

Prenatal and Postnatal Practices of Healthcare Workers in Identifying Postpartum Psychosis: An Exploratory Study in First-Level Hospitals, Lusaka, Zambia

Choongo Mulungu^{1,2*}, Lihlizulu Thabo Moyo³, Mable Nachimata¹, Choolwe Sianchapa¹, Astridah Kona Yihembah Maseka¹

¹Clinical Care Department, Lusaka District Health Office, Ministry of Health, Lusaka, Zambia

²Department of Basic Sciences, School of Medicine, University of Lusaka, Lusaka, Zambia

³Clinical Care Department, Chainama Hills College Hospital, Ministry of Health, Lusaka, Zambia

Email: *choongomulungu7@gmail.com

How to cite this paper: Mulungu, C., Moyo, L.T., Nachimata, M., Sianchapa, C. and Maseka, A.K.Y. (2025) Prenatal and Postnatal Practices of Healthcare Workers in Identifying Postpartum Psychosis: An Exploratory Study in First-Level Hospitals, Lusaka, Zambia. *Open Journal of Psychiatry*, 15, 283-296. <https://doi.org/10.4236/ojpsych.2025.154023>

Received: June 13, 2025

Accepted: July 25, 2025

Published: July 28, 2025

Copyright © 2025 by author(s) and Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

Introduction: Childbirth marks the beginning of motherhood, but women are at risk of developing psychiatric disorders like anxiety, depression, and postpartum psychosis (PPP) after delivery. PPP is a rare yet severe condition that can develop rapidly, putting both mother and child at risk. Due to lack of standard screening procedures, PPP is often underdiagnosed and underreported. This study explored healthcare workers' practices in identifying postpartum psychosis in first-level hospitals. **Methods:** Data were collected through in-depth interviews and focus group discussions with 54 healthcare workers from 5 hospitals. Analysis revealed four main themes: 1. Healthcare workers' prenatal and postnatal practices informed by knowledge levels. 2. Identification of PPP and referrals. 3. Training and support needs. 4. Barriers and facilitators to screening. **Results:** Healthcare workers have limited understanding of PPP, hindering effective screening. PPP screening is not standard in antenatal and postnatal care, leading to potential underdiagnosis. Overwhelming client numbers and inadequate staffing further hinder screening. **Conclusion:** This study highlights critical gaps in healthcare workers' practices regarding PPP screening. Targeted interventions, including training and support, are needed to improve early detection and management, protecting the mental well-being of mothers and their children.

Keywords

Postpartum Psychosis, Practices, Healthcare Workers, Screening, Mothers

1. Introduction

Childbirth is a significant physical, emotional, and social stressor in a woman's life [1]. The postpartum period can be challenging, with many women experiencing mental disturbances like mood swings and mild depression [2]. According to Slomian [3], the lack of sleep, exhaustion, and adjusting to a new role of caring for a newborn can be physically and emotionally challenging. Postpartum psychosis (PPP), a severe form of mental illness, is considered the most severe form of mental illness in that category [4] and affects up to 2 in every 1000 childbirths globally [5] [6], typically developing within days to six weeks after birth [6]-[8]. Research suggests that the prevalence of negative childbirth experiences varies across communities and is influenced by individual factors (age, parity, participation, control, expectations, preparation, fear, self-efficacy), interpersonal factors (care provider support, husband support), and unexpected medical problems for mother and child [9]. Studies have shown that factors such as trusting their body to deal with delivery pain, mind-body interaction, spouse support, and healthcare provider support promote positive childbirth experiences [9] [10].

The rapid development of psychotic symptoms, particularly those that include delusions of misidentification or paranoia, raises concerns for the safety of the patient and the infant [11] [12]. Psychotic illness has been associated with adverse obstetric and neonatal outcomes such as antepartum hemorrhage, placental abruption, postpartum hemorrhage, premature delivery, stillbirth, premature rupture of membranes, fetal morbidities, and mortalities [13]. In Zambia, Ng'anjo [14] noted a high maternal mortality ratio of 398/100,000 live births, and few pregnant women have access to emergency obstetric care services to handle complications at childbirth.

Psychotic illness is a major risk factor for death by suicide in childbearing women, with estimates suggesting that one in every 500 women with postpartum psychosis die from suicide [15]. Although rare, postpartum psychosis is considered a psychiatric emergency that warrants immediate medical and psychiatric attention and hospitalization if the risk of suicide or filicide exists [16]. Currently, there are no screening or assessment tools available to diagnose PPP; a diagnosis must be made by the attending physician based on the patient's presenting symptoms, guided by diagnostic criteria in the DSM-V [5] [11] [16]. Studies have shown that psychological distress related to motherhood is prevalent, with 12% to 20% of women in high-income countries experiencing some form of psychological distress, while in low-income countries, the prevalence is even higher [17]. For example, a study by Mwape [18] involving 300 women in Zambia found that nearly half of the women had depressive symptoms, while one in five had severe postnatal mental distress. Vander Kruik [19] aimed to obtain global estimates of postpartum psychosis prevalence based on population-based samples and to understand how PPP is assessed.

Given the severity of PPP and its potential consequences, it is essential to explore the practices of healthcare workers in identifying and managing this condi-

tion. This study aims to investigate the prenatal and postnatal practices of healthcare workers in identifying postpartum psychosis in first-level hospitals in Lusaka, Zambia.

2. Methods and Materials

This study employed a qualitative research design using a phenomenological approach, chosen for its ability to richly capture the subjective, lived experiences of healthcare professionals. Phenomenology is a research methodology that focuses on exploring and describing the lived experiences of individuals. This approach allowed the researchers to gain a deeper understanding of the participants' experiences and perceptions. Participants were selected using total enumeration method, where all 54 professional healthcare workers from the Mother and Child Health Departments in the 5 First Level Hospitals were included in the study, ensuring a comprehensive representation of the target population. Looking at the use of total enumeration, data collection continued despite saturation being reached, determined by the emergence of no new themes or insights from additional focus groups and interviews, indicating that the data was comprehensive and representative. Data were collected cross-sectionally engaging general staff in the departments in focus group discussions and interviews for respective facility supervisors simultaneously.

2.1. Study Site and Participants

The district is the capital city of Zambia and has a population of 2,248,143. In 2024, women of child bearing age were projected at 600,018 with expected pregnancies projected at 82,342. It was further estimated that 82,042 would be the total number of deliveries out of which only 81,090 would be live births [20].

The study included 5 First Level Hospitals in Lusaka district where 54 professional healthcare workers from the Mother and Child Health Departments who consented were involved in the study. Participants were purposely selected to be included in the study to allow for the objectivity of the study through selection of respondents that met the inclusion criteria. **Table 1** below describes the participants.

Table 1. Summary of participants and data collection activities.

Facility Code	Data Collection Method	Number of Participants	Department	Designation
FLH1	Focus Group Discussion	10	Mother and Child Health	Nurses, Midwives
FLH2	Focus Group Discussion	12	Mother and Child Health	Nurses, Midwives
FLH3	Focus Group Discussion	10	Mother and Child Health	Nurses, Midwives
FLH4	Focus Group Discussion	8	Mother and Child Health	Nurses, Midwives
FLH5	Focus Group Discussion	9	Mother and Child Health	Nurses, Midwives
FLH1–FLH5	Key Informant Interviews	5	Mother and Child Health	MCH Supervisor and Departmental Heads
	Total	54	Mother and Child Health	Nurses, Midwives, Supervisors

2.2. Procedure

Upon acquiring necessary documentation to proceed with the study, we engaged facility nursing officers who consequently organized introductory sessions which were attended by staff from the mother and child health departments. After this virtual meeting, we visited the facilities to collect data, before which consent was obtained.

The study was done two years after the opening of mental health services at these facilities, which also informed the selection of these facilities. Focus group discussions took the longest as they were dependent on the availability of staff before they could take off. Interviews, on the other hand, were easy to conduct as there were both online and physical options. The potential for interviewer bias was acknowledged, and steps were taken to minimize its impact, including reflexive journaling by the researchers to recognize and manage personal biases, and independent coding to ensure consistency and accuracy in data analysis.

2.3. Research Instruments

FGDs were used for collection of in-depth data on experiences and perceptions of clients and health care professionals on PPP in Lusaka District, Zambia. Focus group discussions consisted of 8 - 12 people and took place between January and February 2025. Discussions consisted of a brief introduction of the aims of the discussion, acquisition of written consent to participate and the actual discussion itself. The discussions were recorded so that transcripts could be made. Discussions focused on knowledge of screening practices for postpartum psychosis in antenatal and postnatal women and also on the management of postpartum psychosis. 5 in-depth interviews were conducted with department supervisors, one from each facility.

2.4. Data Analysis Procedures

The qualitative data analysis employed thematic analysis, presented with verbatim narrations from both focus group and in-depth interviews. To ensure the trustworthiness of the findings, the study employed coder triangulation, member checking, and reflexivity to establish credibility, dependability, and confirmability. These strategies helped to minimize bias, ensure accuracy, and increase the reliability of the results. By doing so, the study aimed to provide a rigorous and transparent representation of the participants' experiences and perceptions.

3. Results

Our study yielded 4 key themes as outlined in **Table 2** below are further elaborated.

Table 2. Emerging Themes.

Theme	Sub-theme	Verbatim Representative Quote
1. Pre- and Postnatal Practices	Basic Recognition through subjective observations	“We can tell from the appearance, from the way a person is responding to questions.” (FGD 1)

Continued

	Reliance on relatives' accounts	"We also hear from relatives about the person's history..." (FGD 2, female)
	Limited symptom-specific knowledge	"For that one maybe I can't really say... we look at how the woman cares for her child." (FGD 3)
	Knowledge decay since training	"It's been long since we learnt psychiatry in school..." (FGD 2)
	Limited coverage in antenatal IEC	"Postpartum psychosis did not appear on routine screening services..."
2. Identification and Referral	Absence of routine screening	"We have not really been screening puerperal psychosis... because of overwhelming numbers..." (FGD 9)
	Lack of tools and time	"We have no training or even the forms... the main issue is time..." (FGD 3)
	Referral to mental health unit	"Once a woman is identified... she is referred to the mental health unit."
3. Training and Support	Basic foundation from training	"There is a component of psychiatry in the training for midwifery..." (KI 5)
	Lack of refresher training	"We rarely practice... because we are put in wards... that don't do much around mental health." (FGD 22)
	Staff knowledge exists but not utilized	"75% of my staff are able to identify... but I can't confirm that we look out for these cases..." (KI 5)
	Collaboration with mental health team	"We normally send them to the mental health unit... they come through for rounds." (FGD 38)
4. Barriers and Facilitators	Overwhelming workload	"The high numbers we see make it difficult to spend too much time on one patient." (FGD 17)
	Lack of screening forms	"We don't have a form to use... we mostly just focus on women that meet our eye..." (FGD 17)
	Knowledge decay without practice	"The problem is not practicing for a long time... we need a refresher." (FGD 37)
	Symptom masking by clients	"Sometimes women tend to mask symptoms... if there is no one home then we can't know..." (KI 3)
	Presence of mental health staff as enabler	"We started seeing these cases often now with the coming of the mental health team." (FGD 42)

3.1. Pre and Postnatal Practices

We sought to explore healthcare workers' practices around surveillance for symptoms of psychosis during antenatal clinic visits and screening at postnatal visits. We found that healthcare workers in the mother and child health departments had basic knowledge on screening for mental health conditions in mothers. **Table 3** highlights the gaps in mental health gaps during antenatal and postnatal care visits.

Table 3. Gaps in mental health services in ANC and PNC.

Service Area	Current Practice	Identified Gap	Implication
Antenatal health education	General IEC sessions (group-based)	PPP not included in messages	Missed opportunity for early awareness
Routine screening	Observation-based, no structured tool	PPP screening not conducted routinely	Delayed or missed diagnosis
Staff capacity	Basic knowledge from college	No refresher or focused PPP training	Inconsistent application of skills
Referral linkage	Informal identification and referral	No formal protocols for PPP-specific pathways	Risk of care fragmentation for affected women

When asked how they identify postpartum psychosis clients, they submitted as follows;

We can tell from the appearance, from the way a person is responding to questions. If what they say is contrary to what is being discussed, then we can suspect mental issues (FGD 1).

Just to add on, we also hear from relatives about the person's history, then we know there is definitely an issue which requires attention from the mental health unit (FGD 2, female).

However, this knowledge was limited to a general outlook on mental health and could not effectively be used for specific conditions like postpartum psychosis. We asked for specific symptoms on their fingertips, which are suggestive of postpartum psychosis and the following were the submissions from the discussants.

For that one maybe I can't really say but mostly, we look at how the woman cares for her child. If she is refusing the child, then maybe that's psychotic (FGD 3).

For us here we don't get in such detail when attending to women here. It's basically from appearance and the way the discussion goes. The thing is, it's been long since we learnt psychiatry in school so most of the things are gone (FGD 2).

It was further stated in interviews with facility supervisors that the duration of training and not practice, is what affects their skills.

There is a component of psychiatry in the training for midwifery. Although it is not that detailed, it gave basic knowledge for them to be able to attend to mothers with such conditions. But you see, they packed all their psychiatry modules for a long time, so not much was expected unless you do an orientation (KI, 5).

Once a woman is identified as having a mental condition, she receives her routine postnatal services and is then referred to and seen under the mental health unit. We sought to explore the specific services that a typical woman would receive when they went for antenatal. We found that postpartum psychosis did not appear on routine screening services including in the information, communication and education sessions given in group settings prior to antenatal services.

3.2. Identification and Referral

Building on the indicated basic knowledge from college training, we sought to assess the staff's capacity to identify the condition. We found screening for postpartum psychosis was not done among women during antenatal or postnatal visits. The prominent reason cited was lack of screening tools for this condition and overwhelming numbers of clients for regular MCH services. While known cases received support by staff, identification of new cases was not a routine consideration by available healthcare workers.

We have not really been screening puerperal psychosis in clients that come for MCH services, firstly because of overwhelming numbers we attend to but also because not knowing we should be screening for that (FGD, 9).

We have no training or even the forms for screening that condition but the main issue is time for screening every one that comes, we can't manage (FGD, 3).

Table 4 expands on the knowledge and skills possessed by staff regarding postpartum psychosis.

Table 4. Staff knowledge and skills regarding postpartum psychosis.

Knowledge Area	Source of Knowledge	Confidence Level	Illustrative Quote
General mental health awareness	College curriculum	Moderate	"We have psychiatry as part of our training..." (FGD 22)
Specific signs of PPP	Observation, limited recall	Low	"Maybe I can't really say... we look at how the woman cares for her child." (FGD 3)
Ability to identify PPP cases	Combined training & practice	Varies by experience	"75% of my staff can identify... but we don't always look out." (KI 5)
Skill retention post-training	Work experience	Weak without refreshers	"We need a refresher... I can't remember the distinctions." (FGD 37)

3.3. Training and Support

It was found that all healthcare staff had basic knowledge as informed by the college curriculum which had psychiatry as part of the core courses. Knowing that mental health at this level is delivered on an integrated basis, we sought to explore the deliberate efforts made by the facilities in reinforcing and building capacity in the staff members, to better provide these services. We found that no deliberate training or support were in place for these staff members.

We have psychiatry as part of our training and we even do rounds at Chainama. But after deployment, we rarely practice because we are put in wards or departments that sometimes don't do much work around mental health conditions (FGD, 22).

I can confidently say 75% of my staff are able to identify mental health conditions including postpartum psychosis. But you see, due to the number of mothers we see I can't

confirm that we look out for these cases as it's difficult to see a woman randomly but we normally always follow up on those that look isolated, unkempt or based on account from relatives (KI 5).

Most of my staff are fresh from school so they can remember more and apply that knowledge but maybe they just don't think about it often (KI, 4).

However, we established that the mental health and mother and child departments were in constant touch ensuring that the clients are linked and supported.

Anyone we suspect to have mental issues, we normally send them to the mental health unit for further help. the mental health team sometimes comes through to our department for rounds so where is a case they review from here (FGD, 38).

We work closely with doctors that review our patients and the mental health team comes in to support. We also link known mental health cases to public health nurses and safe Motherhood Action Group (SMAG) members that keep an eye on them when they are doing community activities (KI, 5).

3.4. Barriers and Facilitators

The main we found was patient to staff ratio, as respondents reported being overwhelmed with clients. However, the lack of screening tools further perpetuated the lack of screening among healthcare workers. Participants also indicated the need for refresher training, suggesting a knowledge decay as a barrier. The following are some verbatim responses from the focus group discussions and key informant interviews;

The reason we mostly don't see these cases is the high numbers we see making it difficult to spend too much time on one patient. Also, the fact that we don't have a form to use where to report these cases, we mostly just focus on women that meet our eye with vivid symptoms or on account of caregiver/family (FGD, 17).

We know these things but the problem is not practicing for a long time so we need a refresher because I personally can't remember the distinctions between the range of mental conditions in postpartum period but I can name them (FGD, 37).

The other issue is, sometimes women tend to mask symptoms when they come to the facility so if there is no one home then we can't know if the woman has issues (KI, 3).

We noted the presence of mental health staff in these facilities to be a facilitator as participants indicated having begun to see cases while working alongside the mental health staff.

You know, we started seeing these cases often now with the coming of the mental health team (FGD, 42).

Working with the mental health team helps us help these mothers and we are also refreshing our knowledge and skills in psychiatry (FGD 9).

Table 5 below summarizes the barriers and facilitators to screening for postpartum psychosis as established from the study.

Table 5. Barriers and facilitators to screening for postpartum psychosis.

Category	Barrier/Facilitator	Description	Illustrative Quote
Barrier	High patient load	Limited time to assess each woman individually	“The high numbers... make it difficult to spend too much time.” (FGD 17)
Barrier	Lack of screening tools/forms	No structured way to capture suspected cases	“We don’t have a form to report these cases.” (FGD 17)
Barrier	Knowledge decay	Staff forget specifics of PPP over time	“I can’t remember the distinctions...” (FGD 37)
Barrier	Symptom masking	Some women hide symptoms, making identification hard	“If there is no one home... we can’t know.” (KI 3)
Facilitator	Mental health staff presence	Strengthens staff confidence and identification	“Working with the mental health team helps us...” (FGD 9)
Facilitator	Interdepartmental collaboration	Referrals and joint rounds improve care coordination	“We work closely with doctors... and link with SMAGs.” (KI 5)

4. Discussion

4.1. Pre and Postnatal Practices

We found that healthcare workers had basic knowledge on screening for mental health conditions in mothers, but this knowledge was limited to a general outlook and could not effectively be used for specific conditions like postpartum psychosis. Howard and Khalifeh [21] highlighted the need for improved training and education for healthcare workers on perinatal mental health, particularly in low-income settings. Akkineni [22] noted that health professionals, including doctors, nurses, and midwives, have inadequate knowledge about perinatal mental health and often do not feel confident about managing these conditions. Osborne [7] observed that many clinicians mistakenly believe that the term postpartum psychosis can be applied to any psychotic symptoms in the postpartum period or that its clinical features will be identical to those of schizophrenia or other primary psychotic disorders. The healthcare workers’ limited knowledge is concerning, given that symptoms of postpartum psychosis include hallucinations, delusions, mania, and depression typically presenting with a sudden onset during the first postpartum week [23]. Furthermore, healthcare workers discussed “stress” as another word for depression, consistent with other research in Africa [24] [25]. The need for targeted training to enhance healthcare workers’ ability to accurately screen and identify postpartum psychosis early is evident, ensuring timely intervention and better maternal mental health outcomes.

4.2. Identification and Referral

Screening for postpartum psychosis was not done among women during antenatal or postnatal visits due to lack of screening tools, confirming statements by Osborne [7] and Goyal [24] that noted the absence of standardized screening tools for postpartum psychosis, and the diversity of presentation makes it difficult to create an algorithm for screening. The lack of screening tools and overwhelming numbers of clients for regular MCH services were prominent reasons cited for not conducting screenings. Our findings highlight a significant gap in the identifica-

tion and referral of postpartum psychosis within antenatal and postnatal care, which may lead to undetected cases and delayed interventions. This is consistent with Feten [26] and Martin [27], who emphasized the importance of early detection and intervention. These findings emphasize the need for the development and integration of validated screening tools into routine maternal health services to improve early detection and referral pathways for postpartum psychosis.

4.3. Training and Support

We found that all healthcare staff had basic knowledge of mental health, informed by the college curriculum, but there were no deliberate training or support systems in place to enhance their ability to identify and manage postpartum psychosis. This increases the demand for psychologically-informed practices across healthcare systems [28]. However, we observed a collaborative effort between the mental health and maternal health departments, ensuring that identified cases were linked to appropriate care, which aligns with Meredith [29] and the American College of Obstetricians and Gynecologists (ACOG) [30] recommendations on collaborative care models and equipping healthcare providers with the skills to initiate medical therapy and facilitate timely referrals. The absence of structured training programs and ongoing support systems may limit the effectiveness of early detection and intervention efforts, emphasizing the need for strengthening training and support systems for frontline healthcare workers to enhance their confidence and competence in managing maternal mental health conditions.

4.4. Barriers and Facilitators

Our study identified key barriers to screening for postpartum psychosis, including high patient-to-staff ratios, lack of screening tools, and knowledge decay among healthcare workers due to the absence of refresher training. These findings are consistent with previous research highlighting systemic challenges in maternal mental health care, such as Lugo-Candelas [31] and Meltzer-Brody [32], who noted additional barriers like limited provider training, time constraints, stigma, and inadequate privacy for mental health screening. Despite these challenges, interdisciplinary collaboration with mental health professionals was identified as a key facilitator for improving postpartum psychosis recognition [33], aligning with recommendations by the American College of Obstetricians and Gynecologists (ACOG) [30] on integrating mental health services into obstetric care. Addressing barriers through targeted interventions, such as structured training programs and standardized screening tools [34] [35], could enhance healthcare workers' ability to identify and manage postpartum psychosis more effectively.

This study reveals significant gaps in healthcare workers' knowledge, identification, and management of postpartum psychosis in maternal health settings. To address these challenges, targeted training and support for healthcare workers, standardized screening tools which could be integrated in antenatal clinic card for every mother to be screened, and improved referral pathways are essential. By

bridging these gaps, healthcare providers can better support new mothers' mental health needs, improving maternal mental health outcomes and reducing the risk of postpartum psychosis.

Limitations of the Study

This study has some limitations that future research should consider. Firstly, the purposive sampling of facilities may limit the generalizability of the findings to other healthcare settings, as the experiences of facilities and practices may vary. Secondly, the qualitative nature of this study may introduce subjective biases in the interpretation of results, as the findings are based on the researchers' analysis of participant responses. Lastly, the cross-sectional design of this study precludes causal inferences regarding postpartum psychosis knowledge and attitudes, highlighting the need for future research to employ longitudinal or experimental designs to explore these relationships further.

Ethical Approval and Informed Consent Statements

The study was accorded Ethical Committee Approval by the Blessings university of Excellence Research Ethics Committee (NHRA-REC No.2021-05-0007 dated 17-06-2024). Written/Verbal Informed Consent was taken from all the participants. The study was carried out/not carried out in accordance with the principles as enunciated in the Declaration of Helsinki.

Authors Contributions

MC, the principal investigator, conceptualized the paper and drafted the initial version before sharing it with MN, MTL, SWC, and MYKA, subject experts in Maternal health, Psychiatry, Gynecology, and Obstetrics, respectively, who also served as co-investigators. All investigators contributed to data collection, analysis and report writing. AKYM and MTL further refined the reporting of the findings. All authors reviewed and approved the final manuscript for publication.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- [1] Kowalska, J., Dulnik, M., Guzek, Z. and Strojek, K. (2022) The Emotional State and Social Support of Pregnant Women Attending Childbirth Classes in the Context of Physical Activity. *Scientific Reports*, **12**, Article No. 19295. <https://doi.org/10.1038/s41598-022-23971-7>
- [2] Ayers, S., Wright, D.B. and Thornton, A. (2018) Development of a Measure of Postpartum PTSD: The City Birth Trauma Scale. *Frontiers in Psychiatry*, **9**, Article No. 409. <https://doi.org/10.3389/fpsy.2018.00409>
- [3] Slomian, J., Honvo, G., Emonts, P., Reginster, J. and Bruyère, O. (2019) Consequences of Maternal Postpartum Depression: A Systematic Review of Maternal and Infant Outcomes. *Women's Health*, **15**, 1-55.

- <https://doi.org/10.1177/1745506519844044>
- [4] Stevens, A.W.M.M. (2023) Bipolar Disorder during Pregnancy and the Postpartum Period: Patients Considerations, Course of Bipolar Disorder and Impact of Sleep Loss. PhD Thesis, Research and Graduation Internal, Vrije Universiteit Amsterdam.
- [5] American Psychiatric Association (2017) DSM-5 Task Force. Diagnostic and Statistical Manual of Mental Disorders: DSM-5. 5th Edition, American Psychiatric Association Publishing.
- [6] Perry, A., Gordon-Smith, K., Jones, L. and Jones, I. (2021) Phenomenology, Epidemiology and Aetiology of Postpartum Psychosis: A Review. *Brain Sciences*, **11**, Article No. 47. <https://doi.org/10.3390/brainsci11010047>
- [7] Osborne, L.M. (2018) Recognizing and Managing Postpartum Psychosis: A Clinical Guide for Obstetric Providers. *Obstetrics and Gynecology Clinics of North America*, **45**, 455-468. <https://doi.org/10.1016/j.ogc.2018.04.005>
- [8] Rodriguez-Cabezas, L. and Clark, C. (2018) Psychiatric Emergencies in Pregnancy and Postpartum. *Clinical Obstetrics & Gynecology*, **61**, 615-627. <https://doi.org/10.1097/grf.0000000000000377>
- [9] Hosseini Tabaghdehi, M., Kolahdozan, S., Keramat, A., Shahhossein, Z., Moosazadeh, M. and Motaghi, Z. (2019) Prevalence and Factors Affecting the Negative Childbirth Experiences: A Systematic Review. *The Journal of Maternal-Fetal & Neonatal Medicine*, **33**, 3849-3856. <https://doi.org/10.1080/14767058.2019.1583740>
- [10] Namujju, J., Muhindo, R., Mselle, L.T., Waiswa, P., Nankumbi, J. and Muwanguzi, P. (2018) Childbirth Experiences and Their Derived Meaning: A Qualitative Study among Postnatal Mothers in Mbale Regional Referral Hospital, Uganda. *Reproductive Health*, **15**, Article No. 183. <https://doi.org/10.1186/s12978-018-0628-y>
- [11] Fink, G., Melero-Dominguez, M., Chembe, M., de Vernisy-Romero, D., Tembo, T., Billima, T., et al. (2024) Feasibility and Acceptability of the Problem Management for Moms Programme for Improving Maternal Mental Health in Zambia: An Open-Label Trial. *The Lancet Psychiatry*, **11**, 965-974. [https://doi.org/10.1016/s2215-0366\(24\)00256-6](https://doi.org/10.1016/s2215-0366(24)00256-6)
- [12] Lewis, G., Blake, L. and Seneviratne, G. (2022) Delusional Misidentification Syndromes in Postpartum Psychosis: A Systematic Review. *Psychopathology*, **56**, 285-294. <https://doi.org/10.1159/000526129>
- [13] Zhong, Q., Gelaye, B., Fricchione, G.L., Avillach, P., Karlson, E.W. and Williams, M.A. (2018) Adverse Obstetric and Neonatal Outcomes Complicated by Psychosis among Pregnant Women in the United States. *BMC Pregnancy and Childbirth*, **18**, Article No. 120. <https://doi.org/10.1186/s12884-018-1750-0>
- [14] Ng'anjo Phiri, S., Fylkesnes, K., Moland, K.M., Byskov, J. and Kiserud, T. (2016) Rural-urban Inequity in Unmet Obstetric Needs and Functionality of Emergency Obstetric Care Services in a Zambian District. *PLOS ONE*, **11**, e0145196. <https://doi.org/10.1371/journal.pone.0145196>
- [15] Levey, E.J., Zhong, Q., Rondon, M.B., Sanchez, S., Li, J., Williams, M.A., et al. (2018) The Psychometric Properties of the 16-Item Version of the Prodromal Questionnaire (PQ-16) as a Screening Instrument for Perinatal Psychosis. *Archives of Women's Mental Health*, **21**, 563-572. <https://doi.org/10.1007/s00737-018-0833-2>
- [16] Yang, J.M.K., Jones, I. and Di Florio, A. (2022) Puerperal Psychosis. In: Percudani, M., Bramante, A., Brenna, V. and Pariante, C., Eds., *Key Topics in Perinatal Mental Health*, Springer International Publishing, 139-154. https://doi.org/10.1007/978-3-030-91832-3_9

- [17] Hunter, L.A., Catapano, L.A., Nagle-Yang, S.M., Williams, K.E. and Osborne, L.M. (2021) Textbook of Women's Reproductive Mental Health. American Psychiatric Association Publishing.
- [18] Lonia, M., Katowa-Mukwato, P. and Mweemba, P. (2016) Psychological Distress during the Perinatal Period: Using Edinburgh Postnatal Depression Scale (EPDS) General Health Questionnaire (GHQ-12) and the Study Specific Measure of Perinatal Distress (SSMPD) on a Zambian Cohort. *Journal of Preventive and Rehabilitative Medicine*, **1**, 44-52.
- [19] VanderKruik, R., Barreix, M., Chou, D., Allen, T., Say, L. and Cohen, L.S. (2017) The Global Prevalence of Postpartum Psychosis: A Systematic Review. *BMC Psychiatry*, **17**, Article No. 272. <https://doi.org/10.1186/s12888-017-1427-7>
- [20] Zambia Statistics Agency (2022) 2022 Census of Population and Housing Summary Report Volume II. Zambia Statistics Agency.
- [21] Howard, L.M. and Khalifeh, H. (2020) Perinatal Mental Health: A Review of Progress and Challenges. *World Psychiatry*, **19**, 313-327. <https://doi.org/10.1002/wps.20769>
- [22] Akkineni, R., Ganjekar, S., Satyanarayana, V., Kondapuram, N., Tiwari, K., Mediseti, S., et al. (2025) The Impact of Perinatal Mental Health Training on Knowledge and Practice of Primary Care Physicians: A Systems Strengthening Initiative in Telangana, India. *BMC Primary Care*, **26**, Article No. 88. <https://doi.org/10.1186/s12875-025-02782-5>
- [23] Forde, R., Peters, S. and Wittkowski, A. (2019) Psychological Interventions for Managing Postpartum Psychosis: A Qualitative Analysis of Women's and Family Members' Experiences and Preferences. *BMC Psychiatry*, **19**, Article No. 411. <https://doi.org/10.1186/s12888-019-2378-y>
- [24] Goyal, D., Rabemananjara, K.M., Lara-Cinisomo, S. and Le, H. (2023) Healthcare Worker's Understanding of Perinatal Depression and Maternal Mental Health Service Needs in Rural Kenya. *Mental Health & Prevention*, **29**, Article ID: 200260. <https://doi.org/10.1016/j.mhp.2023.200260>
- [25] Ng'oma, M., Meltzer-Brody, S., Chirwa, E. and Stewart, R.C. (2019) "Passing through Difficult Times": Perceptions of Perinatal Depression and Treatment Needs in Malawi—A Qualitative Study to Inform the Development of a Culturally Sensitive Intervention. *PLOS ONE*, **14**, e0217102. <https://doi.org/10.1371/journal.pone.0217102>
- [26] Fekih-Romdhane, F., El Hadathy, D., González-Nuevo, C., Malaeb, D., Barakat, H. and Hallit, S. (2023) Development and Preliminary Validation of the Postpartum Psychotic Experiences Scale (PPES). *Psychiatry Research*, **329**, Article ID: 115543. <https://doi.org/10.1016/j.psychres.2023.115543>
- [27] Rinvall, M.K. and Jeppesen, P. (2024) The Problem of Overestimating the Value of Self-Report Measures of Psychotic Experiences. *Psychiatry Research*, **333**, Article ID: 115769. <https://doi.org/10.1016/j.psychres.2024.115769>
- [28] Chukwuere, P.C., Zenani, N.E., Mthimunye, K., Godbold, R. and Shahrouh, G. (2025) The Integration and Associated Challenges of Mental Health Competencies in Undergraduate Nursing Education: A Scoping Review. *BMC Nursing*, **24**, Article No. 336. <https://doi.org/10.1186/s12912-025-02942-z>
- [29] Meredith, C., McKerchar, C. and Lacey, C. (2023) Indigenous Approaches to Perinatal Mental Health: A Systematic Review with Critical Interpretive Synthesis. *Archives of Women's Mental Health*, **26**, 275-293. <https://doi.org/10.1007/s00737-023-01310-7>
- [30] American College of Obstetricians and Gynecologists Committee (2023) Treatment

and Management of Mental Health Conditions during Pregnancy and Postpartum: ACOG Clinical Practice Guideline No. 5. *Obstetrics Gynecology*, **141**, 1262-1288.

- [31] Lugo-Candelas, C., Talati, A., Glickman, C., Hernandez, M., Scorza, P., Monk, C., *et al.* (2023) Maternal Mental Health and Offspring Brain Development: An Umbrella Review of Prenatal Interventions. *Biological Psychiatry*, **93**, 934-941. <https://doi.org/10.1016/j.biopsych.2023.01.026>
- [32] Meltzer-Brody, S., Howard, L.M., Bergink, V., Vigod, S., Jones, I., Munk-Olsen, T., *et al.* (2018) Postpartum Psychiatric Disorders. *Nature Reviews Disease Primers*, **4**, Article No. 18022. <https://doi.org/10.1038/nrdp.2018.22>
- [33] Rugkåsa, J., Tveit, O.G., Berteig, J., Hussain, A. and Ruud, T. (2020) Collaborative Care for Mental Health: A Qualitative Study of the Experiences of Patients and Health Professionals. *BMC Health Services Research*, **20**, Article No. 844. <https://doi.org/10.1186/s12913-020-05691-8>
- [34] Sihre, H.K., Simons, A., Gill, P., Lindenmeyer, A. and Fazil, Q. (2019) Women's Experiences of Severe Postnatal Psychiatric Illness: A Systematic Review Protocol. *Systematic Reviews*, **8**, Article No. 173. <https://doi.org/10.1186/s13643-019-1085-6>
- [35] Motrico, E., Bina, R., Kassianos, A.P., Le, H., Mateus, V., Oztekin, D., *et al.* (2023) Effectiveness of Interventions to Prevent Perinatal Depression: An Umbrella Review of Systematic Reviews and Meta-Analysis. *General Hospital Psychiatry*, **82**, 47-61. <https://doi.org/10.1016/j.genhosppsy.2023.03.007>