The Open Public Health Journal
DOI: 10.2174/0118749445356679241122110424, 2025, 18, e18749445356679
ISSN: 1874-9445

RESEARCH ARTICLE **OPEN ACCESS**

Indigenous Placenta Disposal: The Views of Midwives and Traditional Birth Attendants/Indigenous Knowledge Holders in Tshwane District, Gauteng Province, South Africa

Cecilia Moeti[1,*], Fhumulani Mavis Mulaudzi[1] and Molatelo Melitah Rasweswe[2]

[1]*Department of Nursing, Faculty of Healthcare Sciences, University of Pretoria, Pretoria, South Africa*
[2]*Department of Nursing, Faculty of Healthcare Sciences, University of Limpopo, Polokwane, South Africa*

Abstract:

Background: Prior to the development of modern obstetric services, indigenous people had their own ways of disposing placenta, which are still practiced in some communities. However, persistent gaps exist in the South African healthcare system that deals with the integration of indigenous knowledge and Western medical services due to constraints in knowledge and expertise.

Methods: A qualitative approach using explorative design guided by the 5D appreciative inquiry model was employed. The participants were ten midwives, four traditional midwives, and six indigenous knowledge holders, who were recruited through a purposive sampling method. Data were collected through semi-structured individual interviews. Content data analysis was followed.

Results: Knowledge of the indigenous placenta disposal was discovered from the data, although some of the midwives had no idea. It was also discovered that indigenous placenta disposal is regarded as a valuable practice that should be respected, and the legislature on indigenous placenta disposal should be recognised and acknowledged.

Conclusion: The findings have demonstrated the significance of understanding and appreciating the various indigenous placenta disposal methods,and the need to legislate the historical impact on its beliefs and practices. This paper has thus aimed to explore and describe the views of the midwives and traditional birth attendants/indigenous knowledge holders in the Tshwane district, Gauteng province, South Africa.

Keywords: Midwife, Placenta, Culture, Disposal, Indigenous knowledge holder, Traditional midwife.

*Address correspondence to this author at the Department of Nursing, Faculty of Healthcare Sciences, University of Pretoria, Pretoria, South Africa; E-mail: u99110530@tuks.co.za

Cite as: Moeti C, Mulaudzi F, Rasweswe M. Indigenous Placenta Disposal: The Views of Midwives and Traditional Birth Attendants/Indigenous Knowledge Holders in Tshwane District, Gauteng Province, South Africa. Open Public Health J, 2025; 18: e18749445356679. http://dx.doi.org/10.2174/0118749445356679241122110424

Received: September 18, 2024
Revised: October 28, 2024
Accepted: November 04, 2024
Published: January 16, 2025

1. INTRODUCTION AND BACKGROUND

A placenta is a complex and dynamic organ that connects the pregnant mother to the fetus (unborn baby) through the umbilical cord [1]. The significant value of a placenta is appreciated by both Western and indigenous medicine as it performs various functions, such as supplying oxygen, nutrients, and hormones from the mother to the unborn baby, and acts as a shield to protect the fetus from toxins while in utero [1, 2]. A placenta's significance continues even after its birth and disposal. The act of disposing of a placenta is seen to mark a significant turning point in the life of a mother and her child as it contributes to the survival of humanity. It is regarded as sacred in various cultures [3, 4]. However, every society has its traditions, customs, superstitions, folktales, practices, and procedures regarding the disposal of placentas [5], which vary based on their meanings and benefits.

The meanings and benefits are linked to the cultural rituals significant to the reproductive health and well-being of indigenous women, their babies, and the community at large. For example, in Australia, it is believed that a placenta is an organ that keeps a pregnant woman and the unborn baby bonded in the uterus and, thus, a powerful symbol of birth, spirituality, motherhood, fertility, and life [6]. As a result, the placenta is either buried under a specially selected plant or the umbilical cord is left uncut following childbirth and allowed to dry and break on its own [7]. After several rites and rituals, the disposal is completed to honor the spiritual aspect of the birth experience [6]. In South Africa (SA), the selected pieces of the placenta and umbilical cord are dried and crushed into powder, and then used to treat infertility and promote sibling bonding or congenital love [8].

In the healthcare facilities set up, a placenta is treated as medical waste and incinerated [9, 10]. In South African healthcare facilities, after birth, the midwives check the placenta for completeness or abnormalities and store it in a freezer for later disposal through pathological waste protocols [11].

The disposal of the placenta in both the Western and the indigenous cultures requires the skills of either a midwife, Traditional Birth Attendant (TBA), and/or Indigenous Knowledge Holder (IKH). In SA, a midwife is described as a person who has completed a basic prescribed program in midwifery and licensed by the South African Nursing Council (SANC) as an independent practitioner who is permitted to practice as a midwife in the jurisdiction of SA [12]. Midwives are trained healthcare professionals who provide a full spectrum of maternal and newborn care, including prenatal, labor, delivery, and postpartum services. Their roles include providing education on maternal health and ensuring safe delivery practices within healthcare facilities. Midwives are key to bridging gaps between traditional and modern healthcare systems. TBA is a pregnancy and childbirth care provider practicing within the confines of traditional folk medicine learned through direct experience or passed from generation to generation [13]. Thus, TBAs are community-based practitioners who often support women during pregnancy, labor, and delivery in areas where access to formal healthcare may be limited. Their role includes offering culturally relevant birth practices, providing emotional and physical support to mothers, and, in some cases, assisting with basic neonatal care.

While TBAs may lack formal medical training, they often have a strong understanding of local customs and practices and serve as trusted caregivers within their communities. Furthermore, a TBA is described as a person who assists a mother during childbirth and who has initially acquired his/her skills by delivering babies themselves or through apprenticeship with other TBAs [14]. The IKH is a member of local and indigenous communities who is deeply knowledgeable in a variety of indigenous knowledge domains. This person is well-known in the community for his/her breadth of knowledge and level of expertise, such as pregnancy and childbirth [15]. The IKHs are, therefore, custodians of indigenous health knowledge, including practices related to pregnancy, birth, and postpartum care that have been passed down through generations. They play a vital role in preserving cultural practices and beliefs surrounding maternal health and can include elders, herbalists, or community healers. Their expertise often covers natural remedies, spiritual support, and preventive practices that are integral to community identity and well-being, helping to provide culturally grounded care for mothers and infants. In SA, they both care for low-risk women before, during, and after childbirth, including placenta birth, care, and disposal, depending on the preference of the individual or family. Both TBAs and IKHs are important people who play a role in preserving and promoting the culture of mothers with respect to placenta disposal. The roles of midwives, TBAs, and IKHs highlight the intersection of traditional and modern healthcare practices, helping to capture how diverse knowledge systems contribute to maternal and neonatal health.

Currently, in SA, indigenous women giving birth at healthcare facilities are given the option of taking the placenta home for indigenous disposal. However, there are no precise guidelines or directives on how the process ought to unfold in a safe and secure state. The supreme law of the country informs the right to practice indigenous beliefs with respect and dignity [16]. Meanwhile, in SA, women are granted permission to obtain or use any tissue lawfully upon request [17]. Although the review that investigated placenta disposal among indigenous cultures worldwide shed light on various methods of placenta disposal outside of medical facilities, including SA [7], there is still a need to gain further insight on the topic. In addition, to date, there has been limited research investigating the views of midwives and TBAs/IKHs regarding the indigenous placenta disposal method [18].

The limited information provided to indigenous women on the handling of the placenta may lead to cross-infections in humans and animals due to toxins or pathogens that the placenta may carry. The SANC regulates the scope of practice for nurses and midwives and recommends them to provide adequate care, including routine health education to the women [12]. Women who opt to take their placentas home should be thoroughly informed about the risks, benefits, and available options when it comes to the management and its disposal at home. The aim of this paper was to explore and describe the views of the midwives and traditional birth attendants/indigenous knowledge holders in Tshwane district, Gauteng province, South Africa.

2. MATERIAL AND METHODS

2.1. Research Design

This study has adopted an exploratory qualitative design, guided by the 5D Appreciative Inquiry (AI) model to explore the views of midwives and TBAs/IKHs on indigenous placenta disposal methods for women birthing in Tshwane district, South Africa. The discovery phase of AI served as the foundation for research design, guiding

the overall approach to data collection. This phase was dedicated to identifying the strengths, values, and successful practices of the participants, ensuring that the study remained focused on positive aspects rather than deficiencies.

2.2. Setting

The study took place in SA, Tshwane district, which is a metropolitan municipality with a population of about 4,040,315 people [19]. Tshwane district is one of the five districts situated in the northern part of Gauteng province. It has urban, peri-urban, rural, and informal settlements. The sampled healthcare facilities were both public sectors providing a 24-hour maternity service and being in semi-urban as well as urban areas, surrounded by informal settlements hosting a multi-ethnic population from and outside SA, receiving health services as needed.

2.3. Population and Sampling

In this study, participant demographics were drawn from three distinct groups: midwives, TBAs, and IKHs. While midwives represent those formally trained in clinical settings, TBAs bring expertise grounded in traditional birthing practices, and IKHs contribute broader cultural and indigenous knowledge on maternal health. Each group was selected to provide a balanced and comprehensive perspective on the disposal of the placenta. However, the proportion of participants within each category differed due to availability and specific expertise relevant to this study's aims. This selection approach has ensured a rich diversity of insights while acknowledging variations in participant group sizes.

Purposive sampling was used to recruit midwives who have worked for more than six months in the maternity units. Both purposive and snowball sampling was used to recruit TBAs and IKHs residing in peri-urban, rural, or informal settlements of the Tshwane district. The use of these sampling methods was guided by the need to engage participants with direct, practical knowledge of indigenous maternal health practices within peri-urban, rural, and informal settlement contexts, where TBAs and IKHs are actively involved. The researcher was referred to TBAs/IKHs who were deemed familiar with the study subject by the community leader and other TBAs/IKHs. Four TBAs and six IKHs agreed to take part in the study. The current sample size has reflected both logistical constraints and the availability of TBAs and IKHs within the Tshwane district being accessible and willing to participate. There were three midwives recruited from each selected hospital and two midwives from each Community Health Centre (CHC).

2.4. Data Collection

Prior to data collection, an interview guide was piloted with two midwives outside the selected healthcare facilities and two TBAs/IKHs residing in the Tshwane district; however, this did not form part of the study. This was to test the feasibility of the study guide to identify challenges that can be rectified prior to the commencement of the study.

The data collection process was guided by the 5D model of Appreciative Inquiry (AI), but the focus was primarily on the discovery phase, emphasizing on understanding and appreciating the strengths and best practices within the community. Individual in-depth interviews aimed at identifying the strengths, values, and successful practices of the participants. The interview questions were designed to elicit stories and experiences highlighting what participants believe to be the most effective aspects of disposing placentas indigenously. By asking open-ended questions, the researcher encouraged participants to share their insights on culturally relevant practices, fostering a narrative emphasizing the strengths available within their communities.

The researcher conducted individual in-depth interviews with ten midwives and ten TBAs/IKHs in Tshwane district, Gauteng province, South Africa, from 15 March, 2023, to 05 June, 2023. With the midwives, the interviews took place in a private room to maintain confidentiality and in English. TBAs/IKHs were interviewed in English or their preferred local language (Sotho, Tsonga, Zulu, or Venda) at their respective homes in a quiet space. All the interviews lasted between 30 and 45 minutes. Probing questions were asked depending on the answers of the individual participants. The interviews were recorded using an audio recorder and the researcher documented the responses verbatim. The emphasis on strengths and positive practices not only guided the data collection, but also shaped the subsequent analysis. By focusing on the successful aspects of indigenous placenta disposal methods, the study aimed to contribute to a greater understanding of how these practices can be integrated into formal healthcare protocols, respecting cultural traditions and enhancing maternal care.

2.5. Data Analysis

The discovery phase of the appreciative inquiry model has guided the analysis. Following the interviews, the researcher and co-authors have engaged in a reflective process to analyze the data. This has included identifying themes emerging from the participants' narratives, ensuring that these themes accurately reflect the strengths and values articulated during the interviews. This collaborative approach has ensured the findings to remain grounded in the appreciative perspective of AI. The discovery phase has emphasized recognizing what aspects have been working well in the community, focusing on the inherent strengths in indigenous practices and cultural beliefs surrounding maternal health. By centering on the discovery phase, we have aimed to reveal practices contributing positively to maternal care, including the cultural wisdom embedded in traditional methods.

The process of data analysis has involved the transcription of the interviews being verbatim and their comparison with the audio recording to ensure not missing any data. During transcription, the data have been de-identified by using numbers instead of actual names. The field notes and transcripts have been read and re-read by all authors with a moderator to ensure no omissions or gaps in data.

After reflecting on the data, the views have been put in writing so that they could be compared and referred to at a later stage when analysing the data. This has guaranteed the credibility of the data. Additionally, it has ensured that no data is misplaced or lost. After that, the transcript of the organized data has been coded by the lead author.

Codes describing similar types of data have been grouped to identify subcategories, and similar sub-categories have been combined to form categories [20]. Using the discovery phase, the lead author has coded the data with an emphasis on capturing the participants' expressions of pride, respect for cultural traditions, and community-centered practices related to maternal health. This strength-based approach has transformed the coding process into a search for what participants have valued most, thus offering a nuanced understanding of how cultural practices contribute to healthcare. Categories have also been evaluated by the co-authors. They have then been generated and categorized to make sure no data has been left over from the analysis and that the interview data has been used to identify themes pertinent to the study's objective. The discovery phase has helped direct attention toward identifying themes reflecting the cultural assets and strengths of the participants. This appreciative approach has allowed to move beyond merely cataloging practices to understanding their broader significance within the community. The final themes have been reviewed through consensus among all authors and validated against the discovery phase principles of AI to ensure that they have truly reflected the community's strengths. Thereafter, through a consensus discussion, a co-coder has confirmed that the categories surfaced have accurately reflected the work and been consistent with AI's discovery framework, ensuring the analysis as both rigorous and align with a culturally appreciative perspective.

2.6. Quality Criteria

Trustworthiness in the research has been ensured using the following principles: credibility has been safeguarded by prolonging data collection and analysis. Re-reading and listening to the audio recorder repeatedly in comparison to the field notes has also provided credibility to the study. Authenticity has been ensured by providing study information, such as the study aim, objective, *etc*., through pamphlets to the participants before commencing data collection. Dependability has been attained through the recruitment of participants with experience in the subject studied. Conformability has been secured by engagement with fellow researchers to review and interpret the findings in order to minimise bias.

2.7. Ethical Considerations

Prior to data collection, ethical approval has been obtained from the University of Pretoria, Faculty of Health Science Research Ethics Committee (REC) no. 497/2022. The National Department of Health (NDoH), Tshwane district, has provided permission to collect data at the healthcare facilities (reference number 02/2023), while the Xiseveseve Cultural Group leader has allowed to access TBAs and IKHs at their respective places of stay. An informed consent for participation and the use of an audio recorder has been obtained. To ensure confidentiality and anonymity, numbers have been allocated to each participant instead of their real names. The study objectives have been explained to the participants and that their participation is voluntary. They have also been informed that they can withdraw from participating at any time, without being punished in any way.

Table 1. Participants' demographic profile.

Participant Category	Age in Years	Highest Qualification	Experience in the Specialty Area
midwife	29	Diploma in midwifery	2 years
midwife	36	Diploma in midwifery	1 year
midwife	29	Diploma in midwifery	8 months
midwife	53	Diploma in midwifery	8 years
midwife	27	Diploma in midwifery	8 months
midwife	31	Advanced Diploma in midwifery	7 years
midwife	32	Diploma in midwifery	5 years
midwife	42	Diploma in midwifery	3 years
midwife	51	Diploma in midwifery	5 years
midwife	49	Advanced Diploma in midwifery	9 years
Traditional birth attendant	32	Diploma in Teaching	2 years
Traditional birth attendant	47	Secondary qualification	3 years
Traditional birth attendant	60	No formal education	4 years
Traditional birth attendant	67	No formal education	8 years
Indigenous knowledge holder	44	Matric	3 years
Indigenous knowledge holder	48	Secondary education	6 years
Indigenous knowledge holder	57	No formal education	3 years
Indigenous knowledge holder	40	Primary education	2 years
Indigenous knowledge holder	39	Matric	2 years
Indigenous knowledge holder	61	No formal education	7 years

3. RESULTS

Table **1** illustrates the demographic profile of the participants involved in this study. Three themes have emerged from the data collected, namely knowledge of the indigenous placenta disposal, cultural respect and recognition, and acknowledgement of the existing legislature.

3.1. Theme 1: Knowledge of Indigenous Placenta Disposal

The findings have suggested midwives to have a different view of the knowledge of indigenous placenta disposal, with some lacking knowledge on the subject matter. This has seemed not to be new to some due to their personal experience. The traditional birth attendants and IKHs have shared the knowledge of how the practice of indigenous placenta disposal is carried out and the meaning attached to each method.

"In my culture, they use to bury the placenta with the umbilical cord, it's our culture like the aunts and grannies get involved in this ritual." (M5)

"I know that mothers are allowed to take it home for disposal, but I do not know how they dispose it, maybe they make a "muti" to strengthen a child to grow well, I am not sure." (M8)

"*The placenta is disposed by the woman's grandma in the flowing river to be eaten by water animals."* (TBA4)

"*We dig a deep hole and put it inside and talk to the ancestors when burying it so that the ancestors can know of the arrival of the baby and plant a tree on top if you want*." (IKH5)

Another participant mentioned that "*In my culture, we bury it in an ant hill because the anthill poses great ancestral powers. We must be careful by not digging too low for animals to get access to it, otherwise the woman will not be able to bear children anymore in her life."* (IKH1)

3.2. Theme 2: Cultural Respect

The midwives' responses showed how the indigenous placenta disposal method has been respected and carried with high regard in their culture. This could be due to the significant role it plays in the lives of the child, mother, and father. The findings have also indicated that despite midwives having limited knowledge of the indigenous placenta disposal methods, they have continued to respect the women's culture by not being judgmental and refusing them their placentas. The following responses have been in support of the statement.

"*The placenta burial connects the mother and the baby to the ancestors, so as Africans, it is very crucial, hence the ritual is carried out with uttermost respect.*" (IKH2)

"The burial site becomes a sacred place to be respected as it becomes a shrine where the child can communicate with the ancestors later in life." (IKH3)

"*The way the placenta is disposed determines the fertility of a woman. If it is tossed and lands in folds, the woman will not be able to bear children again. If it is discarded facing where the sun sets, the woman will bear stillbirths. In this way, these rituals of disposal should be respected at all costs*." (TBA2)

"Educated as we are but we have different cultural backgrounds. As much as I said in the beginning, I respect somebody else's cultural issues because I also come from a home that is traditional and cultural; I don't judge because it is their beliefs." (M1)

"I think it's according to their culture and beliefs. So, we must not impose Western ways but respect their ways of knowing." (M2)

3.3. Theme 3: Recognition and Acknowledgment of Existing Legislation

Major concerning responses were displayed by midwives on the limitations of legislative protocols that guide the release of the placenta for indigenous disposal. They stated that this leads to inconsistency in releasing the placenta and the information shared with indigenous women. The midwives were of the opinion that the availability of legislative protocols can guide the safe placenta release and ensure consistency, leading to a positive health outcome, bearing in mind the risk of infection carried by the placenta. The midwives' responses indicated that they were aware that by requesting their placentas for indigenous disposals, these women were within their full rights. The responses from TBAs/IKHs showed that they were aware of their rights and were pleased that women who opt to deliver at the healthcare facilities will minimise the risks of compromising their traditional customs by having their placentas burned.

"As midwives, it is hard to release the placenta without any policy to guide us. We use our own discretion, and we might go wrong somewhere." (M3)

"The placenta is enriched with blood which can pose a risk of infection, but the Department of Health does not care about these women. If they cared, they could have developed guidelines to ensure that it is disposed safely while not compromising the ritual." (M5)

"By requesting their placenta, they are exercising their rights, I guess as midwives we need to understand and not judge them, yes. I personally don't have a problem with that, to be quite honest. The Human Tissue Act covers them, whether we like it or not." (M6)

"*We used to have women delivering at home because we wanted the placenta as its disposal is important to us. Now that the law caters to us, those who choose to deliver at the hospital will be able to take their placentas home for indigenous disposal, I'm happy with that*." (TBA4)

"I think the owner of the placenta is the woman who birthed it, and it is her right to decide what to do with it." (IKH4)

4. DISCUSSION

This study has aimed at exploring and describing the views of the midwives and TBAs/IKHs in the Tshwane district, Gauteng province, South Africa. The study

findings have revealed midwives in Tshwane district healthcare facilities to lack information on the subject matter, preventing them from providing useful information to the women. They have also been observed to have respect for their patient's culture by not imposing what they have been taught during their training on disposing the placenta. Furthermore, the findings have shown midwives to be acquainted with the law advocating for respect of one's cultural practices and the release of the placenta to women upon request [16, 17]. The findings of this study have revealed a common practice of disposing of the placenta through burial, connecting the child to the ancestors for protection through the land. This has been found to be similar to a qualitative study findings conducted in Benin [21]. This method has been reported to be a widespread practice among societies worldwide, including Nigeria, Australia, Ghana, and SA [5, 6, 22]. The paper's findings have also disclosed burying the placenta to symbolise spirituality and follow certain rituals that should be respected.

The findings have also noted that in all instances, the placenta is disposed cautiously by indigenous groups because it is thought to be a storehouse that possesses remarkable power for the mother and child [23]. Our findings have also confirmed the benefits of respecting this culture to preserve fertility. Moreover, other authors have argued regarding a poorly buried placenta to eliminate the mother's chances of becoming pregnant again [23]. The findings have revealed prominent female structures within the families to be responsible for carrying out the ritual of disposing the placenta. However, in a study conducted in Nigeria, the husbands were deemed acceptable people to perform such rituals [5]. The findings have noted a commonality among the ethnic groups in disposing placentas indigenously, being acknowledged, appreciated, honored, and respected even though having different connotations.

The findings have also shown various indigenous placenta disposal methods to be practiced in the Tshwane district, similar to other countries. These rituals have been reported to be sacred to the indigenous groups as non-adherence to them could impact negatively the mother or the baby. Midwives being knowledgeable on indigenous placenta disposal are essential to ensure a culture-sensitive midwifery service.

Through the study findings, both midwives and TBAs/IKHs have been found to be aware of and acknowledge the existing legislatures; however, despite this, the National Department of Health in SA has limited protocols guiding midwives on the safe release of placenta for indigenous disposal. The creation of clear, standardized protocols for midwives could provide guidance on when and how placentas can be released for indigenous disposal. These protocols could address consent procedures, documentation requirements, and safe handling practices to ensure that both healthcare standards and cultural practices are respected. This, however, has been found to differ with countries, such as Australia, Massachusetts, New York, the United States of America, and Canada, where policies governing and guiding the culturally safe transportation and disposal of placentas are available [24, 25]. For example, in Australia, culturally sensitive healthcare practices have been increasingly integrated and embedded within national health policies, ensuring that healthcare professionals are guided by clear, standardized protocols respecting indigenous practices. Comparing these practices with the South African context has highlighted the need for similar, structured legislative reforms.

Furthermore, drawing from international examples, South Africa's National Department of Health could establish specific legislative guidelines that could formalize the safe release of placentas for cultural disposal. These guidelines could not only provide midwives with clear protocols, but also establish conditions under which placenta release can be permitted, aligning with indigenous cultural practices. Such reforms could involve creating frameworks for obtaining informed consent, defining the roles of healthcare providers, and setting safe handling procedures being culturally appropriate.

In addition, midwives in this study have pointed out that recognizing and aligning with existing legislative protocols for placenta disposal can play a critical role in ensuring both cultural respect and health safety or outcomes. These protocols, already governing biomedical waste management [17], can provide a framework that can be adapted to accommodate indigenous practices. Midwives believe that adhering to these legislative guidelines can help mitigate the infection risks posed by placental materials, ensuring consistency in disposal practices and ultimately leading to improved health outcomes.

Improper placenta disposal, particularly in areas with limited sanitation infrastructure, can carry significant infection risks [26], including bacterial contamination and bloodborne infections. Given the environmental and health implications, this study recommends enhanced health education initiatives to inform communities about safe disposal practices within the legislative framework. By fostering collaboration between healthcare providers and indigenous communities, it can become possible to harmonize cultural practices with safe disposal protocols, reinforcing health systems' role in respecting cultural values while adhering to health legislation. These recommendations also underscore the need to support midwives, TBAs, and IKHs through clear, culturally sensitive guidelines that align with national health regulations and bolster community trust.

This study has, thus, highlighted the need for a culturally respectful approach to placenta disposal that aligns indigenous practices with healthcare safety standards. To achieve this integration without compromising safety, it is essential for healthcare facilities to adopt a framework that incorporates indigenous beliefs and practices while adhering to existing health legislation. Actionable recommendations for healthcare practitioners include engaging in regular cultural competency training to understand and respectfully support indigenous

practices. Healthcare teams can work closely with TBAs, IKHs, and community leaders to co-design disposal protocols that respect cultural customs. Midwives are encouraged to establish open channels of communication with TBAs and IKHs to promote consistent practices across settings.

CONCLUSION

Overall, this study on indigenous placenta disposal practices in the Tshwane district has provided a vital cultural lens in an under-researched area in maternal healthcare. It has highlighted the need for healthcare systems to respect and incorporate indigenous traditions while pointing out gaps in legislative and practical guidance. This study's strength lies in its cultural relevance and ethical research design. The discovery phase of AI has played an instrumental role in unearthing valuable insights. This phase has allowed for a collaborative exploration of participants' positive experiences and cultural values, revealing foundational themes informing the study's current findings. The study could be further enhanced by expanding legislative analysis, diversifying the participant sample, and employing a stronger theoretical framework, making it a more comprehensive resource for integrating indigenous practices into public health policies and healthcare services. With these improvements, this work could serve as a more comprehensive resource for integrating indigenous practices in public health policy and healthcare delivery systems.

LIMITATIONS

This study has involved some limitation. The sample size for midwives, TBAs, and IKHs has been small to generalize findings across the Tshwane district, let alone South Africa. However, the emphasis on a smaller sample has allowed a focused and in-depth engagement as well as a nuanced understanding of participants' experiences and practices, which may not have been feasible with a broader participant pool. To overcome this limitation, future research could indeed expand sampling to other regions and healthcare settings to validate and build upon these findings.

AUTHORS' CONTRIBUTION

C.M.: writing the paper; F.M.M.: writing, reviewing and editing; M.M.R.: writing, reviewing and editing.

LIST OF ABBREVIATIONS

IKH	=	Indigenous Knowledge Holder
CHC	=	Community Health Centre
SA	=	South Africa
SANC	=	South African Nursing Council
TBA	=	Traditional Birth Attendant
M	=	Midwife

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Prior to data collection, ethical approval has been obtained from the University of Pretoria, Faculty of Health Science Research Ethics Committee (REC), South Africa (no. 497/2022).

HUMAN AND ANIMAL RIGHTS

All human research procedures followed were in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013.

CONSENT FOR PUBLICATION

An informed consent for participation and the use of an audio recorder has been obtained.

AVAILABILITY OF DATA AND MATERIALS

The source of data and materials mentioned in the manuscript are available within the article.

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

ACKNOWLEDGEMENTS

The study participants have been appreciated by the authors for their invaluable time and contributions. The University of Pretoria Postgraduate Bursaries has partially funded this paper. The National Research Funding (NRF) has funded the writing course.

REFERENCES

[1] Gude NM, Roberts CT, Kalionis B, King RG. Growth and function of the normal human placenta. Thromb Res 2004; 114(5-6): 397-407. http://dx.doi.org/10.1016/j.thromres.2004.06.038

[2] Burton GJ, Fowden AL. The placenta: A multifaceted, transient organ. Philos Trans R Soc Lond B Biol Sci 2015; 370(1663): 20140066. http://dx.doi.org/10.1098/rstb.2014.0066 PMID: 25602070

[3] Yoshizawa RS. Review: Public perspectives on the utilization of human placentas in scientific research and medicine. Placenta 2013; 34(1): 9-13. http://dx.doi.org/10.1016/j.placenta.2012.10.014 PMID: 23182956

[4] Dickinson E, Foss K, Kroløkke C. Empowering disgust: Redefining alternative postpartum placenta practices. Womens Stud Commun 2017; 40(1): 111-28. http://dx.doi.org/10.1080/07491409.2016.1247400

[5] Esan DT, Ogunkorode A, Bolajoko B, Adetunji AJ, Okareh OT. Sociocultural beliefs and practices on placenta disposal and processing among multiparous women. LJN 2022; 65-74.

[6] Burns E. More than clinical waste? Placenta rituals among Australian home-birthing women. J Perinat Educ 2014; 23(1): 41-9. http://dx.doi.org/10.1891/1058-1243.23.1.41 PMID: 24453467

[7] Moeti C, Mulaudzi FM, Raswesweswe MM. The disposal of placenta among indigenous groups globally: An integrative literature review: Int J Reprod Med. Int J Reprod Med 2023; 2023: 1-10. http://dx.doi.org/10.1155/2023/6676809

[8] Knapp van Bogaert D, Ogunbanjo GA. Post birth rituals: Ethics and the Law. S Afr Fam Pract 2008; 50(2): 45-6.

http://dx.doi.org/10.1080/20786204.2008.10873693
[9] Fannin M, Kent J. Origin stories from a regional placenta tissue collection. New Genet Soc 2015; 34(1): 25-51. http://dx.doi.org/10.1080/14636778.2014.999153 PMID: 25745355
[10] Tadesse ML, Kumie A. Healthcare waste generation and management practice in government health centers of Addis Ababa, Ethiopia. BMC Public Health 2014; 14(1): 1221. http://dx.doi.org/10.1186/1471-2458-14-1221 PMID: 25424604
[11] Guidelines for maternity care in South Africa. A manual of clinics, community health centres and district hospitals. Pretoria: Government Printers 2016.
[12] Nursing Act, 2005 (Act No.33 of 2005), Government Gazette, Republic of South Africa. 2005.
[13] Abdul-Mumin KH. Village midwives and their changing roles in Brunei Darussalam: A qualitative study. Women Birth 2016; 29(5): e73-81. http://dx.doi.org/10.1016/j.wombi.2016.04.002 PMID: 27105748
[14] World Health Organization. Traditional birth attendants: a joint WHO/UNFPA/UNICEF statement. Geneva. 1992.
[15] Mosimege MD. Research protocols and ethical considerations in Indigenous Knowledge Systems. Handbook of research on theoretical perspectives on indigenous knowledge systems in developing countries. IGI Global 2017; pp. 156-72. http://dx.doi.org/10.4018/978-1-5225-0833-5.ch007
[16] Republic of South Africa. The Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996). Pretoria: Government Printer. 1996.
[17] Government Gazette, Republic of South Africa. Human Tissue Amendment Act 1989.
[18] Mota-Rojas D, Orihuela A, Strappini A, *et al*. Consumption of maternal placenta in humans and nonhuman mammals: Beneficial and adverse effects. Animals 2020; 10(12): 2398. http://dx.doi.org/10.3390/ani10122398 PMID: 33333890
[19] Census 2022 Statistical Release. Statistics South Africa Census 2022 Statistical Release Pretoria: Statistics South Africa. 2022.
[20] Grove SK, Gray J. Understanding nursing research: Building an evidence-based practice. St. Louis, Missouri: Elsevier 2019.
[21] Chikako N, Joseph VA. Spiritual meaning of placenta disposal. J Compr Nurs Res Care 2017; 2(1) http://dx.doi.org/10.33790/jcnrc1100106
[22] Adatara P, Strumpher J, Ricks E, Mwini-Nyaledzigbor PP. Cultural beliefs and practices of women influencing home births in rural Northern Ghana. Int J Womens Health 2019; 11: 353-61. http://dx.doi.org/10.2147/IJWH.S190402 PMID: 31239788
[23] Kpadonou E F, Kpadonou GT, Azon-Kouanou A, Aflya MG. Placenta processing: Sociocultural considerations and impact on the future of child in benin. J Child Adolesc Behav 2015; 3(4) http://dx.doi.org/10.4172/2375-4494.1000222
[24] Cohen M. The law of self-eating—milk, placenta, and feces consumption. Law, Technology and Humans 2021; 3(1): 109-22. http://dx.doi.org/10.5204/lthj.v2i2.1490
[25] Baergen RN, Thaker HM, Heller DS. Placental release or disposal? Experiences of perinatal pathologists. Pediatr Dev Pathol 2013; 16(5): 327-30. http://dx.doi.org/10.2350/13-05-1338-OA.1 PMID: 23815756
[26] Nnagbo JE, Ugwu GO, Eze MI, *et al*. Placenta disposal practices among doctors and nurses in obstetric units of secondary and tertiary health facilities in Enugu state, Nigeria. Niger J Med 2023; 32(4): 388-96. http://dx.doi.org/10.4103/NJM.NJM_82_23