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Prevalence of Postpartum Depression and Its Sociodemographic and Obstetric Determinants among Mothers Attending a Maternity Hospital in Kenya: A Cross-Sectional Study

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ABSTRACT

Postpartum depression (PPD) is a significant global public health concern affecting 17.7% and 18.7% mothers globally and in Kenya respectively. The aim of the study was to assess the prevalence of postpartum depression and to explore its sociodemographic and obstetric determinants among mothers attending the postnatal and maternal and child health clinics at Eldoret West Maternity Hospital in Kenya. Unfortunately, postpartum depression and its determinants often go undiagnosed or untreated, leading to inadequate documentation on its impacts. A descriptive cross-sectional study design was employed, involving 257 women aged 18-49 years with infants aged 6-14 weeks postpartum. Participants were randomly selected using a simple random sampling method. Data was collected using a modified version of the Edinburgh Postnatal Depression Scale (EPDS) translated to Swahili. Descriptive analysis, Chi-squared analysis and odds ratios were used to assess associations between sociodemographic factors, obstetric variables, and postpartum depression.

The study found a prevalence of postpartum depression among participants to be 17.5%, with a higher likelihood of postpartum depression among mothers who were; older (aged 31-49 years) (68.9%), married (77.8%), with higher education levels (80%), lower income (82.2%), and those not formally employed (82.2%). Obstetric factors such as parity of greater than two (53.3%), unplanned pregnancy (53.3%) and preference for male infants (62.2%) with having had unresolved issues (p-value < 0.01) in the past month and a parity of greater than two (p-value<0.05) were found to be significantly associated with higher odds of PPD.

Prevalence of maternal postpartum depression among mothers 6-14weeks postpartum at Eldoret West maternity Hospital, Uasin Gishu County was found to be 17.5%. Several sociodemographic and obstetric factors are linked and predispose women to PPD. Based on the conclusions, we recommend early intervention and support for young mothers, prenatal and postnatal complication screening and mental health education and awareness.

INTRODUCTION

Maternal postpartum depression (PPD) is a serious mental condition that women are vulnerable to during pregnancy and up-to 1 year postpartum (Amipara et al., 2020). It is a medical condition featuring: apathy, lack of attention, disturbed sleep patterns, and poor temperament (Agarwala et al., 2019). Such features consequently interfere with the mother's ability to perform her roles, particularly in caring for her newly-born infant (Shewangzaw et al., 2018); putting the life of the infant at risk of detrimental effects such as malnutrition that affects infant development. Additionally, with a global prevalence of 17.7%, maternal PPD poses a significant public health problem (Hahn-Holbrook et al., 2018). Noteworthy is the fact that in developing countries such as Sub-Saharan Countries, the prevalence is even higher and stood at 18.6% as of 2021 (Woldeyohannes et al., 2021).

The determinants of maternal PPD include maternal obstetric factors [pregnancy complications, low age at pregnancy etc.] and socio-demographic characteristics [single marital status, low income levels] (Ongeri et al., 2018). Studies on PPD have reported a significant relationship between socio-demographic characteristics and PPD. Saeed et al. (2017) reported that poor maternal and paternal education posed a higher risk of maternal PPD [AOR=1.717; 95% CI]. In addition, Roumieh et al. (2019) notes that unemployment, low household income and younger age at marriage increases odds of mothers being diagnosed with PPD [OR=1.4; 95% CI]. Other factors such as unplanned pregnancy and sharing a house with multiple families have also been shown to increase odds of mothers getting maternal PPD (Kerie et al., 2018; Strobino et al., 2016; Wemakor & Mensah, 2016). In terms of employment, mothers who were employed were 4.7 times more likely to be depressed compared to unemployed mothers as denoted by Anokye et al. (2018). These determinants are more commonly seen in women in developing countries which might explain the high prevalence rate of maternal PPD in such countries. The need to characterize these determinants and educate mothers on them is thus paramount as it forms part of the preventive strategies of maternal PPD.

Postpartum depression has been associated with negative consequences on both infants and mothers (Agarwala et al., 2019). Untreated maternal PPD affects an infant's nutritional status since a mother with PPD may be unable to; be responsive, sensitive and cannot fully concentrate to the nutritional needs of her infant (Madeghe et al., 2016). Several studies have reported that mothers with PPD have higher odds of early termination of breastfeeding and inappropriate feeding practice consequently leading to poor infant nutritional status. For instance, Madeghe et al. (2016) reported that mothers with PPD had 4.4 higher odds [*95% CI*] of having underweight infants than mothers without depression. On the contrary, mothers without PPD had 6.14 times higher odds [95% CI] of practicing exclusive breastfeeding than mothers with PPD. Moreover, mothers with PPD were more likely to introduce supplementary foods too early in infant's life compared to mothers without PPD (Madeghe et al., (2016). It is for this reason that attention is now being turned towards addressing PPD to reduce its prevalence and consequently improve child survival chances (Mukuku et al., 2019a; Hajeebhoy et al., 2013).

Postpartum depression despite being a serious mental challenge in women, is frequently undiagnosed, untreated and not well documented, especially in resource-constrained countries (Shewangzaw et al., 2018), hence not receiving the deserving attention despite its significant contribution to infant malnutrition leading to irreversible damages (Shewangzaw et al., 2018). Prior to this study, there was limited knowledge on the prevalence of PPD and its determinants in Uasin Gishu County and there was paucity of studies done in Uasin Gishu County that have explored the prevalence of maternal postpartum depression and its determinants thus forming definite information gap. Given this paucity, this study sought therefore to assess the prevalence of postpartum depression and its sociodemographic and obstetric determinants among mothers at a Eldoret West Maternity Hospital in Uasin Gishu county, Kenya.

METHODOLOGY

Study Design and Setting

The study was carried out at Eldoret West Maternity Hospital's postnatal and maternal and child health clinics, a facility that is located in Uasin Gishu County headquarter's- Eldoret, Kenya next to 64 Stadium along Muyodi Road. It is a 70-bed capacity facility that provides services such as; maternity, postnatal clinic, maternal and child welfare clinic, family planning, HIV testing as well as outpatient medical services to both rural and urban mothers with approximately 500 mother-infant pairs attending maternal and child health and postnatal clinics monthly.

The study adopted a descriptive cross-sectional study design since it provided the prevalence of maternal postpartum depression and its determinants at a snap shot.

Study Population

The target population was women of reproductive age with infants aged 6-14 weeks postpartum. The accessible population was mothers aged 18-49 years and their infant at 6-14 weeks after delivery attending postnatal and maternal and child health clinics at Eldoret West Maternity Hospital. The approximate total number of mothers aged 18-49 years 6-14weeks postpartum attending the maternal and child and postnatal clinic in one month at Eldoret West Maternity Hospital is 1000. In order to meet the interests of the study, all mothers aged 18-49 years and their infants aged 6 to 14 weeks attending postnatal and maternal and child health clinic at Eldoret West Maternity Hospital were included in the study. Furthermore, Mother-infant pairs 6 to 14 weeks postpartum with chronic illnesses, infants with congenital issues, infants 6 to 14 weeks old brought for immunization by non-maternal relatives, and mothers who do not regularly visit EWMH for postnatal care were excluded from the study.

Sample Size Determination and Sampling Technique

The study sample size of 257 subjects was determined using Fischer's formula (Daniel & Cross, 2013) at a 95% confidence interval, 0.05 sampling error and a prevalence rate of 18.7%; since it is the estimated prevalence of PPD in Kenya (Ongeri et al., 2018). Purposive sampling method was used to select the study area while mother-infant pairs to participate in the study were selected through simple random sampling method. Random numbers from a random number table were assigned to the names of the mothers who were present each day of data collection. The numbers were randomly picked and whichever name it was assigned, after consenting and meeting inclusion criteria, was selected to participate in the study until the required sample size was attained.

Data Collection Procedures

Data was collected using a modified version of the validated Edinburgh Postnatal Depression Scale (EPDS) for screening postpartum depression that was developed by Cox et al. (1987) and translated to Swahili by Kumar et al. (2015). Pretesting of the questionnaire was done using 10% of the sample size at Uasin Gishu District Hospital's maternal and child health clinic. Afterwards, data collected during pretesting was analyzed using the Coefficient Alpha and Successor procedure for determining the level of random error of which was less than 0.7 (Cronbach, 2014). Before actual data collection, two research assistants (1 nurse and 1 nutritionist- both with a minimum of Diploma) were trained for two days by explaining and also demonstrating what the study entailed, the research methodology used, the different terminologies used and on how to fill the questionnaires in a standard and a uniform way. The research assistants were single blinded so as not to know the research objectives to avoid biasness.

The mother-infant pairs 6 to 14 weeks after delivery attending postnatal and maternal and child health clinics in Eldoret West Maternity Hospital meeting the inclusion criteria and whose names were picked using numbers from the prepared random number table were recruited each day of the clinic after giving them an explanation of the study and requested to fill a written informed consent form until the desired number of 257 was attained. The data collection was done within a period of one month.

Data Management and Analysis

After every data collection, the questionnaires were checked for completeness and any entries missing were corrected and the questionnaires kept safely in a lockable cabinet. Collected Data was cleaned, coded and then entered into the Statistical Package for Social Sciences (SPSS) version 20 which was used to analyze the data. Descriptive statistics [means, frequencies, percentages and ranges] was used to analyze data on the prevalence of maternal postpartum depression and the determinants of postpartum

depression (obstetric factors, sociodemographic characteristics). In addition, Chi-squared analysis was used to evaluate association between maternal factors, socio-demographic characteristics and postpartum depression.

On prevalence of maternal postpartum depression, the EPDS scale item responses were scored and interpreted as either having PPD symptoms or normal. All the responses to the 10 item scale of EPDS were scored where each item is scored from 0-3 points with 3 representing most severe option leading to a maximum of 30 points. Items 1, 2 and 4 are scored 0, 1, 2, and 3 while items 3, 6, 5, 7, 8, 9 and 10 are reversely scored (3-0) because they evaluate negative aspects about the mothers' depressive state. The study used a cut off of ≥ 10 points to indicate maternal postpartum depression while 0-9 points to mean less likely to have postpartum depression as stipulated by Cox et al. (1987).

Upon the conclusion of the study, the data shall be kept for a minimum period of 10 years as per the Medical Research Council (MRC) regulations (2017) for basic research for the reasons of transparency, for good governance and to enable future research opportunities through data sharing. The filled questionnaires and the analyzed data will be kept at the Kabarak University's archives until the elapse of the stated period.

Ethical Consideration

Ethical clearance was obtained from the Kabarak University Ethical Review committee (*KUREC/001/03/03/2022)*. Additionally, a research Permit (*NACOST/P/22/16790*) was obtained from the Kenya National Commission for Science, Technology and Innovation (NACOSTI) after which an approval for data collection was obtained from the Uasin Gishu County Government (*UGC/ADM.1/31/GEN/2022/VOL.1*).

Written informed consent was obtained from the study participants after an explanation was made to them that the study was voluntary and the information collected was solely to be used for the purpose of the study and no incentives shall be given in that the study was being conducted during the normal clinic visits.

Confidentiality, privacy as well as anonymity was ensured and maintained on information obtained from the study participants. No names were used on the questionnaires; only unique codes were allocated to the participants to ensure privacy and for ease of analysis of data. To ensure data privacy, the questionnaires were kept in a lockable cabinet and were only accessed by the lead researcher and the research assistants.

RESULTS

Prevalence of Maternal PPD

Out of the 257 mothers who were studied 6-14 weeks after giving birth, 45 of them (17.5%) were found to have postpartum depression based on the EPDS scale (scoring ≥10), as shown in Table 1. This prevalence rate of 17.5% suggests that approximately 1 out of every 6 mothers in the 6-14 weeks postpartum period experienced postpartum depression.

Table 1:

Prevalence of postpartum depression at Eldoret West Maternity Hospital

Prevalence of Postpartum depression	**N=257**		
Variables	**n**	**%**	
	Mothers without postpartum depression (<10 scores)	212	82.5
	Mothers with postpartum depression (≥10 scores)	45	17.5

Socio-Demographic Characteristics

The study established that the age range of the participants varied from 18 to 49 years, with an average age

of 27.6±5.7 and a median age of 27 years. Out of all the participants, 209 (81.3%) were married, and 124 (48%) had completed secondary education. Additionally, 93 (36.2%) reported being self-employed.

Moreover, approximately 73 (28.4%) of the participants had no income, while the average income for all participants was found to be Kshs. 9451±9228. Furthermore, 223 (86.3%) of the participants, belonged to a nuclear type of family, as indicated in Table 2 below.

Table 2:

Socio-demographic characteristics of mothers at 6-14 weeks postpartum

Variable	Category	N(257)	
		n	%
Age of respondents	18-20 years	20	7.8
	21-25years	78	30.4
	26-30years	77	30.0
	31-35 years	60	23.3
	36-40years	18	7.0
	41-49years	4	1.6
	Mean± SD	**27.6±5.7**	
Marital status of respondents	Single	44	17.1
	Married	209	81.3
	divorced/separated	2	0.8
	Widowed	2	0.8
Education level of respondents	Primary	34	13.2
	Secondary	124	48.2
	Tertiary	67	28.2
	University	32	12.5
Occupation of respondents	Housewife	58	22.6
	Student	17	6.6
	self employed	93	36.2
	casual worker	36	14.0
	formal employment	53	20.6
Gross income of respondents	<5000	34	13.2
	5001-10000	63	24.5
	10001-15000	23	8.9
	15001-20000	13	5.1
	20001-25000	12	4.7
	>25000	39	15.2
	no income	73	28.4
	Mean± SD	**9451±9228**	
Family type of the respondents	Nuclear	223	86.8
	Extended	34	13.2

Maternal Obstetric Factors of Mothers

The results of the study on maternal obstetric factors revealed that 77(30%) of the mothers had a gravidity of two (2) with an average gravidity of 2.4±1.2SD, and 85(33.1%) of them had 2 living children. Furthermore, 37(14.4%) of the mothers mentioned having experienced a miscarriage in the past, as shown in Table 3. In addition, 151(58.8%) of the mothers stated that the current pregnancy was planned. The study also found that 50(19.5%) of the mothers faced complications during the current pregnancy, with hypertension 15(30%) and antepartum hemorrhage 8(16%) being the most common complications. Out of all the mothers, 227(88.3%) had a normal

vaginal delivery, while 103(40.1%) did not have a preference for the sex of the unborn child. Moreover, 136(52.3%) of the infants were male, and 3(1.2%) of the current births were multiple (twins) in this study. The total number of infants in the study was 260, including 3 mothers who had multiple births (twins). Additionally, 38(14.8%) of the mothers reported unresolved issues in the past three months, with family conflicts 10(3.9%), financial constraints 9(3.5%), and neglect by partner 6(2.3%) being some of the problems mentioned by the mothers, as illustrated in Table 3.

Table 3:

Maternal Obstetric Factors at 6-14 weeks Postpartum

Variable	Category	(N=257)	
		N	%
Gravidity (number of times of pregnancy)	1	73	28.4
	2	77	30.0
	3	62	24.1
	4	36	14.0
	5	7	2.7
	6	2	0.8
If had a miscarriage	Yes	37	14.4
	No	220	85.6
Number of living children	1	81	31.5
	2	85	33.1
	3	61	23.7
	4	26	10.1
	5	3	1.2
	6	1	0.4
If the pregnancy was planned	Yes	151	58.8
	No	106	41.2
If had a complication	Yes	50	19.5
	No	207	80.5
Type of complication	Premature rupture of the amniotic membrane	2	4
	Antepartum hemorrhage (APH)	8	16
	Hypertension	15	30
	Swollen feet	3	6
	Anaemia	4	8
	UTI	4	8
	General body weakness	3	6
	Others	11	22
Type of delivery	Vaginal	227	88.3
	c-caesarian section	30	11.7
Preferred sex of the infant	Male	83	32.3
	Female	71	27.6
	Any	103	40.1

Variable	Category	(N=257) N	%
Sex of current infant	Male	132	51.4
	Female	122	47.5
	twins (male and female)	2	0.8
	twins (male)	1	0.4
Nature of current birth	Single	254	98.8
	Twins	3	1.2
Sex of the infants	Male	136	52.3
	Female	124	47.7
Total infants		260	100
If having unresolved issues	No	219	85.2
	Yes	38	14.8
Types of unresolved issues	None	219	85.2
	Incompatible with family planning method	2	0.8
	Stress due to unplanned pregnancy	2	0.3
	Lost her job due to pregnancy	1	0.4
	Complication after C-section	2	0.8
	Delivered prematurely so was worried of the baby	1	0.4
	Financial constraints	9	3.5
	Family conflict	10	3.9
	Neglect by partner	6	2.3
	Lost a child	1	0.4
	Neglect by hospital	1	0.4
	Lost husband	1	0.4
	A wound that has not healed for more than 15 years	1	0.4
	Husband arrested and in jail	1	0.4

Association between Maternal Socio-Demographic Characteristics and Maternal Obstetric Factors and Postpartum Depression

The prevalence of maternal postpartum depression (PPD) in Eldoret West maternity was found to be associated with various maternal sociodemographic characteristics and obstetric factors as shown in Table 4 below. The study identified several determinants strongly linked to PPD, including gravidity of 1 or 2 (AOR=0.522, 95% CI=0.268-1.015; p-value <0.05), having 1 or 2 living children (AOR=0.568, 95% CI=0.286-1.020; p-value <0.05), and experiencing complications during pregnancy (AOR=2.922, 95% CI=1.400-6.097; p-value <0.05). Additionally, the research revealed a high prevalence of PPD among mothers with unresolved issues, such as family conflicts, financial constraints, and neglect by partners, with a significantly higher odds ratio of 5.646 (95% CI=2.494-12.780; p-value <0.01). While other maternal socio-demographic and obstetric factors were reported as determinants of maternal PPD, their statistical significance was not established after adjusting for confounders, as outlined in Table 4.

Table 4:
Association between maternal socio-demographic characteristics and obstetric factors with PPD

Variables		UOR (95% CI)	AOR (95% CI)	P value <0.05
Age	18-30years	0.702(0.353-1.398)	0.641(0.315-1.304)	0.220
	31-49years			
Marital status	Single/without partner	0.764(0.348-1.677)	0.653(0.287-1.490)	0.312
	Married/with a partner			
Education level	<primary education	1.870(0.806-4.337)	0.1482(0.604=3.636)	0.312
	>secondary education			
Occupation	Not formally employed	1.246(0.542-2.864)	0.532(0.229-1.237)	0.143
	Formally employed			
Gross income per month	<15000	1.701(0.747-3.871)	2.014(0.696-5.830)	0.197
	>15001			
Family type	Nuclear	0.989(0.384-2.550)	1.342(0.583-3.180)	0.476
	Extended			
Gravidity	<2	0.563(0.295-1.076)	0.522(0.268-1.025)	0.048*
	>2			
If had miscarriage	Yes	1.643(0.715-3.774)	1.262(0.527-3.037)	0.601
	No			
Parity	<2	0.483(0.252-0.927)	0.568(0.268-1.020)	0.047*
	>2			
If pregnancy was planned	Yes	0.552(0.289-1.055)	0.573(0.294-1.116)	0.101
	No			
If had complications in the current pregnancy	Yes	3.293(1.623-6.684)	2.922(1.400-6.097)	0.004*
	No			
Type of delivery	Vaginal	0.830(0.318-2.164)	0.784(0.287-2.136)	0.634
	C-section			
Preferred infant sex	Yes	0.745(0.381-1.454)	0.741(0.381-1.454)	0.386
	No			
Nature of the current birth	Single	0.419(0.037-4.724)	0.418(0.037-4.723)	0.480
	Multiple (twins)			
If had unresolved issues in the past 3 months	Yes	5.522(2.602-11.719)	5.646(2.494-12.780)	0.000**
	No			

**Statistically significant (P<0.05)*
***Statistically significant (P<0.01)*

DISCUSSION

This study demonstrated that the period between 6 to 14 weeks postpartum poses a higher risk for postpartum depression (PPD) due to the significant changes in a woman's roles and responsibilities following childbirth. The study revealed a prevalence rate of 17.5%, indicating that approximately 1 in every 6 mothers experienced PPD during this timeframe. This prevalence aligns closely with the global estimate of 17.7% reported by Hahn-Holbrook et al. (2018) in their comprehensive analysis of 291 studies involving 296,284 mothers from 56 countries. Furthermore, it is close to the prevalence rates of Sub-Saharan Africa, particularly East Africa, which was found to be around 18.6%, as established by Woldeyohannes et al. (2021) in a meta-analysis of 26 studies involving 30,021 mothers. This figure

is also consistent with Kenya's estimated prevalence of 18.7%, as reported by Ongeri et al. (2018) in their study involving 171 mothers from the antenatal stage up to 6-10 weeks postpartum. The similarity in findings across these studies can be attributed to the common focus on the 6-14 weeks postpartum period, similar maternal sociodemographic characteristics, and the use of comparable screening tools such as the EPDS scale with a cut-off score of ≥10 for identifying maternal PPD.

Nevertheless, the results of this investigation indicate a higher prevalence of maternal postpartum depression (PPD) compared to the findings of Madeghe et al. (2016) in their study conducted in Nairobi, Kenya, which involved 200 mothers at 6-14 weeks postpartum which reported a prevalence of 13.0%. The variance in prevalence rates can be attributed to the utilization of different cut-off scores on the EPDS scale, with a threshold of ≥13 in their study. Similarly, Amipara et al. (2020) conducted a study in Gujarat, India, involving 116 mothers between 1 week to 1 year postpartum, and reported a PPD prevalence of 6.8% using a cut-off point of >10.5 on the EPDS scale. The difference in prevalence rates can be attributed to variations in the study duration and the setting, as their study was community-based.

Furthermore, the outcomes of this investigation were lower than those reported by Kerie et al. (2018) in their study conducted in Southwest, Ethiopia, which included 422 mothers within one year postpartum which reported a prevalence of 33.82% on the EPDS scale with a cut-off score of ≥10.5. This higher prevalence rate could be attributed to the longer study duration of 12 months postpartum.

The study reported that the age range of the mothers involved in the research was between 18 and 49 years. These findings align with similar studies conducted by Adamu and Adinew, (2018), Hassan et al. (2016) and Roumieh et al. (2019). Additionally, it was determined that majority of the mothers were married, which is consistent with the results of Adamu and Adinew, (2018) and Madeghe et al. (2016). Furthermore, secondary level of education was reported to have been attained by a large number of the mothers, which is in line with the findings of Agarwala et al. (2019) and Roumieh et al. (2019), but contradicts the findings of Madeghe et al. (2016), who observed that a significant number of mothers had only attained primary education. Moreover, 93 (36.2%) of the mothers reported being self-employed, which is similar to the findings reported by Sharmin et al. (2019).

Additionally, a higher number of the participants had no income, and the average income of the mothers was found to be Kshs. 9451±9228, which is comparable to the findings of Madeghe et al. (2016), but differs from the outcomes of Agarwala et al. (2019), who noted that a large number of mothers had higher incomes. Furthermore, majority of the mothers in the study belonged to nuclear families, which aligns with the findings of Sharmin et al. (2019), but contradicts the reports of Agarwala et al. (2019), who found that a significant number of mothers came from extended families. This variation may be attributed to regional differences.

In terms of sociodemographic characteristics, the age of the study participants was found to range between 16 and 44 years with a mean age. This is in agreement with findings of other studies (Roumieh et al., 2019; Adamu & Adinew, 2018; Hassan et al., 2016). It further established that majority of the participants were married which concurs with the findings of Madeghe et al. (2016). Most of the mothers had attained secondary level of education similar to findings of Agarwala et al. (2019) and Roumieh et al. (2019). Contrary to this, Madeghe et al. (2016) who reported that majority of the postpartum mothers had primary level of education. Majority of the participants was self-employment similar to the findings realized by Sharmin et al. (2019)

Further, approximately 73 (28.4%) of the mothers had no income and the mean income of the study participants was Kshs. 9451 ± 9228. This is similar to study findings of Madeghe et al. (2016). Dissimilarly, Agarwala et al. (2019) reported that majority of mothers had higher income. In addition, majority of the mothers in the study came from a nuclear type of family which parallels study findings of Sharmin et al. (2019) who established that majority of the mothers came from extended families.

On maternal obstetric factors, most mothers had a gravidity and parity of two (2) which agrees with the findings reported by Agarwala et al. (2019). In addition, 37 (14.4%) of the mothers reported having had a miscarriage in the past. Almost half of the participants reported that their current pregnancy was unplanned. Notably, several studies assessing PPD prevalence also report that most pregnancies are unplanned (Shitu et al., 2019; Kerie et al. 2018; Khalifa et al., 2016). Further, the study established that 50 (19.5%) mothers had complications with

the current pregnancy with hypertension and antepartum hemorrhage being the most experienced complications. It was also found out that majority of the mothers had normal vaginal delivery while most of them did not have a predetermined preferred sex for the unborn child. This is in line with the findings of Mathisen, (2013) but conflicts with the findings of Hassan et al. (2016) who reported that majority of the mothers had male as their preferred sex of the infant. Additionally, more than half of the infants were male 136 (52.3%) while 3(1.2%) of the current births were multiple (twins). A small number of mothers reported to have had unresolved issue in the past three months that is emerging as a common trend as noted in several studies (Roumieh et al., 2019; Kerie et al., 2018). Notably, family conflicts, financial constraints and neglect by partner being among the issues reported by the mothers.

Maternal PPD was found to be significantly associated with determinants such as lower age where mothers aged between 18 to 30 years were more likely to be depressed than older mothers. This may be attributable to the fact that most mothers who are of younger age were found to have lower education level, some being students, being unemployed and some being single; - all of which contributes to them lacking support thus being stressed. These findings are in agreement with findings of other studies such as Kerie et al. (2018) who established higher prevalence of PPD among mothers aged between 15-24 years. Single mothers were more likely to be depressed than mothers who were married; likely due to the fact that those married tend to have support from their spouses thus they are less stressed. Additionally, mothers with primary level of education were more likely to be depressed than those with secondary, tertiary or university level of education.

Evidently, continued increase in school level is associated with an increase in knowledge on child caring. Contrary to this, Agarwala et al. (2019) reported that mothers with higher than primary education were stressed since they go to work leaving the infants at home making them to feel guilty of not being there to care for them consequently leading to them developing PPD. Besides, mothers who were unemployed and with low income were found to be more likely to be depressed than mothers who were employed and with higher income. Often, financial constraints strain mothers especially those unemployed in meeting their daily needs resulting in stress and consequently PPD. Additionally, the study established that mothers with a parity of 2 or more were more likely to be depressed than those with a parity of 1. Correspondingly, having more children requires mothers to increase their attention and care for the children which overwhelm, making them to be stressed and likely to develop PPD. Further, mothers who had a miscarriage in the past where more likely to depressed than those mothers who had not had miscarriage in the past.

A past miscarriage tends to stress mothers as they are unsure of the pregnancy outcome. Mothers who reported that their current pregnancy was unplanned were more likely to be depressed. This is in agreement with findings of studies such as; Kerie et al., (2017), Hahn-Holbrook et al. (2018), Turkcapar et al., (2015) and Asaye et al., (2020) who associated PPD with unplanned pregnancy. Unplanned pregnancies stress mothers since they are not psychologically prepared and could fall into depression upon delivery. Complications in pregnancy was found to be the strongest predictor of PPD in that most mothers who reported to have had complications in pregnancy were depressed than those who had no complications as also reported by Asaye et al. (2020) and Abebe et al., (2019). Moreover, mothers who had cesarean-section type of delivery were more likely to be depressed than those who had normal vaginal delivery. This is similar to findings by Kim and Dee, (2018) who reported caesarian-section as a predictor for mothers developing PPD and Notably, mothers who had male as the preferred sex of infant were more likely to be depressed postpartum. Findings that concur with Amipara et al. (2020) who in their study established having male as preferred sex to be associated with development of PPD in mothers. This could be attributed to stress that women go through in African cultures where male children are valued by the society than female children. Mothers who had multiple birth (twins) were more likely to be depressed than those mothers with a single birth, which agrees with the report by Shinohara et al. (2023) possibly due to the increased demands of infant care placed on the mother.

Finally, having unresolved issues such as family conflicts, financial constraints and neglect by partner was found to have significant association with PPD. These findings concur with the findings of Ongeri et al., (2018), Roumieh et al., (2019) and Abebe et al., (2019) who established that family besides partner conflicts and having life stressors were associated with mothers developing PPD. Mothers

who reported to have had unresolved issues in the past three months were found to be more likely to be depressed than those with no unresolved issues a factor that contributed to those with unresolved issue to be stressed and consequently develop PPD.

CONCLUSIONS

In conclusion, this study found the prevalence of maternal postpartum depression among mothers 6-14weeks postpartum at Eldoret West maternity Hospital, Uasin Gishu County to be 17.5% which is equivalent to the global prevalence rate and close to the national prevalence. The determinants of maternal PPD which had the greatest statistical significance were; young age of between 18 to 30 years, having complications during pregnancy and unresolved issues in the past three months.

RECOMMENDATIONS

Based on the study conclusions, this study recommends:

- Early Intervention and Support for Young Mothers: Given that younger age emerged as a statistically significant determinant of maternal postpartum depression (PPD), healthcare providers should implement targeted interventions and support systems for young mothers aged between 18 to 30 years within the 6-14 weeks' postpartum period. These interventions should focus on equipping young mothers with the necessary skills and knowledge for infant care, as well as providing emotional and social support to mitigate the stressors associated with their unique circumstances, such as academic commitments and financial instability.

- Prenatal and Postnatal Complication Screening: Healthcare professionals should place a heightened emphasis on the screening and management of complications during pregnancy, as the study identified complications during pregnancy as a strong determinant of maternal PPD. Early identification and appropriate management of pregnancy-related complications can help reduce the stress and anxiety levels experienced by expectant mothers, potentially lowering the risk of developing PPD. Additionally, healthcare providers should offer comprehensive postnatal care that addresses unresolved issues, such as family conflicts, financial constraints, and partner neglect, to provide emotional and practical support to mothers during the critical postpartum period.

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