

Original Research Article

Psychosocial risks for post-partum depression among pregnant women in selected health facilities in Kiambu County, Kenya

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ABSTRACT

Background: Post-partum depression (PPD) is an impactful public health problem. Events prior to and in the peripartum period can predispose a pregnant woman to mental deviations in the post-partum period since pregnancy results in major physiological, social and psychological changes. This study sought to assess the psychosocial risks for post-natal depression among pregnant women.

Methods: A hospital-based comparative design was employed to collect data from 392 antenatal mothers in two hospitals and were in their first or second trimester, selected using simple random method from the antenatal register. They were assessed for psychosocial risks using the antenatal risk questionnaire. Data analysis was conducted using the SPSS version 29.

Results: The mothers were mainly below 18 years (53.1%, 41.5%, $p=0.024$); had no income or depended on spousal support (54.6%, 51.8%, $p=0.618$). Prolonged periods of worry which interfered with work or relationships accounted for 54.1% and 56.9% ($p=0.027$). Partner emotional support was reported by 46.9%, and 48.5% ($p=0.000$) and they would have support with the baby (47.9%, 43%, $p=0.000$). There are those who reported to be worriers (75%, 84.2%, $p=0.000$) and those who become upset when there is no order in their life (81.7%, 80.6%, $p=0.000$). Most of the participants had not experienced emotional support when growing up (74.5%, 87.2%, $p=0.002$) nor sexual/physical abuse (84.2%, 96.9%, $p=0.000$). Marital status and educational level were significantly associated with the total psychosocial risk score ($F=3.123$; $p=0.031$, 0.001).

Conclusions: psychosocial determinants of PPD include young age, poor source of income and prolonged periods of worry.

Keywords: PPD, Psychosocial risks, Psychosocial assessment, Peri-partum period

INTRODUCTION

Postpartum also known as postnatal depression is a major mood disorder affecting populous women in the first year after childbirth and has been recognized as the most common obstetric emergency.¹ Pregnancy is a period of major physiological, social and psychological changes which can cause overwhelming effects, and this may predispose a woman to psychosocial instability.² A

woman's life events during and after pregnancy and childbirth are likely to determine her psychosocial status and subsequently protect or predispose her to mental illnesses in the post-partum period.^{3,4} While physical care is fundamental, a pregnant woman should be evaluated holistically including her psychological, social as well as spiritual needs. Any deviations should be handled with utmost care and a multidisplinary approach would be best placed to achieve such holistic care.⁵ Similarly,

identification and effective interventions for the risk during pregnancy need more deliberate efforts.⁶

Research has been conducted to establish factors that predispose as well as those that protect mothers against PPD. Evidently, Family and psychosocial support are important buffers.^{7,8} Although perceived or real social support can be provided from the general society, family support is most significant.⁹ Additionally, stressful life events, negative childbirth experiences, poor socio-economic status, childhood abuse and young maternal age are risks of concern.^{3,4,8,10-13} Others include any pre-existing social problems, social stigma and discrimination, environmental hazards, unplanned or unwanted pregnancy, life events, cultural and economic issues.^{14,15}

PPD varies in magnitude in different parts of the globe. Its prevalence globally is 17.2%.¹⁶ It ranges from 10 to 15% and 18.6% in the developed world and developing world respectively.¹⁷ The prevalence of PPD was found to be 17.9% in Canada and 11.6% in a Chinese population.^{18,19} The occurrence of PPD is strikingly much higher in the developing nations, almost twice as much as cited in the developed nations. Ethiopia for example reports a significant 19.7 % prevalence of perinatal depression.²⁰ Other results from other African countries indicate that PPD is as high as 6.9% (Morocco) 43% (Uganda) and 44% (Burkina Faso).²¹

A study conducted among Kenyan women in 2018 found a prevalence rate of 18.7% and a very strong association between antenatal depression, and postnatal depression.¹⁰ In Nakuru County, PPD was established to be at 11.6%.^{22,23} In a more recent study, the prevalence was found to be 27.1% in low-income dwellings and the associated risks correlated with other studies. In western Kenya a study to develop and validate a perinatal depression screening tool with more local application was conducted and established a prevalence rate of 6.2%.²⁴ The development of this tool was driven by a need to have a tool that was culturally sensitive and had a local dimension instead of using tools that were developed in other different populations

Despite this high prevalence, the screening for psychosocial risks is not comprehensive yet American college of obstetricians and gynaecologists (ACOG) recommend that all pregnant women should have at least one psychosocial screening during the perinatal spectrum.^{14,25} Subsequently, some countries and regions have recommended antenatal psychosocial assessment and perinatal depression screening.

For example, in Australia, clinical guidelines were introduced in 2011 that required all women to be assessed during their booking visit.²⁶ This was to help in identifying the women at risk and instituting appropriate interventions.

METHODS

Study area

The study was conducted in 2023 in two level five hospitals which are county referral hospitals. The pregnant mothers were recruited at the two hospitals' maternal and child health clinics during their usual antenatal visits.

Study design

This was a hospital-based comparative study involving two different hospitals that had maternal and child health units that offered similar services.

Population

Pregnant mothers in their first or second trimester were recruited as they attended the usual antenatal visits.

Sample size determination

The sample size was obtained using the formula for sample sizes for two independent samples, dichotomous outcome and obtained a sample size of 392 pregnant mothers, 196 from each of the two hospitals. This was to allow comparisons in a future study.

n_i is the sample size required in each group ($i=1,2$), Z is the value from the standard normal distribution reflecting the confidence level that will be used, that is 1.96, E is the desired margin of error (0.05), p_1 and p_2 is the Prevalence of Maternal depression (0.062) based on a study done in Kenya in 2018.²⁴ Therefore,

$$n_i = 0.062(1-0.062) + 0.062(1-0.062) (1.96/0.05)^2$$

$$n_i = 0.062(0.938) + 0.062(0.938) (39.2)^2 = 0.116 \times 1536.64.$$

Sampling technique

Simple random sampling method was done using the antenatal register as the sampling frame. Women who were expected to visit that day were given random numbers. Pieces of paper containing those numbers were written, put in a container and picked by the research assistants. Those women who corresponded with the picked papers were approached and requested to have a session with the researchers after the routine visit. Those who agreed were then given the full details of the assessment and if they agreed they were requested to sign a consent form. This was repeated until the sample size of 196 in each facility was reached.

Data collection procedure and tools

The recruited women were taken through researcher administered questionnaires. There were two questionnaires; one to assess the biographic data of the participants and an antenatal risk questionnaire (ANRQ) that assesses psychosocial risks for PPD. The ANRQ is a

12-item self-report measure of key early and chronic psychosocial risk factors associated with perinatal depression.²⁷ It assesses childhood social support from the respondent's mother, history of mental illness, perceived level of support available during postpartum, significant life events in the past 12 months, personality traits, and history of abuse. Scores range from 5 to 60, with a cut off score of 23 used to identify women with risk for development of depression. Permission to use the tool was sought from the author. There was voluntary participation and freedom to withdraw at any time, anonymity and confidentiality were assured, there was debriefing and referral for needy cases.

Data management

Completeness of the questionnaires was confirmed, then cleaned and entered into SPSS version 29. Descriptive statistics were computed in form of frequencies and percentages, with Chi square test being used to assess for significant differences in the psychosocial scores. Independent T-test was conducted to compare the means of the psychosocial risk scores as well as linear regression to establish the relationships between the psychosocial risks.

RESULTS

Biodata

Notably from both populations, 53.1% and 41.5% of the women were aged below 18 years, 24.5% and 32.8% were 18-30 years, those aged 31-40 years were 16.3% and 15.4% respectively and those below 40 years were 6.1 and 10.3%. Marital status showed that 73.5% and 84.6% were married, 26% and 14.9% were single with 0.5% in both populations being separated or divorced. Additional findings indicate 45.9% and 37.4% had attended school up to university/college level, up to secondary school level were 39.8% and 48.7%, up to the primary school level were 14.3% and 13.3% and 0.5% from one of the facilities had no formal education. Majority of the women (54.6% and 38.5%) had no children, 23.5% and 32.3% had one child. 13.8% and 21.5% had two children, 6.6% and 7.2 had three children, and approximately 1.5% and 0.5% had four children. Furthermore, 29.6% and 28.7% of the participants had no source of income, while 26% and 31.8% were businesswomen. Furthermore, 25% and 23.1% relied on spousal support, whereas 19.4% and 16.4% were employed, earning salaries and wages as their primary source of income. There were significant differences in age and number of children between the two populations ($p=0.024$; 0.014) (Table 1).

Antenatal psychosocial risks

According to Table 2, 74.5% and 80.5% of the study participants acknowledged experiencing a period of 2 or more weeks when they felt particularly worried, miserable, or depressed, with the rest stating that they had

not experienced such emotions. A substantial 48.5% and 44.6% experienced very much interference with their work or relationships, with a majority 83.7% and 90.3% failing to seek professional help. Of those who sought professional help, 84.3% and 94.7% visited a general practitioner as opposed to a specialist.

A majority 98% and 99.5% reported no history of mental illness. Further, 46.9% and 38.5% admitted to having an emotionally supportive relationship with their partner.

Those who had experienced stresses, changes or losses in the previous 12 months were 26% and 23.6% with the rest having not experienced such. More than half of the two samples were distressed by any changes they reported to have experienced.

It was also established that 75% and 84.2% of the respondents identified themselves as very much worriers. Consequently, 71.7% and 80.6% of them confessed they become very much upset if they don't have order in their life. 47.9% and 43% felt that they would have support with the baby. Emotional and sexual abuse were reported by few respondents and most of them felt their mothers supported them emotionally when growing up (61.7% and 83.6%).

Additionally, 64.8% and 49.7% reported feeling safe with current partner while a majority 79.6 and 83.6% did not think they or their partners had problems with drugs or alcohol.

Significant differences between the two populations were found in prolonged periods interfering with their work ($p=0.027$); having an emotionally supportive partner ($p=0.000$); being a worrier ($p=0.000$); becoming upset when there is no order in life ($p=0.000$); having support with the baby ($p=0.000$); childhood emotional abuse ($p=0.002$); childhood physical/sexual abuse ($p=0.000$); childhood maternal emotional support ($p=0.000$); feeling safe with current partner ($p=0.000$) and having problems with drugs or alcohol ($p=0.009$).

Mean psychosocial risk score

The mean score of the psychosocial risks was 42.2 ($SD=7.67$) and 40.6 ($SD=5.37$) respectively and showed a significant difference ($p=0.015$) shown in the Table 3 below.

Relationship between participants characteristics and the total psychosocial risk score

The total psychosocial risks score was associated with participants characteristics: age ($\beta=0.012$; $p=0.859$); marital status ($\beta=-0.111$; $p=0.031$); level of education ($\beta=0.175$; $p=0.001$); number of children ($\beta=0.007$; $p=0.919$); source of income ($\beta=-0.017$; $p=0.735$) (Table 4).

Table 1: Biodata.

Variables	Facility 1		Facility 2		P value
	N	%	N	%	
Age (in years)					
<18	104	53.1	81	41.5	0.024
18-30	48	24.5	64	32.8	
31-40	32	16.3	30	15.4	
>40	12	6.1	20	10.3	
Marital status					
Single	51	26	29	14.9	0.066
Married	144	73.5	165	84.6	
Separated/divorced	1	0.5	1	0.5	
Level of education					
University/college	90	45.9	73	37.4	0.211
Secondary	78	39.8	95	48.7	
Primary	28	14.3	26	13.3	
No formal education	0	0	1	0.5	
Number of children					
None	107	54.6	75	38.5	0.014
One	46	23.5	63	32.3	
Two	27	13.8	42	21.5	
Three	13	6.6	14	7.2	
Four	3	1.5	1	0.5	
Five	0	0	0	0	
>Five	0	0	0	0	
Source of income					
Employment	38	19.4	32	16.4	0.618
Business	51	26.0	62	31.8	
Spousal support	49	25.0	45	23.1	
None	58	29.6	56	28.7	

Table 2: Psychosocial risks.

Psychosocial risk	Response	Facility A		Facility B		P value
		N	%	N	%	
A period of 2 or more weeks when one was particularly worried/ miserable/ depressed	Yes	146	74.5	157	80.5	0.227
	No	50	25.5	38	19.5	
The period seriously interfered with one's work or relationships with friends and family	Not at all	56	28.6	40	20.5	0.027
	A little	11	5.6	21	10.8	
	Somewhat	23	11.7	23	11.8	
	Quite a lot	11	5.6	24	12.3	
	Very much	95	48.5	87	44.6	
Led to seeking professional help	Yes	32	16.3	19	9.7	0.116
	No	164	83.7	176	90.3	
Did one see a psychiatric, psychologist/ counsellor or a GP?	Psychiatrist	1	3.1	0	0	0.172
	Counselor	4	12.5	1	5.3	
	GP	27	84.3	18	94.7	
Did one take tablets/herbal medicine?	Yes	1	0.5	1	0.5	1.00
	No	195	99.5	194	99.5	
History of mental health problems	Yes	4	2	1	0.5	0.372
	No	192	98	194	99.5	
Having an emotionally supportive relationship with partner	Very much	60	30.6	24	12.3	0.000
	Quite a lot	32	16.3	51	26.2	
	Somewhat	34	17.3	64	32.8	
	A little	26	13.3	25	12.8	
	Not at all	44	22.4	31	15.9	

Continued.

Psychosocial risk	Response	Facility A		Facility B		P value
		N	%	N	%	
Stresses, changes or losses in the last 12 months	Yes	51	26	46	23.6	0.544
	No	145	74	149	76.4	
Depressed by stresses, changes or losses	Not at all	53	27	43	22.1	0.125
	A little	9	4.6	14	7.2	
	Somewhat	24	12.2	27	13.8	
	Quite a lot	23	11.7	38	19.5	
	Very much	87	44.4	73	37.4	
Generally, consider self a worrier	Not at all	19	9.7	4	2.1	0.000
	A little	10	5.1	11	5.6	
	Somewhat	20	10.2	16	8.2	
	Quite a lot	16	8.2	43	22.1	
	Very much	131	66.8	121	62.1	
Become upset if you don't have an order in your life (e.g., regular timetable, tidy house)	Not at all	18	9.2	4	2.1	0.000
	A little	6	3.1	18	9.2	
	Somewhat	12	6.1	16	8.2	
	Quite a lot	15	7.7	51	26.2	
	Very much	145	74	106	54.4	
Feel one has/ will have people to depend on for support with the baby	Very much	61	31.1	26	13.3	0.000
	Quite a lot	33	16.8	58	29.7	
	Somewhat	28	14.3	60	30.8	
	A little	45	23	34	17.4	
	Not at all	29	14.8	17	8.7	
Emotionally abused when growing up	Yes	50	25.5	25	12.8	0.002
	No	146	74.5	170	87.2	
Been sexually or physically abused	Yes	31	15.8	6	3.1	0.000
	No	165	84.2	189	96.9	
When growing up, felt their mother was emotionally supportive one	Very much	98	50	109	55.9	0.000
	Quite a lot	23	11.7	54	27.7	
	Somewhat	16	8.2	15	7.7	
	A little	15	7.7	9	4.6	
	Not at all	44	22.4	8	4.1	
Feel safe with current partner	Not at all	28	14.3	15	7.7	0.000
	Somewhat	41	20.9	83	42.6	
	Very much	127	64.8	97	49.7	
Think that they or their partner may have a problem with drugs or alcohol.	Not at all	156	79.6	163	83.6	0.009
	Somewhat	24	12.2	29	14.9	
	Very much	16	8.2	3	1.5	

Table 3: The Independent t test.

Site	N	Mean	Standard deviation	Standard error mean	P value
Facility 1	196	42.2	7.67	0.548	0.015
Facility 2	195	40.6	5.37	0.385	

Table 4: Regression analysis between the participants characteristics and the total risk score.

Characteristic	N	Beta coefficient	R ²	F value	T value	P value
Age (in years)	391	0.012	0.039	3.123	0.177	0.859
Marital status	391	-0.111			-0.2164	0.031
Level of education	391	0.175			3.251	0.001
Number of the children	391	0.007			0.102	0.919
Source of income	391	-0.017			-0.339	0.735

DISCUSSION

Most women in this study were in a marital relationship, had received some formal education and were pregnant for the first time. It is opined that marital relationship does not influence PPD but being in such a relationship is a precursor for reduced prevalence of PPD.²⁸⁻³¹ Being married may provide stability and support that is essential when a woman is transitioning to motherhood. Seemingly the empowering effect of education enables the woman to identify the limits of wellness and seek help when needed; they could be more confident with the changing societal role and might have a wider circle of friends who provide them with support.³² Pregnancy and motherhood require tremendous adaptations, and first-time mothers may not have the needed skills to adapt and hence become candidates for PPD.

A high proportion of the women had no reliable income and/or depended on spousal support. This vulnerability results in powerlessness and lack of control of one's obligations.³³ The high percentage of respondents reporting a prolonged period of worry or misery may reveal a notable prevalence of psychological distress among the women. These should not be ignored since such are positive predictors of PPD.^{11,34} The emotional and psychological distress experienced during the identified period significantly impacted their daily functioning and social interactions. The ability to effectively perform work-related tasks and maintain healthy relationships is crucial, particularly during the perinatal period when the demands and stressors are heightened. By addressing the emotional and psychological needs of mothers experiencing distress, healthcare providers can contribute to enhancing their overall functioning and promoting positive work and social interactions.

While some women sought professional help, majority of them did not raise important considerations. Foremost, it highlights the potential barriers or challenges pregnant mothers may face in accessing mental health services.³⁵ Notably most of the participants sought help from a general practitioner. The access and availability of specialists needs to be explored as specialized care may be of essence. Most of the women reported encountering significant life events within the past year. There is a strong correlation between depressive symptoms and stressful life events among pregnant women.³⁶ Similarly, traumatic life events are predictors of depression in the postpartum period and stress such as resulting from death of a close family member, loss of a job, a complicated pregnancy or war has been revealed to cause depression.^{9,18} The current study however did not establish the specific changes or losses experienced by these mothers.

Many women acknowledged a significant inclination towards being worriers and expressed experiencing distress and upset when they lack order in their lives. This

denotes their emotional response to having a sense of order and structure in their lives. Upon transitioning to motherhood mothers are likely to have their routine altered and therefore such a predisposition needs attention since those with anxiety are more prone to peripartum depression.³⁷ Women who perceive an emotionally supportive relationship, are in a marital relation and have attained some levels of education are likely to have confidence that they will have support with their baby. Partner involvement during pregnancy is associated with less birth complications and better experience.³⁸ Additionally, a reliable income and high levels of education are inversely associated with depressive symptoms.³⁹ Since most risks co-exist, a woman who presents with one provides an opportunity for the provider to investigate for the other known or suspected risks.

Implication for practice

This study highlights significant implications to the psychosocial wellbeing of mothers. The need to refocus antenatal care to not only consider physical health but also psychosocial wellbeing during pregnancy calls for greater engagements, partnerships and funding from all stakeholders.

Limitations

This study was carried out in two County referral hospitals that are situated in urban centres serving urban and peri-urban populations. The findings may therefore not be generalised to mothers living in cities and rural areas. The tool used for assessing psychosocial risks was developed and used in the western countries and therefore may not fully be applicable to the developing countries.

CONCLUSION

This study established the presence of psychosocial risks that predispose mothers to PPD. Notably these include poor social-economic status, being a first-time mother, having a prolonged period of being distressed, being worriers and upset resulting from lacking order in their lives, having a significant change or loss in the last one year and failure to seek professional help when they needed to.

Recommendations

It is imperative that mothers are assessed for psychosocial risks for PPD during the antenatal period and subsequently those who are found to have risks should be managed appropriately in order to reduce peripartum depression.

An assessment tool for psychosocial risks that is contextual and relevant to the developing nations ought to be developed to capture the issues that are affecting the mothers in such nations.

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