variance in the depression with $F(3,428) = 35.72$, $p < .001$. The findings revealed that age positively predicted EPDS ($\beta = .27$, $p < .001$) while income, education, negatively predicted EPDS ($\beta = -.24$, $p < .001$), ($\beta = -.13$, $p < .001$) respectively.

In Step 2, the R² value of .58 revealed that the age, income, education, health promoting behavior and health impairing behavior explained 58 % variance in the EPDS with $F(6,425) = 116.11$, $p < .001$. The findings revealed that age and health impairing behavior positively predicted EPDS ($\beta = .19$, $p < .001$) ($\beta = .48$, $p < .001$) respectively while income, education and health promoting behavior negatively predicted EPDS ($\beta = -.09$, $p < .01$), ($\beta = -.08$, $p < .05$), ($\beta = -.31$, $p < .001$) respectively. The ΔR^2 value of .38 revealed 38% change in the variance of model 1 and model 2 with $\Delta F(2,426) = 189.48$, $p < .001$.

DISCUSSION

The objective of the study was to determine how much age, income, education, health promoting and health impairing behavior correlates and predict the psychopathology (depression) of pregnant women. The prenatal depression among pregnant women was measured and its association with certain risk factors such as socio-demographic characteristics, and health promoting and health impairing behavior was observed.

The findings revealed that age, income, education, health promoting behavior and health impairing behavior are significantly associated and the predictors of depression. The findings of this current study are consistent with the cross-sectional research that was done in three maternity hospitals in Babol, Iran. The findings showed that depression had the highest positive independent variable associated with health-harming behavior ($\beta = 0.290$, $p < .001$) (Pasha et al., 2022). Similarly, a study that was conducted on pregnant women in Iran's Babol University of Medical Sciences teaching hospitals'

obstetrics clinics. The researchers found that living a healthy lifestyle had a negative correlation with depression (Omidvar et al., 2018).

The findings this study revealed that income is significantly associated and predictors of depression similarly a study was conducted to examine the association between psychosocial and demographic factors and early pregnancy health behaviors, a sample of first-trimester white, African American, Hispanic, and Asian pregnant women with a gestational age of 12 weeks or less was used. Self-care Inventory (SCI) (Health behaviors) includes eating and drinking, abusing drugs, acting recklessly, hygiene-related practices, sleeping and resting, and exercising. The study's metrics were the CES-D for depression scales. In regression analysis the model of psychosocial and demographic variables showed that higher depressed symptoms and lower family income were linked to poorer health behaviors in the first trimester of pregnancy (Walker et al., 1999).

Another cross-sectional research was conducted to sought the relationship between psychological variables and health-promoting behaviors in pregnant. The DASS-21 and the Health Promotion Lifestyle Questionnaire were used to obtain the data. A substantial difference between various levels of depression and health-promoting habits was revealed by linear regression analysis. The findings demonstrated that a one-point rise in the depression score resulted in a 24.1% decrease in health-promoting behaviors (Rashan et al., 2021).

Another study was conducted in United State of America. The prenatal health behavior scale (PHBS) was completed by the participants. Lifetime stress was positively correlated with women's unhealthy habits and negatively correlated with women's healthy behaviors (MA et al., 2020).

CONCLUSION

The findings revealed that age, income, education, health promoting behavior and health impairing behavior are significantly associated and predictors of depression. The results of the current study are confirmed by prior research that shows depression is significantly predicted by age, income, education, health-promoting behavior, and health-harming behavior. Additionally, recommendations advise doctors to evaluate pregnant women for depression at least once throughout the prenatal period and closely watch those who tested positive. The high prevalence of mental health symptoms in this population emphasizes the necessity of identifying pregnant women who can benefit from interventions to control symptoms.

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