**ORIGINAL RESEARCH ARTICLE**

# The voices of midwives on the causes of perinatal mortality in Mpumalanga province of South Africa

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## Abstract

During childbirth, no woman should lose a child. However, perinatal mortality remains a global concern. The recent South African Saving Mothers and Babies report revealed a notable 20% increase in perinatal mortality in Mpumalanga province. This excess of perinatal mortality was due to hypertensive disorders and unexplained causes. Thus, this paper explores and describes the voices of midwives on the causes of perinatal mortality in the resource-limited setting of the Mpumalanga province. A qualitative, exploratory and descriptive design was carried out to explore the views and perceptions of midwives on the causes of perinatal mortality. Purposive sampling was adopted to select midwives with experience in midwifery care, and data saturation was reached with the 20th participant. The data was collected through semi-structured interviews and analysed using thematic analysis. The study revealed that issues such as delayed interventions and poor monitoring by healthcare personnel, lack of triaging, shortage of staff, variations in implementation of health education and compliance were the concerning issues contributing to perinatal mortality. The study highlights that health education is a crucial element in the prevention of perinatal mortality. Therefore, more initiatives should be directed at educating patients about the importance of antenatal care, treatment adherence, and the use of unsafe traditional medicines for the induction of labour**.** *(Afr J Reprod Health 2026; 30 [14]: 35-45).*

**Keywords:** Perinatal mortality, cause of death, midwives, health education

## Résumé

Aucune femme ne devrait perdre son enfant lors de l'accouchement. Pourtant, la mortalité périnatale demeure une préoccupation mondiale. Le récent rapport sud-africain intitulé *Saving Mothers and Babies* (Sauver les mères et les bébés) a révélé une augmentation notable de 20 % de la mortalité périnatale dans la province de Mpumalanga. Cette surmortalité périnatale était imputable à des troubles hypertensifs et à des causes inexpliquées. Ainsi, cet article explore et décrit le point de vue des sages-femmes sur les causes de la mortalité périnatale dans le contexte de ressources limitées de la province de Mpumalanga. Une approche qualitative, exploratoire et descriptive a été adoptée pour étudier les opinions et les perceptions des sages-femmes concernant les causes de la mortalité périnatale. Un échantillonnage raisonné a permis de sélectionner des sages-femmes expérimentées dans les soins obstétricaux, et la saturation des données a été atteinte avec la vingtième participante. Les données ont été recueillies par le biais d'entretiens semi-directifs et analysées selon une méthode thématique. L'étude a révélé que des problèmes tels que les retards d'intervention et une surveillance insuffisante de la part du personnel soignant, l'absence de tri, le manque de personnel, ainsi que les disparités dans la mise en œuvre de l'éducation à la santé et dans l'observance des soins, constituaient des facteurs préoccupants contribuant à la mortalité périnatale. L'étude souligne que l'éducation à la santé est un élément crucial de la prévention de la mortalité périnatale. Par conséquent, davantage d'initiatives devraient viser à sensibiliser les patientes à l'importance des soins prénatals, à l'observance du traitement et aux risques liés à l'utilisation de médecines traditionnelles dangereuses pour le déclenchement du travail.*(Afr J Reprod Health 2026; 30 [14]:35-45).*

**Mots-clés**: Mortalité périnatale, cause de décès, sages-femmes, éducation à la santé

## Introduction

Perinatal mortality remains a global concern and challenge. Despite global efforts to reduce perinatal mortality, the rate continues to rise. The World Health Organization highlights that around 4.5 million mothers and babies die during the prenatal period, delivery, and the first week of life.[1] The

causes of perinatal mortality are attributed to avoidable causes. Importantly, 70% of mortality occurs in sub-Saharan countries.[1,2] Perinatal mortality is defined as stillbirths and deaths of newborns immediately after birth or up to 7 days of life.[3] Globally, the common causes of perinatal mortalities are antepartum haemorrhage, infections, peripartum hypoxia, and placental and unexplained causes.[4,5] Similarly, among these conditions, maternal hypertension and obstetric haemorrhage were also conceded to contribute to perinatal mortality.[6-9] Studies suggest a substantial gap in the causes of perinatal mortality, as most highlight that some of the causes are unexplained.

On the other hand, several studies contend that perinatal mortality in sub-Saharan countries is associated with late antenatal visits, lack of education, home delivery, lack of maternal involvement in making healthcare decisions, poverty, and maternal multiparity.[10-12] Girma, Abita[10] Further indicated factors such as poor family spacing, previous pregnancy termination, and grand multiparity are also associated with perinatal mortality among women. Mdoe, Katengu [11]Substantiated that issues such as delay in seeking healthcare services among pregnant women further exacerbate the risk of perinatal mortality. These indicate that there is a need to intensify efforts to mitigate perinatal mortality. Although some of the causes appear not to be properly understood. Other studies argue that sometimes perinatal mortality may be due to the way care is provided, such as having adequate resources to provide care to pregnant women and newborns.[13] For instance, the study of Tukisi[14] Conducted in the North West province, the study reported administrative causes of perinatal negative outcomes. [14] Among these causes are infrastructure constraints and the lack of medical supplies and equipment. Therefore, addressing the gap in reducing perinatal mortality requires sufficient human and clinical equipment resources.[4] These are crucial to improving effective patient care in maternity units.

Drawing from the fact sheet analysis of the Saving Mother Report, there has been a significant 20% increase in perinatal mortality in Mpumalanga province.[15] The causes of perinatal mortality were due to hypertensive disorders and unexplained causes.[15] This intrigued the scholars to delve into exploring the causes of perinatal mortality. In conjunction, there's an enormous contextual and methodological gap in the literature on the causes of perinatal mortality in Mpumalanga province. Although a quantitative analysis was conducted, which indicated that the overarching causes of perinatal mortality are poor implementation of health education, late bookings, and delays in seeking medical attention among women.[16] In the literature, no narrative studies reporting on the causes of perinatal mortality through the lens of midwives were found in resource-limited settings in Mpumalanga province. Exploring the causes of perinatal mortality from midwives' perspectives is critical to reducing the perinatal mortality and strengthening health systems, as it captures the lived realities of maternity care that are often overlooked in clinical reviews. This approach moves beyond isolated clinical events to reveal systemic, organizational, and contextual factors, offering a more comprehensive understanding of perinatal mortality and informing more effective prevention strategies. In this context, this study aims to explore and describe the voices of midwives on the causes of perinatal mortality in the resource-limited setting of Mpumalanga province.

# Methods

## *Study design*

This study was a qualitative, exploratory, and descriptive research design to delve into the views and perceptions of midwives on the causes of perinatal mortality. The research design allowed the midwives to richly express and describe their perspectives on the causes of perinatal mortality within their rural communities of Mpumalanga province.[17] This approach was deemed appropriate for this study due to the paucity of narrative studies exploring the causes of perinatal mortality through the lens of midwives.

## *Study setting population*

The study was carried out in two purposefully selected rural district hospitals in Mpumalanga province, South Africa. The hospitals were the only ones within proximity of the isolated rural areas that provided comprehensive maternal health care services, besides the community health centres. The study population was midwives who worked in the labour wards of the selected hospitals.

### *Sampling*

The first author purposively sampled midwives with experience in providing maternity care services. All midwives voluntarily participated in this study, and those unwilling to partake were excluded. [17] The data saturation and redundancy were reached at the 20th participant, as no new information arose.

### *Data collection*

Data were collected by the first author in a private room within the clinical facility premises using semi-structured one-on-one interviews for data collection. The in-depth data collection procedure and the purpose of the study were explained to the midwives. The interviews were audio-taped with the consent of the midwives, and the interviews lasted for an average period of 35 minutes. An interview guide was followed throughout the data collection process. Midwives were asked: 'From *your experience as a midwife, describe the main factors that contribute to perinatal mortality in your facility'*, and during the interview, midwives were probed with questions such as "*Why is that?" "What do you mean by that?" and "Please elaborate further"*. Some of the main interview questions were posed like *"In your own view, what do you think causes perinatal mortality in your community?"* Data were collected between May 2024 and June 2024.

### *Data analysis*

The data of the study were analysed using thematic analysis. The authors followed the steps of thematic analysis as suggested by Polit and Beck.[18] These steps are summarised in Table 1 below. The audio-taped data were transcribed verbatim, and the first author familiarised themselves with the data and then critically analysed it independently. The author also identified shared meanings of the codes and categories of the raw transcribed data. The identified categories were then examined to build potential themes and subthemes. Subsequently, arrangements were made with the co-authors, who are experts in qualitative research, to reach a consensus on the potential themes and subthemes.[17] The discussion of the potential themes and subthemes allowed room for agreement and disagreement between the authors on the emerging themes.

### *Trustworthiness*

The study followed the Lincoln and Guba criteria to ensure trustworthiness. The authors ensured credibility through prolonged engagement with the participants. The author further ensured credibility and confirmability through peer debriefing with other experts.[19] Transferability was ensured through vivid descriptions of the research processes and procedures.[19] Lastly, the author sought the dependability of the study results through independent analysis of the data by each author.

### *Ethical consideration*

The authors obtained ethical clearance from the Turfloop Research Ethics Committee (**TREC/65/2024:PG)**. In this contemporary study, the authors adhered to ethical standards such as ethical clearance, permission, informed consent, confidentiality, anonymity, social justice, non-maleficence, and beneficence. The participants were provided with consent detailing the purpose of the study, and the consent further entailed that the study findings would be published and that they were not forced to participate in this study.

## Results

The detailed demographic data of the participants is depicted in Table 2 below. The data was collected from midwives working in the district hospital of Mpumalanga province. Most of the midwives were females, holding a post-graduate qualification in advanced midwifery and a diploma in nursing. Most of the midwives were between the age range of 40-49 and had more than 6 years in practice.

This study yielded three themes and subthemes on the causes of perinatal mortality through the lens of midwives. Learning from the perspectives of midwives, the causes of perinatal mortalities seem to be multicausal and emanate from the healthcare system, healthcare providers, and patients. Table 3 below shows the themes and subthemes that emerged from the study.

### *Theme 1: Healthcare provider and healthcare system-related causes*

The midwives highlighted that perinatal mortality is caused by factors attributed to the healthcare system

**Table 1:** Steps of thematic analysis

| Thematic analysis steps | Strategies |
|---|---|
| 1. Data transcription and familiarisation | • The authors transcribed the interview recordings verbatim<br>• Read the transcripts multiple times to familiarise themselves with the data |
| 2. Identification of initial codes | • The authors coded the data in a meaningful and systematic approach by identifying codes from the data |
| 3. Searching for themes | • The authors captured and categorised codes with similar and interrelated meanings to each other to create themes<br>• The codes were organised into meaningful themes |
| 4. Review themes | • The authors reviewed the themes to identify whether they make sense and do not overlap<br>• This was also achieved through consensus discussion among the authors |
| 5. Defining themes and report writing | • The authors defined the themes by aligning them with the relevant narrative quotes from the interview transcripts<br>• A final report was compiled upon consensus among the authors. |

**Table 2:** Demographic characteristics

| | Age | Occupation | Years of experience | Qualification level |
|---|---|---|---|---|
| Female (19) | 20-29 (2) | Registered Midwife (RM) (13) | 1-5 years (6) | Bachelor of Nursing (4) |
| Male (1) | 30-39 (2) | Advanced Midwife (ADM) (7) | 6-10 years (3) | Diploma Nursing (7) |
| | 40-49 (11) | | 11-15 years (5) | Advanced diploma in midwifery (2) |
| | 50-59 (5) | | More than 15 years (6) | Postgraduate in advanced midwifery (7) |

**Table 3:** Themes and subthemes

| Themes | Subthemes |
|---|---|
| 1. Healthcare provider and healthcare system-related causes | 1.1. Delayed interventions and poor monitoring from healthcare personnel |
| | 1.2. Shortage of staff and equipment |
| | 1.3. Lack of triaging |
| | 1.4. Variations in health education implementation and compliance |
| 2. Causes specific to maternal health conditions | 2.1. Hypertensive disorders in pregnancy |
| 3. Patient-related causes | 3.1. Herbal medication use among patients |
| | 3.2. Lack of adherence to treatment |
| | 3.3. Late booking versus not booking for antenatal care |

and healthcare providers. Among those causes that contribute to perinatal mortality, midwives outlined poor monitoring, lack of triage, and shortage of staff.

### *Subtheme 1.1: Delayed interventions and poor monitoring from healthcare personnel*

According to midwives, perinatal mortality is associated with the delay of necessary care interventions and poor monitoring during intrapartum care by the healthcare personnel. It seems that delayed interventions by healthcare providers predispose pregnant women to the risk of perinatal mortality. This was quite disheartening to the midwives. As they expressed their voices on this concerning issue, the midwives downheartedly said:

"*Some, I think, let's say, a Fresh stillbirth. That would be poor monitoring of the mother and the baby while they are in the uterus. Some midwives*

*lack skill; even when they see there's a problem, they don't act. Some don't know how to perform a Cardiotocograph."* ***P5, Female, RM***

*"In some instances, if the blood pressure was borderline at the local clinic, it was not attended to. And they took it lightly, so you see..."* ***P15, Female, ADM***

Based on the assertions of the midwives, it is clear that delayed interventions and poor monitoring by the midwives were attributed to the concern of competence and skills of midwives in providing care. The issue of competence was a prominent theme in this study, as some midwives expressed in-depth their concerns about midwives working in local settings, their skills and competence in the management of hypertensive disorders during pregnancy. One midwife went on to say it is quite disheartening to learn late during the perinatal meeting that certain perinatal deaths could have been prevented if only proper care had been provided in due time.

### *Subtheme 1.2: Shortage of staff and equipment*

Within the realm of causes related to the healthcare system, midwives strongly believed that the lack of adequate resources, such as human resources and equipment, prevented them from providing optimal quality care. Thus, contributing to perinatal mortality. With serious faces, the midwives said;

"*Since our ward is busy, we don't have enough staff. The management is poor, which leads to low Apgar scores and complications. For instance, when midwives are busy with other patients' deliveries, the others are delayed for review, and then they get complicated. Sometimes, obviously, by the time they call the doctor, the patient is already complicated, and those complications lead to a high mortality rate."* ***P9, Female, RM***

*"Because we're short-staffed as well. So sometimes I believe we attend them later than we're supposed…"* ***P18, Female, RM***

*"In my experiences since I have been here, I noticed that there aren't enough doctors to act quickly on those cases, such as footling presentation and the baby ends up being a stillbirth."* ***P11, Male, RM***

Seemingly, the shortage of staff frustrated the midwives as they felt that the workload was too much for them, and sometimes, they had to resort to multitasking. Equipment shortage and malfunction did not help either, as some midwives went on and voiced that they lacked equipment and the one they had already sometimes malfunctioned.

*"Also, resuscitation equipment for the neonates. Also, for intrapartum, we need more resuscitation equipment, because during resuscitation, sometimes you don't have working equipment like a suction machine. And also, we do not have delivery devices such as vacuums, and you find no time to go for an emergency c/section, and that contributes to those perinatal mortalities…"* ***P11, Male, RM***

Another midwife continued and related such an issue to her real-life experience. She calmly said;

"*For me, another thing I had a challenge with was the suction machine; it suctions slowly, and it's the only suction machine in the ward. Now let's aspirate meconium, and now you have to suction; it suctions slowly. Now you might end up with a poor outcome, maybe a baby dying,"* ***P10, Female, RM.***

### *Subtheme 1.3: Lack of triaging*

Midwives strongly indicated that lack of triaging and poor triage skills among midwives also lead to perinatal mortality. The midwives voiced that they are negligent when it comes to triaging patients in the waiting area. In some instances, it may be related to the triage practices of midwives. This was supported by the subsequent narratives.

*"Sometimes it's the negligence, sometimes they ignore an important factor that you were supposed to take into account when triaging'* ***P11, Male, RM***

*"So, mostly it is the negligence of our patients. Of course, I will not say it is all of them, so maybe sometimes it's our negligence as nurses, as I've mentioned, maybe our triaging methods do not work effectively, a patient might wait longer than expected…"* ***P18, Female, RM***

*"… I can say that poor triage is one of the causes because… or let's say we take a report in the morning if we focus on the routine and not triage the patients... Instead, we focus on a routine such as receiving patients, progressing them and ignoring the ones in the waiting area."* ***P10, Female, RM***

*" … Failure to triage or classify which patient needs more attention than the other, then you end up nursing the one that needs less attention right now and then complications happen to the one that needed more attention."* ***P19, Female, RM***

### *Subtheme 1.4: Variations in health education implementation and compliance*

The study findings suggest that health education by healthcare personnel upon prenatal care and postnatal discharge influences perinatal outcomes. Midwives indicated that some of the perinatal mortality is the result of pregnant women not being taught how to care for themselves during pregnancy and post-delivery. This was illustrated by the subsequent extracts.

***"****Sometimes, it is because some of the mothers are not well educated on how to care for themselves and their babies…So it is a lack of health education causing the problem in others…"* ***P15, Female, ADM***

*"Eh, it could also be because some of the mothers were never taught. Let's say the mother is a previous c/section delivered last year. Now, less than a year later, she's pregnant again, she drinks herbal medications, and she falls into labour; the scar gets torn. Now she might also be most likely to die. This is only because she also doesn't know she was never taught, and maybe even here at the hospital, she wasn't informed that now, since she was delivered with c/section, she should wait a certain period, or if she falls pregnant, she shouldn't drink herbal medications to induce her labour."* ***P10, Female, RM***

Although some of the pregnant women were taught. Other midwives reported that pregnant women sometimes do not comply with the health education provided to them. Instead, they opt to do what pleases them.

"*Our patient doesn't comply... like this morning, I was teaching them that if at the clinic they say you have high blood pressure, go to the hospital. Others, they ask to go home and never come back"* ***P13, Female, RM.***

*"I think, according to me... the patients do not follow instructions. Like maybe a patient has elevated blood pressure, and what I've seen is that they've triaged her at the clinic, found that her blood pressure is elevated, then referred her to the hospital, but she never came. She'll then come later, like maybe she's now fitting at that time and come in an ambulance. Most of the patients do that, they stay at home…"* ***P12, Female, RM***

### *Theme 2: Maternal health condition-specific causes*

The midwives indicated that maternal health conditions cause perinatal mortality. The midwives felt that maternal health conditions have an impact on perinatal outcomes. This is supported by the following subtheme.

### *Subtheme 2.1: Hypertensive disorders in pregnancy*

According to the midwives, it was worth considering that, besides the healthcare system and healthcare provider-related causes, maternal conditions such as hypertensive disorders in pregnancy contribute to perinatal mortality. In this study, hypertensive disorders such as preeclampsia were the prominent condition reported by midwives contributing to prenatal mortality, particularly when it is not detected early. This is illustrated by the subsequent quotes;

*"… in most cases, it happens when we have pregnancy-induced hypertension, yeah, or chronic hypertension…"* ***P11, Male, RM***
*"Pregnancy-induced hypertension and Blood Pressure are very common, causing Macerated stillbirth, as well as pre-eclampsia, and you find that it wasn't identified early in the clinics."* ***P16, Female, RM***

### *Theme 3: Patient-related causes*

The midwives expressed that some of the causes are patient-related. These include the carelessness of the patients, the lack of treatment, and the late booking of antenatal care. The following subthemes explain the patient-related causes in detail.

### *Subtheme 3.1: Herbal medication use among patients*

The midwives expressed their concerns with the use of herbal medicines by pregnant women during prenatal and intrapartum care. It was assumed that the use of herbal medications by pregnant women negatively affected the fetus's well-being, thus leading to poor perinatal outcomes. From the midwives' understanding, some of the patients used the medications to induce labour unknowingly that they did not have an adequate pelvis for vaginal delivery, causing obstructed labour and other poor

perinatal outcomes. This was supported by the following assertions;

*"…And our community here believes a lot in the use of herbal medicines. So, they don't drink their treatment; they focus on drinking their herbal medicines. Then, sometimes when they come to deliver, they drink the herbal medicines to induce labour, not knowing that she's in the right passage to deliver normally. Now she ends up having Cephalo-pelvic disproportion. Obviously, that will affect the baby…"* ***P19, Female, RM***

***Another participant said;***
*People from Communities take traditional medicine a lot. A patient will come here and tell you that I took a full cup of a certain herbal medicine, and according to my knowledge, no treatment says full cup."* ***P18, Female, RM***

Drawing from the narratives of the midwives, it seems that the care of pregnant women is intertwined with cultural beliefs. The midwives strongly believed that the use of cultural and herbal medicines among pregnant women was a very serious issue, particularly in their society. The use of herbal medicines by pregnant women seems to contribute to perinatal mortality through the lenses of midwives.

### *Subtheme 3.2: Lack of treatment adherence*

Within the realm of patient-related causes of perinatal mortality, midwives expressed that another major issue is that patients often do not adhere to their prescribed medications. The midwives reported that the lack of adherence to medications when prescribed to them, particularly when having hypertensive disorders, is associated with the myths believed by patients. This was supported by the subsequent quote;

*"**…** others, when they are given treatment, they don't drink it, they have the mindset that the medications we are giving make the baby grow bigger, and that time the blood pressure is continuing to riseand is uncontrolled…"* ***P13, Female, RM***

In conclusion, some midwives believed that the issue of poor adherence to treatment was the lack of follow-up for antenatal care in local clinics when diagnosed with hypertension. Sounding dispirited, the midwife said;

*"Some women, like those with hypertension, for example, if she checked 2 times at the clinic, she then goes to stay home where she's not taking any treatments or monitoring her hypertension and then comes here at a later stage, whereby the baby has already been affected."* ***P17, Female, RM***

### *Subtheme 3.3: Late booking versus not booking for antenatal care*

The midwives highlighted that another concerning issue that contributes to perinatal mortality among pregnant women in rural areas was the lack of antenatal care booking. The midwives identified that often pregnant women don't book for antenatal care, and sometimes they book late. This is illustrated by the following quotes;
*They don't attend antenatal care. They just come here when they feel like labour…"* ***P17, Female, RM***

*"Some if they do book when referred to high risk, they never go, they go home and stay there, until the condition worsens and gets complicated"* ***P12, Female, RM.***

*Others book late; they can take the whole nine months, not going to the clinic. By the time she goes into labour, that is when she goes to the clinic, so how do we detect those conditions and treat them because it is already late…"* ***P13, Female, RM***
*"…Another, it's a late diagnosis, because it could be that women book late for antenatal care"* ***P15, Female, ADM.***

Drawing from the extracts of the midwives, the midwives strongly believed that late booking and not booking for antenatal care by pregnant women predisposed to poor perinatal outcomes, since they are not taking any prenatal medications. Mostly, this contributed to the delayed detection of maternal conditions that contributed to poor perinatal outcomes.

## Discussion

The study aimed to explore and describe the voices of midwives on the causes of perinatal mortality in the resource-limited setting of Mpumalanga province. The study attempted to shed light on the unexplained causes of perinatal mortality through the lens of midwives. The study highlighted numerous concerns related to perinatal mortality in

the rural areas of Mpumalanga province. The study indicated that sometimes perinatal mortality is caused by healthcare system and healthcare provider discrepancies. Among these are delayed interventions and poor monitoring, a shortage of equipment and staff, lack of triaging, and variations in the implementation and compliance of health education. Some of the findings are consistent with the study findings of Mhlophe[16] and Eso-Obaleye[20] who indicated that, amidst maternal conditions like hypertensive disorders, issues such as lack of antenatal care, health personnel discrepancies, lack of health education, poor nutrition, and negligence of patients are common issues resulting in perinatal mortality. The findings of the study depict an alarming picture of how healthcare disparities impact patient outcomes. This clearly necessitates the need for introspection within the midwives and the healthcare system. Several studies indicated that challenges such as poor work environment, poor continuum of education and professional development, and shortage of resources negatively impact the quality of care provided to women and newborns.[21-23] Hence, there's a need to change how care is provided. This can be achieved through consistent strengthening of in-service training and professional development programs for midwives. Continuum professional development programs are known to enhance and strengthen the skills and competencies of midwives when providing patient care.[23] Its sustainability in clinical practice can improve midwives' acquisition and maintenance of skills and knowledge to provide optimal midwifery care.

Nevertheless, an attempt could be made to improve the competence and skills of midwives through strengthened continuing professional development. However, a concerning issue of shortage of resources remains, as the midwives of the study indicated that they are short-staffed and they get too busy, which sometimes leaves some of the patients unattended and delayed for patient review. Above all, they do not have enough working resources. It seems that a shortage of resources remains a concern in South Africa. For instance, the qualitative study in the North West province found that midwives in maternity units encounter resource challenges, such as material and supply constraints.[14] This often leaves midwives frustrated and has a negative impact on the healthcare provided to pregnant women. Hence, the World Health Organization framework of quality maternal and child health care highlights the cruciality of adequate resources and competent healthcare personnel to improve and optimise the quality of maternal and newborn care.[24]

On the other hand, the study also highlighted the variations in the implementation and compliance of health education. The midwives contended that some of the patients are not provided with necessary health education upon antenatal care booking and discharge, thus leading to perinatal mortality. Seemingly, the healthcare personnel hardly provide pregnant women with the necessary information on pregnancy care and post-delivery care. The rationale behind the lack of health education from midwives wasn't properly verbalised. The literature examination revealed that the majority of women who delivered stillbirths never received any form of health education during the prenatal period.[16, 25] Lack of health education regarding pregnancy care increases the likelihood of engaging in practices that pose risks and can negatively affect pregnancy outcomes, such as the increased risk of stillbirth. In accordance with the scope of practice of nurses and midwives, it is required that they promote and empower through health counselling and education.

On the other hand, the conflicting story in this study is that some of the pregnant women, when provided with health education, do not comply. This was signified by the prominent theme of patient-related causes of perinatal mortality. As the midwives commented on the lack of adherence to treatment among patients, and late booking versus not booking for antenatal care. Additionally, the midwives indicated that most of the pregnant women relied on the use of herbal medicines during pregnancy; in some cases, they used them for the induction of labour, and this caused perinatal mortality. In contrast to the existing literature, it seems that the use of herbal medicines in pregnancy is a common practice in African countries. Several authors alluded that the use of herbal medicine during pregnancy and childbirth has detrimental effects on the well-being of the fetus. The study of Eso-Obaleye[20] contends that some women use herbal medicines to prevent perinatal mortalities, such as stillbirths. The use of herbal medicine by pregnant women is gradually increasing. The study by Mosoma, Thopola[26], indicated that more than the 76$^{th}$ percentile of pregnant women use herbal

medicines. Several studies indicated that the use of herbal medicine by pregnant women has detrimental effects on maternal and fetus health. [27, 28] Although the effects of the use of herbal medicine are described in detail, one could infer the necessity of scientific studies to evaluate the safety of herbal medicine use in pregnancy.

It is worth noting that with these issues identified by midwives, it will prove to be difficult to achieve Sustainable Development Goal (SDG) 3 of ensuring health and well-being for all. Thus, it is worth considering that the causes of perinatal mortality are interconnected. Therefore, the study recommends returning to the basics and foundations of patient care. However, not forgetting the issue of resources, the contemporary study recommends the use of awareness campaigns and health promotion programs involving communities, isolated rural areas, traditional healers and community stakeholders to educate on the importance of prenatal care. In addition, it is also worth considering the development of a collaborative strategy with traditional healers to provide quality prenatal and obstetric care. The establishment of integration of indigenous practices and Western healthcare medicine could be a positive step towards improving the SDG 3 goals through collaborative practice. Some scholars have already delved into the integration of indigenous practices in Western medicine.

### *Strengths and limitations of the study*

The study draws its strength from the methodology and thematic analysis. The use of qualitative methodology and thematic analysis facilitates a comprehensive understanding of what causes perinatal mortality among pregnant women from the perspective of the midwives. With this research approach, the authors were able to identify critical gaps that could greatly benefit future research on the phenomenon of inquiry. Nonetheless, the methodology also has limitations; the research approach limited the sample size to 20 participants. On the other hand, this study was limited to the district hospitals in Mpumalanga province. Despite the similarities of the findings with other studies, this study only portrays the voices of midwives on perinatal mortality. Therefore, it should not be generalised to other contexts. However, the findings are significant and worth considering when developing a unified strategy and informing health policies to mitigate the causes of perinatal mortality in an African context.

### *Implications for policy*

The findings of the study indicate the need to strengthen maternal and perinatal health policies that prioritise adequate midwives' staffing, the allocation of essential equipment, and the consistent implementation of obstetric triage and maternal and fetal monitoring protocols. Policy makers should enforce midwife to patient ratio, ensuring that midwives are not overburdened and experience burnout. This will allow the midwives to conduct a thorough assessment, monitoring and patient management. Additionally, policies should mandate the provision and maintenance of essential obstetric and neonatal equipment to ensure effective maternal and foetal monitoring. The competency skills of midwives should be reinforced through ongoing professional development. This can be done through regular in-service training and mentorship.

### *Implications for practice*

At the practice level, midwives should prioritise effective patient screening and early identification of high-risk pregnancies throughout antenatal, intrapartum, and postnatal care. This will aid in the early determination of complications and facilitate timely interventions to prevent perinatal mortality. Midwives should provide comprehensive health education to mothers and their families to promote early antenatal booking and adherence to prescribed treatment, thus reducing preventable perinatal mortality. Additionally, midwives should also educate about the recognition and reporting of danger signs during pregnancy and postpartum.

## Conclusion

The study highlights that health education is a crucial element in preventing perinatal mortalities. Therefore, more initiatives should be directed at educating patients on the importance of antenatal care booking, treatment adherence, and the unsafe use of traditional medicines for the induction of labour. Additionally, department stakeholders should take it upon themselves to implement well-designed professional development programs and

hire more human resources. Lastly, the study recommends that stakeholders should highly consider the collaborative and integration strategy of traditional and Western medicine, as suggested by other scholars, to reduce mortalities within South Africa.

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## Authors' contributions

MWN conceptualized the study and collected data. MWN, LM, MMR, and TMM analysed and interpreted the data. LM, MMR, and TMM supervised the study. LM, TAN, NM, and TMM reviewed and edited the manuscript. All authors have read and approved the final manuscript.

## References

1. World Health Organization. One pregnant woman or newborn dies every 7 seconds: new UN report, https://www.who.int/news/item/23-02-2023-a-woman-dies-every-two-minutes-due-to-pregnancy-or-childbirth--un-agencies (2023, accessed 15 July 2024).
2. World Health Organization. Maternal mortality, https://www.who.int/news-room/fact-sheets/detail/maternal-mortality (2024, accessed 15 July 2024).
3. Malinga NS, du Preez A and Rabie T. Maternal and neonatal factors associated with perinatal deaths in a South African healthcare institution. *Health SA Gesondheid* 2020; 25.
4. Marincowitz GJ and Marincowitz C. Neonatal death audits at Kgapane Hospital, Limpopo province. *South African Family Practice* 2023; 65.
5. Ndjapa-Ndamkou C, Govender L, Bhoora S, and Chauke L. The role of the placenta in perinatal asphyxia, neonatal encephalopathy, and neurodevelopmental outcome: A review. *African Journal of Reproductive Health* 2023; 27: 107-118.
6. Allanson ER, Muller M and Pattinson RC. Causes of perinatal mortality and associated maternal complications in a South African province: challenges in predicting poor outcomes. *BMC pregnancy and childbirth* 2015; 15: 1-7.
7. Ghorat F, Ghafarzadeh R and Jafarzadeh Esfehani R. Perinatal mortality and its associated risk factors: A study in the north-east of Iran. *Iranian Journal of Neonatology IJN* 2016; 7: 47-51.
8. Flenady V, Wojcieszek AM, Ellwood D, Leisher SH, Erwich JJ, Draper ES, McClure EM, Reinebrant HE, Oats J, McCowan L, and Kent AL. Classification of causes and associated conditions for stillbirths and neonatal deaths. In: *Seminars in Fetal and Neonatal Medicine* 2017, pp.176-185. Elsevier.
9. Madhi SA, Briner C, Maswime S, Mose S, Mlandu P, Chawana R, Wadula J, Adam Y, Izu A, and Cutland CL. Causes of stillbirths among women from South Africa: a prospective, observational study. *The Lancet Global Health* 2019; 7: e503-e512.
10. Girma D, Abita Z, Fetene G, and Birie B. Individual and community-level factors of perinatal mortality in the high mortality regions of Ethiopia: a multilevel mixed-effect analysis. *BMC Public Health* 2022; 22: 247.
11. Mdoe P, Katengu S, Guga G, Daudi V, Kiligo IE, Gidabayda J, Massay C, Mkini F, and Mduma E. Perinatal mortality audit in a rural referral hospital in Tanzania to inform future interventions: A descriptive study. *PloS one* 2022; 17: e0264904.
12. Aminu M, Bar-Zeev S, White S, Mathai M, and van Den Broek N. Understanding cause of stillbirth: a prospective observational multi-country study from sub-Saharan Africa. *BMC pregnancy and childbirth* 2019; 19: 1-10.
13. Ahmed I, Ali SM, Amenga-Etego S, Ariff S, Bahl R, Baqui AH, Begum N, Bhandari N, Bhatia K, Bhutta ZA, and Biemba G. Population-based rates, timing, and causes of maternal deaths, stillbirths, and neonatal deaths in South Asia and sub-Saharan Africa: a multi-country prospective cohort study. *The Lancet Global Health* 2018; 6: e1297-e1308.
14. Tukisi KP. Midwives' descriptions of avoidable causes of negative perinatal outcomes. *Health SA Gesondheid* 2023; 28.
15. National Department of Health. *Saving Mothers: Annual Report for 2020 APRIL 2020 TO MARCH 2021 includes data for the first year of the COVID-19 pandemic*. 2020. Pretoria, South Africa: National Department of Health.
16. Mhlophe C. *Factors contributing to the occurrence of stillbirths in a tertiary hospital*. University of Pretoria (South Africa), 2019.
17. Polit DF and Beck CT. *Essentials of nursing research: Appraising evidence for nursing practice*. 9th ed. Philadelphia: Lippincott Williams & Wilkins, 2018.
18. Polit D and Beck C. *Essentials of nursing research: Appraising evidence for nursing practice*. Lippincott Williams & Wilkins, 2020.
19. Kiger ME and Varpio L. Thematic analysis of qualitative data: AMEE Guide No. 131. *Medical teacher* 2020; 42: 846-854.
20. Eso-Obaleye OR. Community perceptions, knowledge, and attitudes on causes of stillbirths (CPKACS). 2022.
21. Bolan N, Cowgill KD, Walker K, Kak L, Shaver T, Moxon S, and Lincetto O. Human resources for health-related challenges to ensuring quality newborn care in low-and middle-income countries: a scoping

review. *Global Health: Science and Practice* 2021; 9: 160-176.
22. Maleta KS, Tau MG and Bopape MA. Evaluation of Midwifery Practices among Registered Midwives in Selected Hospitals in Limpopo Province, South Africa. *Women* 2024; 4: 144-156.
23. Baloyi OB and Jarvis MA. Continuing professional development status in the World Health Organisation, Afro-region member states. *International Journal of Africa Nursing Sciences* 2020; 13: 100258.
24. World Health Organization. Standards for improving the quality of maternal and newborn care in health facilities. 2016.
25. Roberts LR, Nick JM, Sarpy NL, Peters J, and Tamares S. Bereavement care guidelines used in health care facilities immediately following perinatal loss: a scoping review. *JBI Evidence Synthesis* 2024: 10.11124.
26. Mosoma A, Thopola M and Mathebula G. The use of herbal medicine by pregnant women during the intrapartum period at selected public hospitals in Sekhukhune District, Limpopo, South Africa. 2021.
27. Laelago T. Herbal medicine use during pregnancy: benefits and untoward effects. *Herbal medicine* 2018: 103-119.
28. El Hajj M and Holst L. Herbal medicine use during pregnancy: A review of the literature with a special focus on Sub-Saharan Africa. *Frontiers in pharmacology* 2020; 11: 866.