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PREVALENCE OF PATERNAL POSTPARTUM DEPRESSION

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ABSTRACT:

Background: Postpartum Depression is a type of mood disorder associated with childbirth, which can occur in both parents. It is a major public health concern because it produces insidious effects on the well-being of new born as well as on the whole family.

Objective: This study aims to determine the prevalence of postpartum depression among fathers in Karachi, Pakistan. Methods: This cross sectional survey was conducted among fathers, purposive convenient and snowball sampling was used to approach 120 participants after obtaining permission from Al-Khidmat Hospital and Combined Military Hospital (CMH).Participants were aged between 20-50 years, had a newly born child between the past 6 weeks to 1 year. Each participant was required to fill an informed consent, demographic form and Edinburgh Postnatal Depression Scale's (EPDS), translated Urdu version. The data was collected and statistically analyzed.

Results: The study findings show that 28.3% fathers experienced depressive symptoms, out of which 25.8% experienced mild while 2.5% experienced severe depressive symptoms.

Conclusion: Paternal postpartum depression is quite prevalent among new fathers in Karachi. Depression among fathers is an area of substantial significance as it may enhance the risk of mental health problems among children. Health services should support new fathers by providing information about this major transition. These results clearly show that there is a need to assess expectant and new fathers for depression. Prevention, early identification and intervention of paternal post- partum depression are immensely required.

Key words: Postpartum depression, prevalence of PPD, PPD in fathers, Pakistan.

INTRODUCTION: World Health Organization clearly states that in 2004 Unipolar Depressive Disorders were the third leading cause of ill-health globally and has been predicted to be the first leading cause by 2030 [1]. World Federation for Mental Health [WFMH] predicts parental depression to be one of the significant causes of depression in the upcoming future generation. Parenting style is significantly affected by parental depression and put children of all ages at risk of detrimental outcomes. In the United States, it is estimated that approximately 15 million children live in households with parents who have severe depression[2]. Children are adversely affected cognitively, emotionally and socially by their parent's physical as well as mental illness[3]. Mood episodes can begin either during pregnancy or in the few weeks after delivery

[postpartum][4]. An extensive plethora of research has been conducted in the western countries on maternal post-partum depression highlighting its existence as a major public health concern .In developed countries, it has been reported that 8%-15% mothers suffer from postpartum depression[5]. However, studies suggest that this condition occurs more frequently in developing countries, such as Pakistan due to multitude of factors[6]. A study suggests that Pakistan has the highest occurrence rate of postpartum depression among the South Asian region[7] which is alarming. Existence of paternal postpartum depression with differing incidences has been reported by various studies. Iran, a neighboring country of Pakistan suggested the prevalence of postpartum depression was much higher among new fathers as compared to the new mothers,

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with socioeconomic characteristics being significant contributors. Several studies have shown that paternal postpartum depression can have deleterious effects on the wellbeing of newborn as well as on the mother[8], which alerts the red flag for its clinical assessment and intervention. Study on new fathers have confirmed that depressive symptoms are more likely to occur during pregnancy of the spouse[9]. This may be attributed to the enhanced responsibilities which comes at the door step of the father during this stage. The earlier roots of the paternal postpartum depression can be traced to the work by Zilboorg in 1931[10] who wrote about the difficulties faced by fathers in adjusting to parenthood, indicating these ideas are not novel but not immensely researched. Fathers who were brought up in those times where men were less involved with birth and child development had less confidence for achieving a competent paternal role[11]. A study suggests that paternal psychopathology can contribute in child maladjustment[12]. Furthermore, children whose fathers were chronically depressed had higher risks for detrimental consequences[13]. Transition of men to parenthood who were not prepared for this change has serious impact in post-partum period particularly involving sexual relationships[14]. The birth of a child is an overwhelming transition to parenthood for both parents. The distress of the father of the child is comparatively overlooked and less apparent than in the mother, but it's morbid and worthy of attention. Fathers are usually the earners of the family, hence research on their mental health is essential for the prevention and treatment of mental problems to ensure financial security of the families. Father's role is also significant in upbringing the child from childhood until they become independent responsible members of the society and may be thereafter as well depending on the needs of the individual as well as culture. Understanding this devastating condition and knowing its risk factors can help control it before it progresses to cause substantial hazards. However, in a country like Pakistan, where emotional vulnerability in men is not just ignored but denied, acknowledging the existence of paternal postpartum depression is a challenge. It is safe to comment that in Pakistan, where social adversity is common, paternal postpartum depression may in fact exist without being detected. In Pakistan this area of research is in the nascent stages leading to unawareness about this condition. Therefore, the current study will measure the prevalence of paternal postpartum depression in the Pakistani urban population. The current study will give an idea how common paternal postpartum depression is and this knowledge can be incorporated in the people's lives accordingly to help affected fathers during this major transition.

RESEARCH OBJECTIVE:

To find out the prevalence of Postpartum Depression among fathers in Karachi, Pakistan.

RESEARCH QUESTION:

What is the prevalence of Postpartum Depression among fathers in Karachi, Pakistan?

RESEARCH HYPOTHESIS:

There will be high rates of postpartum depression among fathers of newborn.

MATERIAL & METHODS

This cross-sectional survey was conducted from 2nd February 2019 to 29th May 2019 at the Al-Khidmat Hospital and Combined Military Hospital (CMH), Karachi, Pakistan. A sample size of 138 participants was calculated with a margin of error being 7% and 90% confidence interval. However 150 participants were approached out of whom fifteen did not fulfill the criterion of the study and fifteen denied the informed consent, so all together [N=120] participants were recruited for the study through purposive convenient and snow ball sampling. Inclusion criterion was new fathers in the age range of 20 to 50 years, Urdu literacy and child birth between the past 6 weeks to 1 year. The exclusion criterion was if the newborn was more than one year old to maintain the accuracy of the recalled information and failure to give consent. The survey consisted of filling of three forms: Informed consent, demographic information and Edinburgh Postnatal Depression Scale. The participants enrolled in the study signed informed consent where they were briefed about the basic purpose of the study, ensured their information will be kept confidential and given the right to withdraw at any time during the study. The demographic form was used to make sure that each participant met the inclusion criteria and to examine other important variables. Edinburgh Postnatal Depression Scale (EPDS) is an easy to self-administer 10-item questionnaire[15] originally designed to screen mothers at risk of perinatal depression. Numerous studies have used this scale to assess presence of postpartum depression among fathers as well, with a lower cut off score[16]. For mothers; the cut off score is above 13 and for fathers above 10[17]. The psychometric properties for English version, sensitivity 85%, specificity 77%, positive predictive value 83%, split-half

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reliability 0.88 and standardized a-coefficient 0.87. The EPDS is a reliable and valid instrument that can be completed in about 5 minutes rated from 0-3 and has a simple method of scoring. In this study, the translated Urdu version of EPDS has been used[18]. The cut-off score for fathers was maintained at 10 and score higher than that indicated presence of depressive symptoms. Scores from 11 to 30 were divided into 2 categories: Mild (for score range 11-20) and Severe (for score range 21-30).Alpha reliability coefficient of the original version was .79while the alpha reliability of the Urdu translated version was .84. For permission to use EPDS emails were exchanged with the Pakistani authors who have already used the Urdu version of the scale in their study. The study was approved by the Ethics Review Committee of the primary institute [Institute Of Professional Psychology, Bahria University Karachi Campus]. Permission letters from the university were issued to request hospitals for the collection of relevant data. Al-Khidmat Hospital and Combined Military Hospital (CMH) gave permission for data collection. Participants were interviewed in the pediatrics department. They were asked to read and sign the informed consent form before providing any details. The demographic information was filled by the interviewer by asking questions from the participants and the Urdu EPDS questionnaire was filled by the participants themselves. Survey was conducted in a private space in the hospitals where participants felt safe and sufficient privacy was given. Participants were not asked any personal details which could identify them. The anonymity of the participants was kept intact. Participants were given the option to leave the survey at any point during participation. For the current research, the collected data were imported to and analyzed through statistical techniques using SPSS (version 22). Descriptive statistics of the data were evaluated as well as other tests were used for analysis, including t-test analysis and ANOVA. The researchers were fair and honest in their work. Also, participants screened for depressive symptoms were advised to consult appropriate resources for management.

RESULTS

In the current study a sample of fathers between the ages of 20 and 50 years were taken.

Table 1: Frequencies and percentages of participants demographics (N=120)

VARIABLES	f (%)	M (SD)
Age of father		32.39 (4.78)
Number of children		1.90 (1.07)
Monthly income[in Pakistani rupees]		141470.33 (396042.86)
Age of newborn[in months]		6.33 (3.17)
Miscarriage	29 (24)	1.76 (0.43)
Education		2.83 (0.86)
Matric	27 (22.5)	
Intermediate	17 (15)	
Graduate	75 (62.5)	
Gender of newborn		1.3 (0.48)
Male	79 (65.8)	
Female	41 (34.2)	
Marital Status		
Married	118 (98)	1 (0.13)
Separated	2 (2)	
Divorced	0	
Widowed	0	
Living with mother of newborn	118 (98)	1 (0.13)
*Depression during Pregnancy	55 (46)	1.54 (0.5)
Depression after delivery	31 (26)	1.7 (0.44)
Complications in pregnancy	28 (23.3)	1.77 (0.4)
No physical illness in newborn's mother	99 (82.5)	1.16 (0.37)
Mode of delivery		1.6 (0.49)
Per Vaginal	47 (39)	
Caesarean Section	73 (61)	
Pregnancy		1 (0.27)
Premature	9 (7.5)	
Full-term	111 (92.5)	
Any birth defect in child	16 (13.3)	1.88 (0.33)
Previous history of mental illness in father	2 (1.66)	1.98 (0.13)
Previous history of mental illness in mother	3 (2.5)	1.98 (0.16)
Family setup		1.4 (0.49)
Joint	71 (59)	
Nuclear	49 (41)	
Wife employed	15 (12.5)	1.88 (0.32)
Father employed for 01 year	118 (98)	1 (0.13)

*Collateral account from the husband by DSM-V criterion checklist while filling demographic information

Table 2: Descriptive statistics and alpha reliability coefficient

VARIABLE	ITEMS	A	M	SD	SK	K	RANGE ACTUAL	RANGE POTENTIAL
EPDS	10	0.78	8.08	5.22	0.5	-0.08	0-23	0-30

Abbreviations:

EPDS= Edinburgh Postnatal Depression Scale.
A= Cronbach's Alpha
M= Mean
SD= Standard Deviation
SK= Skewness
K= Kurtosis

DESCRIPTIVE ANALYSIS

The skewness and kurtosis indicate that the data is normally distributed. Cronbach's alpha reliability coefficient is .78, which suggests good reliability.

Table 3 [a]: Frequency and percentage of postpartum depression (N=120)

| EPDSSCORE	Frequency	%
Lower than 10	86	71.7
Greater than 10	34	28.3

For the prevalence of PPD in fathers, the cut-off score is 10. Scores higher than 10 suggest presence of depression.

Table 3[b]: Frequency and severity of postpartum depression

POSTPARTUM DEPRESSION	Frequency	%
No depression (0-10)	86	71.7
Mild (11-20)	31	25.8
Severe (21-30)	3	2.5

For further determining the severity of the condition, score range above 10 is divided into two categories: Mild for score 11-20 and Severe for score 21-30.

Figure# 01
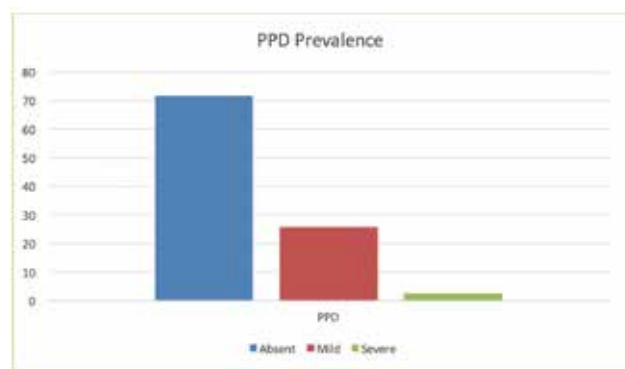
The bar graph above shows the severity levels of Post Partum Depression in the study sample

Table 4: Mean, standard deviation and t-value for Postpartum Depression and variables

VARIABLES	N=120					95%CI	
	N	M	SD	t	p	LL	UL
Gender of newborn				1.76	.081	-.217	3.73
Male	79	8.68	5.06				
Female	41	6.92	5.40				
Miscarriage				.79	.43	-1.32	3.1
Experienced	29	8.75	5.26				
Not experienced	91	7.87	5.22				
Mother depressed during pregnancy				-.16	.87	-2.05	1.74
Experienced	55	8	5.16				
Not experienced	65	8.15	5.31				
[Collateral account by the husband from DSM-V criterion checklist]							
Mother depressed after delivery				.494	.622	-1.62	2.70
Experienced	31	8.48	4.58				
Not experienced	89	7.94	5.44				
[Collateral account by the husband from DSM-V criterion checklist]							
Birth defect in newborn				.701	.485	-1.79	3.77
Present	16	8.93	5.49				
Not present	104	7.95	5.2				
Previous history of mental illness in father				2.19	.030	.787	15.31
Present	2	16.0	1.41				
Absent	118	7.95	5.16				
Previous history of mental illness in mother				-1.95	.053	-11.87	.082
Present	3	2.33	2.51				
Absent	117	8.23	5.2				
Family setup				1.07	.29	-.88	2.96
Nuclear	49	7.47	5.33				
Joint	71	8.50	5.14				
Newborn's mother health				-.06	.95	-2.57	2.42
Healthy	99	8.07	5.15				
Unhealthy	21	8.14	5.69				
Complications in pregnancy				1.602	.112	-.426	4.03
Experienced	28	9.46	5.11				
Not experienced	91	7.66	5.24				

Table 4 shows no variable was significant at 0.05 level.

Abbreviations:

N= Total sample
M= Mean
SD= Standard Deviation
t= t value
p= Probability
LL= Lower Limit
UL= Upper Limit
CI= Confidence Interval

Table 5: ANOVA

	Matric n=28		Intermediate! n=17		Graduation! n=75			
VARIABLE	M	SD	M	SD	M	SD	F	P
Education	7.21	5.18	7.7	3.8	8.48	5.52	.63	0.728

Table 5 shows that there is no significant difference between level of education and paternal postpartum depression at significance level 0.05

Abbreviations:

n=sample of matric/intermediate/graduation out of total sample
M= Mean
SD=Standard Deviation
F=F-value; it is the variation between samples' means
P= Probability

DISCUSSION

Postpartum depression in both parents has been acknowledged, investigated and remedied, especially in western countries. However, it is far from being acknowledged in fathers, particularly in eastern countries. In a country like Pakistan, emotional vulnerability is not accepted in men or any kind of weakness is seen as socially undesirable in males. The birth of a child is an added responsibility on both parents, although generally of different kind for both the father and mother in Pakistani culture. Children rely on both parents for care giving, nurturance and financial support. In Pakistan, maternity leave from work, particularly a paid one, for an expecting or recently delivered mother may be a relatively accepted concept; however, a paid paternity leave is a non-existent one. A

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job-protected leave gives support to the parents of newborn to settle into this transition. According to the last census in 2017, the birth rate in Pakistan was reported to be 21.9 births/1000 populations. The fertility rate of Sind was 3.6[19] percent in 2017-2018 and Karachi is the most populated city of Sind. Despite these statistics, no research has been conducted or policies have been placed to support parents of new born. The reason for conducting the current study is to investigate the possible development of depressive symptoms in fathers following the birth of child, which was previously acknowledged among mothers. The major finding of the study states that 71.7% fathers had not experienced depressive symptoms after the birth of their most recent child. 25.8% fathers were reported most likely to have experienced mild depression during the postnatal period, while 2.5% reported to have experienced severe depressive symptoms after the birth of their newborn, making a total of 28.3% fathers who were depressed postpartum. Previous researches in different countries indicated that paternal postpartum depression is quite prevalent in their population, in some places well above 20%[20].The current study provides evidence that paternal PPD is quite prevalent in Karachi's population as well. This prevalence rate is concerning. The prevalence reported by this study raises the need of prevention, early identification and intervention for paternal postpartum depression. In the light of the recent findings future similar researches should include more hospitals in Karachi and all over Pakistan to get larger and more diverse study sample. This might lead to higher generalizability of results. Psycho educational programmes for expecting parents should be the part of normal routine care. All the preventive procedures should commence during antenatal period rather than the postnatal one. The study also has some limitations. The study sample was taken from two hospitals of Karachi only, one of them being specifically for military personnel. Sample size was small which may have limited the generalizability of the results. In Pakistan, the idea and practice of paid paternity is almost non-existent unlike maternity leave which do exist in some institutions. This is alarming considering the work force in urban cities is dominantly male. Policies can be made to aid men in the transition period to parenthood while maintaining their livelihood and mental health if the awareness and acceptance of paternal postpartum depression can be spread widely.

CONCLUSION

Paternal postpartum depression is quite prevalent among new fathers in Karachi. Depression among fathers is an area of substantial significance as it may enhance the risk of mental health problems among children. Health services should also support new fathers by providing them information about this major transition. These results clearly show that there is a need to assess expectant and new fathers for depression.

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