Original Article :

Postpartum Depression in Primigravida and Multigravida: Prevalence and Risk Factors in Taif

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Abstract

Background and Aims:
PPD, or postpartum depression, is a serious mental health issue affecting mothers and their families, with prevalence rates in high-income countries between 6.9–12.9% and in low or middle-income countries over 20%. It affects the health of the mother, the child, and the family. The study aimed to measure PPD prevalence among primigravida and multigravida in Taif City, Saudi Arabia, identify associated risk factors, and provide recommendations to improve health quality.

Methods:
A cross-sectional study was conducted among mothers in Taif City, Saudi Arabia, starting from June 4, using an online survey disseminated via Google platforms.

Result:
The study showed that PPD prevalence was highest among women aged 26-30 years (p = 0.028). The history of PPD was a key predictor, affecting 78.2% of those with prior episodes. First-time pregnancies increased PPD risk. Supportive husbands, reported by 73.7% of participants, were linked to lower PPD rates. Comorbidities like depression and anxiety were present in 38.5% of participants and correlated with higher PPD rates. Education and income showed no significant link to PPD, but having two children was associated with a 66.7% prevalence. Emotional factors, such as disappointment over the baby's gender (82.8% PPD prevalence) and "horrible" delivery experiences (70.3% PPD prevalence), significantly contributed to PPD.

Conclusion:
Our study highlighted that nearly half of the women assessed had PPD. The history of PPD increases the risk of recurrence, making monitoring essential. Key PPD indicators included prior PPD, difficult delivery experiences, and anxiety or despair during delivery.

Key words:
Postpartum Depression; Prevalence; Children; delivery; Pregnancy; Anxiety

Introduction:

Postpartum depression (PPD) is a significant mental health condition linked to maternal suffering and adverse effects on children. The initial six months after childbirth are a notably critical period for risk[1]. Prevalence rates differ significantly across regions, ranging from 6.9% to 12.9% in affluent countries and exceeding 20% in low- and middle-income nations [2]. In a 2022 study of 187 women conducted at King Khalid University Hospital, the prevalence was 50.3% [3]. Risk factors for postpartum depression (PPD) are a lack of social support, health problems associated with the baby, the baby's temperament, marital discord, domestic violence, trauma history, and negative life events [2]. PPD may also run in families, as women are at an elevated risk of developing PPD when they have a mother or sister who has had the condition[4]. PPD occurs in up to 15% of women and can often be diagnosed before delivery through psychiatric history, pregnancy-related symptoms, and psychosocial stressors [5]. PPD has negative effects not only on mothers but also on infants and the family member [6], with family discord and inadequate spousal or familial support being the main predictors of risk[7]. Prevention of PPD is not only essential for the well-being of mothers, but it is also important to provide a good, conducive atmosphere for the newborn [8]. There was a link between unplanned pregnancies and the occurrence of PPD[9]. Therapy and antidepressants are the most reliable treatments, while psychoprophylactic methods have proven to be successful in reducing depression and preventing its recurrence[10,11]. This study aimed to determine the prevalence of PPD among first-time and experienced mothers in Taif City, and to provide suggestions for enhancing maternal health in Saudi Arabia.

Materials and Methods :

Study Design and Settings: This cross-sectional study was conducted from 4 June to 4 August 2024 in Taif City to compare the prevalence of PPD among primigravida and multigravida and to identify the most strongly associated factors.

Study Population: The study sample was drawn from the 2023 census and included 117,495 married women aged 15-44 years in Taif City, of whom 383 were mothers, according to the Raosoft sample size calculator (www.raosoft.com). All women who did not reside in Taif and were unmarried were excluded from the study.

Data Collection Method and Tool: Data were collected through an online questionnaire distributed via Google Forms and social media among mothers living in Taif, based on the Edinburgh Postnatal Depression Scale (EPDS) score

and including items to assess multiple risk factors. The pilot study was conducted on six individuals to ascertain the tool's feasibility, applicability, and clarity. However, five people were excluded from the final analysis of the pilot study.

The questionnaire consisted of four main sections: consent to participate, participants' socio-demographic details it including age and marital status and nationality and education levels, living conditions and number of child also, if she had a history of PPD, basic knowledge about psychosocial factors and obstetric and child related risk, and diagnostic questions done by EPDS scale (The Edinburgh Postnatal Depression Scale (EPDS), The scale consists of 10 short questions. Responses were scored 0, 1, 2, and 3 based on the availability of the symptom. Items 3, 5 to 10 were reverse scored (i.e., 3, 2, 1, and 0). The total score was calculated by summing the scores for the 10 items. Those above 12 or 13 should begin receiving medical care because they are not likely to suffer depression.

Statistical analysis:

The Statistical Package for the Social Sciences (SPSS) version 26.0 was used for statistical analysis after the data were entered into an Excel sheet for validation.

Categorical variables were expressed as counts and percentages. The Chi-square was used to assess the association between the prevalence of PPD and multiple risk factors. A test was considered significant if the p-value was lower than 0.05.

Ethical Considerations:

This study obtained ethical approval from Taif University's Ethics Committee (HAO-02-T-105) (reference number 45-346). Confidentiality and informed consent were among the most important ethical considerations. Throughout the study, respondents' information remained confidential.

Results:

The demographic characteristics of the study participants indicated that the majority (68.0%) were aged 31-45 years. Most participants were married (92.2%) and Saudi nationals (96.1%). The education level showed that a significant proportion held a bachelor's degree (69.5%), with a small proportion holding a master's degree or higher (5.7%). In terms of income, 54.4% earned more than 5000 riyals. Employment status revealed that (52.1%) were currently unemployed, (37.0%) were employed, and (10.9%) were previously employed. Most participants lived with their husbands (73.2%), followed by 24.5% living with their families and 2.3% living alone. Regarding children, (63.8%) had three or more children, (21.4%) had one child, and (14.8%) had two children [Table 1].

Table 1: Demographic characteristics .

Factors		Number	%
Age	15-20	18	4.7
	21-25	35	9.1
	26-30	70	18.2
	31-45	261	68.0
Marital status	Married	354	92.2
	Divorced	30	7.8
Nationality	Saudi	369	96.1
	Non-Saudi	15	3.9
Education	Uneducated	6	1.6
	Middle school	89	23.2
	Bachelors	267	69.5
	Master's or higher	22	5.7
Income	<5000 riyals	175	45.6
	>5000 riyals	209	54.4
Currently employed	No	200	52.1
	Yes	142	37.0
	Previously	42	10.9
Living condition	Alone	9	2.3
	With husband	281	73.2
	With my family	94	24.5
Children	One	82	21.4
	Two	57	14.8
	3rd or more	245	63.8

The medical history, risk factors, and characteristics of PPD among the participants showed that (53.6%) had no history of PPD with a previous delivery, while (34.6%) had experienced it. For 86.5% of the participants, it was not their first pregnancy. Comorbidities included depression and anxiety or other mental problems (38.5%), hypothyroidism or hyperthyroidism (21.9%), gestational diabetes (14.1%), and hypertension (12.0%). Most participants (83.6%) had regular menstrual cycles, and 58.3% had planned their pregnancy [Table 2A].

Table 2A: Medical history, risk factors, and characteristics of PPD.

Factors		N	%
History of PPD with previous delivery	No	206	53.6
	1st birth	45	11.7
	Yes	133	34.6
Is that the first pregnancy	No	332	86.5
	Yes	52	13.5
Comorbidities	Depression and anxiety, or any mental problem	148	38.5
	Depression	25	6.5
	Diabetes Mellites	27	7.0
	Gestational diabetes	54	14.1
	Hypertension	46	12.0
	Hypo or hyperthyroidism	84	21.9
The menstrual cycle was regular	No	63	16.4
	Yes	321	83.6
Have you been planning a pregnancy	No	160	41.7
	Yes	224	58.3
Is the gender of your baby disappointing	No	355	92.4
	Yes	29	7.6
Time of last labour	5-7 days	26	6.8
	2 weeks - 2 months	18	4.7
	Months 2-6	24	6.3
	Months 6-9	27	7.0
	1 year	37	9.6
	2 years	31	8.1
	2 years or more	221	57.6
Mode of delivery	Normal	255	66.4
	CS (elective)	40	10.4
	CS(ER)	89	23.2

A majority (92.4%) were not disappointed with their baby's gender. The last labour occurred two years or more ago for (57.6%) of participants. Normal delivery was the most common mode of delivery (66.4%), and most pregnancies were single (90.6%). The delivery experience was moderate for (59.9%) of participants. Medical problems during or after pregnancy included depression and anxiety due to stressful life events (14.8%), complicated labour (8.6%), and preterm labour (8.3%). Among

those who suffered depression and anxiety during or after pregnancy (N=57), reasons included family problems (19.3%), fear of giving birth (15.8%), and not getting help (17.5%). Additionally, (84.1%) had no prior family history of PPD, and (73.7%) reported having supportive husbands. The main reasons husbands were not supportive were indifference (46.5%) and lack of knowledge about how to help (22.8%). Family and friends were supportive for 87.8% of the participants [Table 2B].

Table 2B: Medical history, risk factors, and characteristics of PPD.

Factors		**N**	**%**
Type of pregnancy	Single	348	90.6
	Multiple	23	6.0
	Twins	13	3.4
Your delivery experience was	Easy	36	9.4
	Moderate	230	59.9
	Horrible	118	30.7
Medical problems suffered during pregnancy or after delivery	No	201	52.3
	Depression caused by anxiety due to a stressful life event	57	14.8
	Bleeding during pregnancy or after	16	4.2
	Breastfeeding problems	12	3.1
	Complicated labor	33	8.6
	Fever	10	2.6
	Infection	9	2.3
	low birth weight baby	5	1.3
	Preeclampsia	9	2.3
	Preterm labor	32	8.3
Causes of depression and anxiety during pregnancy or after delivery (N=57)	Baby, stay in the hospital NICU	3	5.3
	Because I don't know how I can deal with my child	6	10.5
	Because of a difficult pregnancy	9	15.8
	family problems	11	19.3
	Fear of childbirth	9	15.8
	Living away from my family	5	8.8
	Not getting help	10	17.5
	A recent sad event happened	2	3.5
	No reason	2	3.5
Family History of PPD	No	323	84.1
	Yes	61	15.9

Husband has been supportive	No	101	26.3
	Yes	283	73.7
Reason for not being supportive (n=61)	He did not know how to help me	23	22.8
	He doesn't care	47	46.5
	He is in a job most of the time	15	14.9
	He is not present (imprisoned, traveling)	1	1.0
	Marital disputes	13	12.9
	The previous answer was yes	2	2.0
Family and friends have been supportive	No	47	12.2
	Yes	337	87.8

The analysis showed that about 213 (55.5%) women had PPD according to the Edinburgh Postnatal Depression Scale (EPDS), as shown in Figure 1.

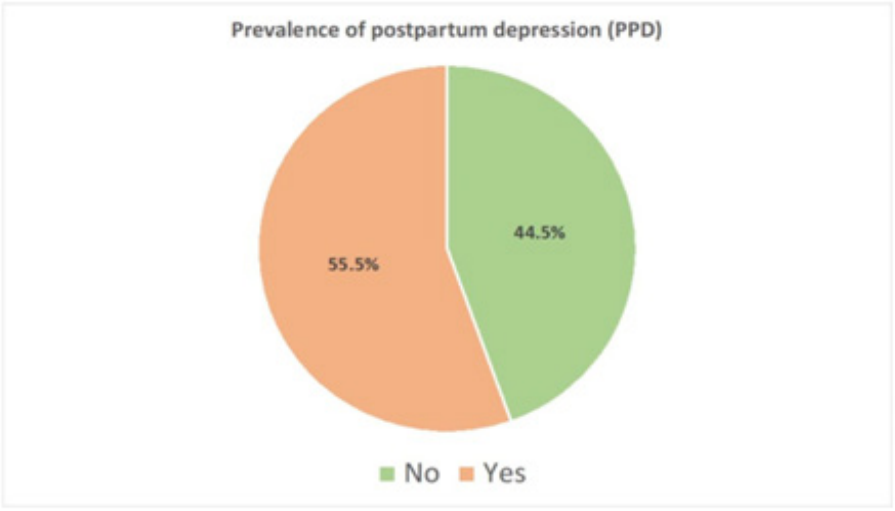


Figure 1 displays the prevalence of PPD among a population (n=383), with one segment showing 55.5% indicating the presence of PPD and another segment representing 44.5% indicating the absence, providing a clear visual comparison of the two groups.

The relationship between PPD and demographic characteristics differed significantly across age groups (p=0.028). Participants aged 26-30 had the highest prevalence of PPD (70%), while those aged 31-45 had the lowest (51%). Marital status and nationality did not show significant differences in PPD prevalence. Education level indicated that uneducated participants had a higher prevalence of PPD (83.3%), although this was not statistically significant (p=0.176). Income and employment status did not show significant differences in PPD prevalence. Living status also did not significantly impact PPD prevalence. However, the

number of children showed a significant relationship with PPD (p=0.034), with participants having two children showing a higher prevalence of PPD (66.7%) compared to those with one child (62.2%) or three or more children (50.6%) [Table 3A].

Table 3A: Relationship between PPD, demographic characteristics, characteristics of delivery, and risk factors of PPD.

Characteristics		Prevalence of PPD		P value
		Yes	No	
Age	15-20	6 (33.3%)	12 (66.7%)	0.028
	21-25	16 (45.7%)	19 (54.3%)	
	26-30	21 (30%)	49 (70%)	
	31-45	128 (49%)	133 (51%)	
Marital status	Married	160 (45.2%)	194 (54.8%)	0.367
	Divorced	11 (36.7%)	19 (63.3%)	
Nationality	Saudi	165 (44.7%)	204 (55.3%)	0.719
	Non-Saudi	6 (40%)	9 (60%)	
Education	Uneducated	1 (16.7%)	5 (83.3%)	0.176
	Middle school	42 (47.2%)	47 (52.8%)	
	Bachelors	122 (45.7%)	145 (54.3%)	
	Master's or higher	6 (27.3%)	16 (72.7%)	
Income	<5000 riyals	75 (42.9%)	100 (57.1%)	0.546
	>5000 riyals	96 (45.9%)	113 (54.1%)	
Currently employed	No	88 (44.0%)	112 (56%)	0.923
	Yes	65 (45.8%)	77 (54.2%)	
	Previously	18 (42.9%)	24 (57.1%)	
Living status	Alone	3 (33.3%)	6 (66.7%)	0.791
	With husband	126 (44.8%)	155 (55.2%)	
	With my family	42 (44.7%)	52 (55.3%)	
number of children	One	31 (37.8%)	51 (62.2%)	0.034
	Two	19 (33.3%)	38 (66.7%)	
	3rd or more	121 (49.4%)	124 (50.6%)	

The relationship between PPD and delivery characteristics and risk factors revealed several significant associations. Participants with a history of PPD with previous delivery had a much higher prevalence of PPD (78.2%) compared to those without such a history (39.8%) (p<0.001). First-time pregnancies also showed a higher prevalence of PPD (73.1%) compared to those who had previous pregnancies (52.7%) (p=0.006). A disappointing gender of the baby was significantly associated with a higher prevalence of PPD (82.8%) compared to

those not disappointed (53.2%) (p=0.002). The type of pregnancy was significant, with twin pregnancies showing a much higher prevalence of PPD (92.3%) compared to single pregnancies (55.5%) (p=0.004). The delivery experience was highly significant, with those describing it as horrible having a higher prevalence of PPD (70.3%) compared to those with moderate (48.7%) or easy experiences (50.0%) (p<0.001). Suffering from depression and anxiety during or after pregnancy was strongly associated with PPD (87.7%) compared to those who did not (49.8%) (p<0.001). A family history of PPD also showed a significant relationship, with a higher prevalence of PPD (70.5%) compared to those without such a history (52.6%) (p=0.010). Lack of support from husbands was associated with a higher prevalence of PPD (68.3%) compared to those with supportive husbands (50.9%) (p=0.002). However, menstrual cycle regularity, planning the pregnancy, time since the last labour, mode of delivery, and support from family and friends were not significantly associated with PPD [Table 3B].

Table 3B: Relationship between PPD, demographic characteristics, characteristics of delivery, and risk factors of PPD.

Characteristics		Prevalence of PPD		P- value
		Yes	No	
History of PPD with previous delivery	No	124 (60.2%)	82 (39.8%)	2.735
	Yes	29 (21.8%)	104 (78.2%)	
	It was 1st birth	18 (40.0%)	27 (60.0%)	
first pregnancy	No	157 (47.3%)	175 (52.7%)	0.006
	Yes	14 (26.9%)	38 (73.1%)	
The menstrual cycle was regular	No	22 (34.9%)	41 (65.1%)	0.093
	Yes	149 (46.4%)	172 (53.6%)	
Been planning a pregnancy	No	67 (41.9%)	93 (58.1%)	0.376
	Yes	104 (46.4%)	120 (53.6%)	
The gender of your baby is disappointing	No	166 (46.8%)	189 (53.2%)	0.002
	Yes	5 (17.2%)	24 (82.8%)	
Time of last labor	5-7 days	9 (34.6%)	17 (65.4%)	0.284
	2 weeks - 2 months	5 (27.8%)	13 (72.2%)	
	Months 2-6	9 (37.5%)	15 (62.5%)	
	Months 6-9	14 (51.9%)	13 (48.1%)	
	1 year	17 (45.9%)	20 (54.1%)	
	2 years	10 (32.3%)	21 (67.7%)	
	2 years or more	107 (48.4%)	114 (51.6%)	

Mode of delivery	Normal	119 (46.7%)	136 (53.3%)	0.469
	CS (elective)	17 (42.5%)	23 (57.5%)	
	CS(ER)	35 (39.3%)	54 (60.7%)	
Type of pregnancy	Single	155 (44.5%)	193 (55.5%)	0.004
	Multiple	15 (65.2%)	8 (34.8%)	
	Twins	1 (7.7%)	12 (92.3%)	
Your delivery experience was	Easy	18 (50.0%)	18 (50.0%)	<0.001
	Moderate	118 (51.3%)	112 (48.7%)	
	Horrible	35 (29.7%)	83 (70.3%)	
Suffer from depression or anxiety during pregnancy or after delivery	No	164 (50.2%)	163 (49.8%)	<0.001
	Yes	7 (12.3%)	50 (87.7%)	
Family history of PPD	No	153 (47.4%)	170 (52.6%)	0.010
	Yes	18 (29.5%)	43 (70.5%)	
Husband has been supportive	No	32 (31.7%)	69 (68.3%)	0.002
	Yes	139 (49.1%)	144 (50.9%)	
Family and friends were supportive	No	15 (31.9%)	32 (68.1%)	0.063
	Yes	156 (46.3%)	181 (53.7%)	

The multivariate regression analysis identified several significant predictors of PPD, as shown in Table 4.

Table 4: Multivariate regression to assess predictive factors of PPD.

Dependent variable = PPD		Odd's ratio (OR)	95% Confidence Interval for OR		P value
			Lower Bound	Upper Bound	
Age	31-45 years	0.63	0.31	1.28	0.200
	<30 years	Reference			
Education	Master's or higher	1.93	0.60	6.27	0.272
	Bachelor's or less	Reference			
Nationality	Saudi	0.93	0.26	3.38	0.917
	Non-Saudi	Reference			
Income	<5000 riyals	0.87	0.46	1.63	0.658
	>5000 riyals	Reference			
Currently employed	No	1.07	0.45	2.51	0.883
	Yes	0.809	0.416	1.575	0.534
	Previously	Reference			
Living status	Alone	0.76	0.125	4.65	0.767
	With husband	0.89	0.149	5.391	0.905
	With my family	Reference			

number of children	One	0.671	0.305	1.47	0.319
	Two	1.119	0.497	2.520	0.786
	3rd or more	Reference			
Diagnosed with Depression and anxiety	Yes	1.69	0.56	5.08	0.349
	No	Reference			
Diabetes Mellites	Yes	1.73	0.43	7.06	0.444
	No	Reference			
Gestational diabetes	Yes	1.97	0.57	6.75	0.283
	No	Reference			
Hypertension	Yes	1.27	0.36	4.47	0.711
	No	Reference			
Hypo or hyperthyroidism	Yes	1.49	0.47	4.73	0.498
	No	Reference			
Delivery experience	Horrible	2.35	1.39	3.99	0.002
	Less than horrible	Reference			
History of PPD in previous delivery	Yes	3.53	2.00	6.24	<0.001
	No	Reference			
Suffered depression and anxiety during delivery	Yes	4.45	1.84	10.80	0.001
	No	Reference			
Gender of baby was disappointing	Yes	2.24	0.71	7.01	0.167
	No	Reference			
Mode of delivery	Normal	1.14	0.63	2.08	0.659
	CS(elective)	0.785	0.338	1.827	0.575
	CS(ER)	Reference			
Type of pregnancy	Multiple	9.50	1.11	81.50	0.040
	Twins	0.635	0.215	1.876	0.411
	Single	Reference			
Family history of PPD	Yes	1.06	0.52	2.16	0.872
	No	Reference			
Husband has been supportive	Yes	0.53	0.29	0.97	0.041
	No	Reference			
Family and friends were supportive	**Yes**	**0.70**	**0.32**	**1.53**	**0.372**
	No	**Reference**			

Age, Education level, nationality, income, employment status, living status, number of children, comorbid conditions (e.g., diabetes mellitus, gestational diabetes, hypertension, and thyroid disorders), and support from family and friends were not significant predictors of PPD ($p > 0.05$). Significant predictors included having a

horrible delivery experience [OR =2.35 (1.39-3.99), p=0.002], a history of PPD in previous deliveries [OR of 3.53 (2.00-6.24), p<0.001], and suffering from depression and anxiety during delivery was also a strong predictor [OR=4.45 (1.84-10.80), p=0.001]. The type of pregnancy was a significant predictor, with multiple pregnancies [OR = 9.50 (1.11-81.50), p=0.040] and twin pregnancies [OR = 0.635 (0.21-1.87), p=0.411] having lower ORs than single pregnancies. Support from the husband was protective against PPD [OR=0.53 (0.29-0.97), p=0.041]. Other factors, such as having a disappointing gender of the baby, mode of delivery, and family history of PPD, were not significant predictors in this model.

Discussion:

PPD is a mood disorder characterized by ongoing feelings of sadness, loss of pleasure, a lack of interest in usual activities, and a lack of focus. Also, guilt, insignificance, and low self-esteem. Symptoms include changes in feelings, thoughts, and behaviours, which in turn affect daily activities, despair of life, and thoughts of suicide in advanced cases.

This study aimed to assess the relationship between multiple risk factors and the prevalence of PPD among multigravida and primigravida in the general female population of Taif City in Saudi Arabia. Compared to past studies conducted in other parts of Saudi Arabia, our results contribute to the already existing and increasing worry that PPD is a universal issue. Taking Riyadh (2020) and Jeddah (2021) as examples, both locations showed prevalence rates of 38.5% and 20.9%, respectively; however, a probe in Jazan revealed an even more alarming figure of 75.7% [8,9,12]. Differences in the populations examined may explain variation in prevalence across regions. It was nevertheless noted that PPDs were prevalent in Saudi Arabia at an alarmingly high level and are increasing.

According to our survey, a high proportion of Saudi females had PPD, especially among unemployed women, despite reporting relatively high household incomes. A previous study found that residents of Japan who held professional or technical jobs or full-time employment reduced their risk of PPD, and the risk of PPD was unrelated to household income or maternal and paternal educational levels[13]. Besides, in another previous study in tertiary care hospitals, they found the PPD prevalence was 30.84% and was linked to low maternal educational attainment, rural living, and low monthly family income [14].

From our study, it can be deduced that mothers with two children went through postpartum depression more often than those with just one baby. On the other

hand, some studies have indicated that first-time mothers face a higher risk of PPD than subsequent ones. A descriptive systematic review of 30 studies published between 2000 and 2017 found inconsistent findings: 13 studies reported a link between parity and PPD, 16 found no statistically significant association, and the remaining 18 didn't support a relationship between the number of pregnancies and PPD prevalence. These varying outcomes highlight the difficulty of parity as a risk factor [15].

The type of pregnancy significantly influenced the prevalence of PPD in our study. Mothers of twins often experience higher levels of PPD than those who have single births. Likewise, an earlier study revealed that the likelihood of experiencing PPD symptoms increases by 43% in mothers of multiple births compared to those with singleton births[16]. Additionally, a study reported that 35% of mothers of twins experienced depression within the first six months following delivery [17]. Additionally, this study demonstrated that mothers who were disappointed with the gender of their child were significantly more likely to experience PPD than mothers who were satisfied with the gender of their child. In Central Java, Indonesia, a cross-sectional study of adolescent postpartum mothers was conducted, which found that dissatisfaction with the baby's gender was significantly associated with PPD [18].

No significant association was detected between delivery method and PPD in our study. This finding was consistent with a previous study conducted in Egypt, which also found no relationship between mode of delivery and PPD [19]. However, another study found the prevalence of PPD significantly higher in emergency caesarean sections compared to elective caesarean sections or normal vaginal deliveries [20]. Another risk that was not linked to PPD in this study was an unplanned pregnancy. Similar findings were reported by other studies, which found no significant association between unplanned pregnancy and PPD[21,22]. However, some studies have shown associations between unplanned pregnancy and PPD[23,24]. Our study found no significant association between menstrual cycle regularity and PPD. A previous study found that menstrual disturbances, including menstrual irregularities and premenstrual dysphoria, did not show any statistically significant association with PPD[25].

A previous history of postpartum depression is a major indication of the possibility of a second occurrence. Women with a history of postpartum depression are at a higher risk of experiencing the condition again during a subsequent

pregnancy, possibly due to biological influences or ongoing stress. Through their identification as high risk, along with the provision of early psychological support and monitoring, the recurrence can be lessened and the outcomes improved, as shown in our study. Preventative strategies, including early psychological support and intervention, could help manage the risk of recurrence. A poor delivery experience correlates with studies connecting traumatic birth experiences to a higher risk of PPD. Adverse or traumatic delivery experiences can result in increased levels of stress, fear, and emotional turmoil, which may play a role in the onset of PPD. This relationship underscores the critical need for healthcare providers to prioritize not only the physical aspects of delivery but also the emotional and psychological support they provide to mothers during labour.

Women experiencing significant psychological distress during delivery were more likely to develop PPD, suggesting that early intervention and support are critical[27,28]. Studies show that experiencing significant psychological distress during labour and delivery was not merely an uncomfortable side effect; it signifies a heightened vulnerability to PPD[29-31]. This vulnerability stems from a complex interplay of factors. The dramatic hormonal fluctuations during labour, while essential for physiological processes, can also exacerbate existing mental health conditions and trigger new episodes of anxiety and depression[32]. Labor and delivery were inherently physically and emotionally demanding. For women already grappling with anxiety and depression, these stressors can become overwhelming, depleting coping mechanisms and increasing susceptibility to PPD[26]. It was also reported that difficult or traumatic births, even in the absence of pre-existing mental health conditions, can lead to PTSD-like symptoms, contributing to anxiety, fear, and difficulty bonding with the infant, all of which increase PPD risk[33]. By including mental health screening in standard prenatal care, women who are suffering from anxiety and depression can be helped to identify early[32].

The protective effect of husband support against PPD emphasizes the critical role of partner involvement in maternal mental health. Evidence shows that women who receive support from their partners are less likely to experience PPD, suggesting that relational solid support can buffer against the psychological stressors associated with childbirth [34,35]. Husbands provide a safe space for mothers to process the emotional rollercoaster of new parenthood, offering validation for their experiences, normalizing their feelings, and helping

them regulate difficult emotions [36]. This emotional support was crucial for mitigating feelings of isolation, anxiety, and overwhelm that can contribute to PPD. Partners who share in household chores, infant care, and logistical tasks provide tangible relief, reducing maternal stress and promoting feelings of competence and control [37]. Additionally, it was reported that husbands who express confidence in their partner's abilities as a mother and provide encouragement and reassurance can bolster maternal self-efficacy, a critical factor in preventing PPD[38].

A significant association between hypertension, thyroid disorders, and postpartum depression was found in our study, which confirmed the previously present speculation on the matter. This was consistent with the study conducted at Avicenna Hospital in Lahore, where 27% of women suffering from hypertension were diagnosed with PPD. Chronic medical conditions with maternal mental health issues might indicate common biological pathways like hormonal imbalance and stress on blood vessels, besides the psychological burden of carrying such a long-term illness diagnosed in the postpartum period[39]. Additionally, a prior systematic review study sought to determine the prevalence of PPD in pregnant women with thyroid conditions during pregnancy and the postpartum period. The findings regarding 8.3% and 36.0% of pregnant women with thyroid problems were estimated to have PPD. Furthermore, some authors believe that having positive anti-TPO antibodies may indicate a person's susceptibility to depression[40].

Therefore, efforts to improve family support, such as teaching partners how to provide adequate support and fostering better communication between partners, could significantly reduce the incidence of PPD. We also advise married or even pregnant women to have counseling sessions before deciding to have a baby or in the first month of pregnancy. Additionally, this study was intended to raise awareness about the serious problem of depression signs after delivery and to give the public knowledge on how to deal with this problem to reduce risk factors that were significantly associated with PPD and provide the mothers with ways to cope with PPD.

Limitation:

The study's cross-sectional design precluded establishing a temporal relationship between identified risk factors and PPD. The use of self-administered questionnaires may have introduced recall and reporting biases, potentially affecting data accuracy. Additionally, the study population was limited to women

in Taif City, which may not reflect the experiences of women in other regions, thereby limiting the generalizability of the findings. However, a key strength of this study was the comprehensive analysis of multiple factors, including social and family support, delivery experiences, family history, comorbidities, and socioeconomic status. This comprehensive analysis provided deeper insight into the factors associated with PPD among participants.

Conclusion:

The result of this study demonstrated that over half of the women surveyed experienced PPD. 26-25 years old exhibited the highest prevalence rates of PPD, while the lowest prevalence was observed in women aged 31-45. Interestingly, women with two children showed a greater prevalence of PPD compared to those with one child or three or more children. A history of PPD in previous deliveries significantly increased the likelihood of experiencing PPD again, highlighting the importance of monitoring women with such a history. Major predictors of PPD encompassed a traumatic childbirth experience, a previous history of PPD, recurrent episodes of depression and anxiety during successive pregnancies, the type of the pregnancy itself, and the extent of support provided by the husband.

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