Cultural Beliefs of Zulu Women During Pregnancy, Labour, and Postnatal Infant Care in the KwaZulu-Natal Province of South Africa

Mmbulaheni Ramulondi
https://orcid.org/0000-0002-4011-477X
University of Venda, South Africa
mmbulaheni.ramulondi@univen.ac.za

Abstract

Numerous ongoing cultural beliefs begin at birth and continue throughout various stages of life. Women continue to observe these beliefs not only because they are traditions, but also because they hold meaning for them. This study explores the cultural beliefs and practices of Zulu women during childbirth. One hundred and forty women living in northern Maputaland were purposively selected and interviewed. Descriptive statistics were used to analyse data. The results indicated that all participants in this study were aware of and observed behavioural taboos during childbearing. Furthermore, 63% of the participants observed practices based on spiritual belief. The most widely observed behaviour taboo during pregnancy is that pregnant women are not allowed to attend funerals, while the most cited spiritual ritual is tying a string, given by the church or traditional healer, around the waist as a form of protection for pregnant women. The most practised ritual is that pregnant women burn a herbal plant (*impepho*) while in labour. After delivery, the most widely performed ritual is tying a goat's skin (*isiphandla*) around the newborn baby's hand. While cultural practices related to pregnancy, labour, and postnatal infant care continue to be observed in Zulu society, it is essential to identify and promote good practices while discouraging harmful ones. Understanding the beliefs and practices of rural Zulu women from a cultural perspective will enable healthcare workers to provide culturally sensitive care and support, thereby improving maternal and child health.

Keywords: cultural practices; taboos; spiritual beliefs; Zulu women; childbirth

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Introduction

Worldwide, pregnancy and childbirth are associated with culturally based behaviours, ceremonies, and rituals (Choudbry 1997). Various studies from low- and middle-income countries have shown that cultural beliefs significantly influence women's behaviour during pregnancy, childbirth, and care-seeking (Lori and Boyle 2011; Sacks et al. 2017; Ansong et al. 2022). These cultural beliefs have been passed down from generation to generation, and are implemented to ensure safety, a smooth pregnancy, and well-wishing for the baby (Rachmayanti et al. 2023).

Religious and spiritual beliefs also strongly influence the behaviour of women during pregnancy and postnatal infant care (Raman et al. 2016). As culture often determines how individuals view diseases and related conditions, some seek care at churches and traditional healers first, believing their issues are spiritual rather than recognising them as conditions that may require medical attention (Marabele et al. 2020). Although these cultural beliefs and practices are primarily based on hearsay without a scientific explanation, most of them are still preserved in these societies (Sahin and Sahin 2018). Pregnant women practise these cultural beliefs as a precaution to safeguard the health and well-being of both their unborn babies and themselves (Liamputtong et al. 2005). They believe that to become healthier, they need to take good care of themselves, follow cultural beliefs, and pray to God (Agus et al. 2012). The ancestors are believed to be responsible for the pregnancy; thus, children are born only because of their will. During pregnancy, diviners are consulted to appeal to the ancestor spirits for assistance in dealing with anxiety associated with pregnancy and help with a safe delivery (Nel 2007).

Some of these cultural beliefs may have harmful effects on pregnant women. For example, in Zambia, it is believed that giving birth alone signifies strength, independence, and fidelity to one's husband. However, this belief may be hazardous, as it delays medical assistance during complications, which can lead to maternal death (Maimbolwa et al. 2003). In South Africa, when labour takes too long, instead of a woman being rushed to the hospital, they are given a bottle to blow into. This technique enables her to conserve energy and deliver her baby efficiently (Oyama 2016). Common cultural beliefs across communities may also influence how health services are utilised. In their study, Drigo et al. (2021) found that women in the Mbombela area (South Africa) consult their ancestors first when they discover they are pregnant, delaying the start of proper antenatal care. If a woman does not adhere to these cultural beliefs, she is ostracised by her family and the community (Arzoaquoil et al. 2015). Any complications during birth are perceived to be a result of the woman's behaviours, possibly because she did not follow cultural beliefs (Liamputtong et al. 2005).

During the postpartum period, it is believed that women are vulnerable to evil forces, for which further cultural beliefs are performed as protection for the mother and the baby (Altuntug et al. 2018). Cultural beliefs also aim to restore the mother to a pre-pregnancy state after the baby is born and to facilitate the baby's growth (Ansong et al. 2022). Even though some of the cultural beliefs performed for newborn babies are not

harmful, some of these practices may delay the diagnosis of disease, as well as the treatment process, thereby adversely affecting neonatal health (Bas et al. 2019). For example, in Morocco, applying henna to a newborn's body can hinder early detection of neonatal jaundice (Moujahid et al. 2023). In South Africa, a baby showing signs of dehydration is said to be suffering from an indigenous childhood illness called "small *hlogwana*" (small head and the anterior fontanelle). In contrast, signs of meningitis or redness at the nape of the neck are interpreted as "big *hlogwana.*" Usually, after this diagnosis, babies are taken to the traditional healers for treatment, where problems may arise due to an overdose of traditional medicines, causing severe liver and kidney damage (de Villiers and Ledwaba 2003).

Cultural aspects of beliefs, knowledge, and practices of infant care appear to be widely explored worldwide. However, only a handful of studies have examined whether and how cultural beliefs shape maternal experiences among Zulu women in modern mainstream societies. Since cultural behaviours and spiritual beliefs during pregnancy, labour, and postpartum infant care may affect both the mother and the child, it is essential to evaluate the extent to which women in rural areas of northern Maputaland still adhere to these cultural beliefs. This study aims to document the cultural beliefs and practices of maternal care during pregnancy, labour, and postnatal infant care among Zulu women residing in northern KwaZulu-Natal.

Methodology and Ethics

The study is based in northern Maputaland, a rural area located in the KwaZulu-Natal Province of South Africa, predominantly populated by Zulu-speaking residents. It is situated along South Africa's northern border with Mozambique, bordered by the Indian Ocean to the east, Jozini Municipality to the west, Hluhluwe Municipality to the south, and Mtubatuba Municipality along the northern coastal belt of KwaZulu-Natal (Umhlabuyalingana 2023).

A qualitative study was conducted with 140 women, aged 18 to 90, with a history of childbirth, as well as with older women with expertise in cultural practices. This research involved collecting, analysing, and interpreting data. Prior to the study, permission to interview participants in their homes was obtained from the community leader (Mashabane Traditional Council). Ethical clearance was also obtained from the University of Zululand's Research Ethics Committee (UZREC 171110-03). The research took place between 2017 and 2020. Data collection was conducted by experienced researchers and assistants who had worked closely with local communities, developing a strong rapport with them. Data collection continued until saturation was reached. Semi-structured interviews were conducted with each participant at their homes, schools, and cashew nut farms, following a guided interview schedule. All the women in this study were eligible and participated voluntarily; they were carefully selected through purposive sampling. Additionally, participants' home locations were mapped using a Global Positioning System (GPS).

The interview schedule, which was designed in English and translated into the local language (isiZulu), elicits information about demographic data, cultural behaviour taboos, and spiritual beliefs practised during childbearing. To ensure confidentiality, participants were assigned numbers and formally addressed by them. Descriptive statistics were performed, data was analysed using frequency and percentage, and the findings were presented in tables (Table 1–4).

Study Findings

Socio-demographic Information

Different age groups (18–90 years old) were included to evaluate whether cultural knowledge of these beliefs and practices is transmitted from generation to generation. The results indicate that older women (50 years and above) retain more cultural knowledge than other age groups. Most participants are unemployed (52%), 39% are employed, and 9% are self-employed. The participants' educational qualifications included primary (18%), secondary (45%), and tertiary (21%) levels, with the remaining 16% having no formal education. There were, however, insignificant differences in the beliefs held by those with formal education and those without, for both beneficial and harmful cultural beliefs and practices. About 96% of the participants in the current study were attending antenatal clinics during their pregnancy, and they believe in a dual pregnancy care system. Women often experience a dualistic sense of responsibility to satisfy the expectations of both cultural and healthcare systems during childbirth (Buser et al. 2020). For instance, in the Lao People's Democratic Republic, most women who observe spiritual practices also attend antenatal care. The reasons indicated are to prevent complications during pregnancy, ensure a safer environment under medical supervision, and protect the health of both the mother and baby (Sychareum et al. 2016).

Reasons for Adhering to or Disregarding Traditional Beliefs and Practices

All participants in the current study were aware of and adhered to behavioural taboos during childbearing, and 63% also engaged in spiritual practices. This finding aligns strongly with other research conducted in various provinces of South Africa (Naidu and Nqila 2013; Mogawane et al. 2015). Among the 37% of participants who did not practice these spiritual beliefs, some cited prohibitions stemming from their Christian faith, while others cited a general lack of knowledge about such practices. Interestingly, some participants respected the behavioural taboos and practised spiritual beliefs even if they were unaware of the reasons behind them. They followed these taboos out of fear that disregarding them could negatively impact their health or that of their baby. While some traditional and spiritual practices mentioned in this study may be harmful and lack a scientific basis, others may offer beneficial effects during pregnancy. There have been few studies in South Africa that document the cultural beliefs still observed during childbearing. This study is unique as it also addresses postpartum infant care. The analysis of the current study's results was organised thematically.

Behaviour Taboos during Pregnancy and Labour

The findings (Table 1) reveal that cultural behaviour taboos encourage women to behave in a certain way to preserve pregnancy. More than half of the participants (69%) mentioned that it is a taboo for a pregnant woman to attend a funeral. Fear of miscarriage, delayed labour, and attraction of evil spirits were the most common reasons cited for observing this cultural behaviour taboo. In cases where a pregnant woman is to attend a funeral of a close relative, she must put the ashes from the fire or soil from the homestead on her abdomen, or drink water with ashes, or tie a piece of the *ilala* palm root (*Hyphaene coriacea* Gaertn.) around her waist during early pregnancy. She must not pick up stones at the funeral. This will prevent miscarriage and prevent the spirit of death from attacking the baby. This taboo seems to be widespread, as pregnant women in Russia, for instance, are also not allowed to go to the cemetery, in the belief that they will attract evil spirits which may cause the unborn child to go into a state of unconsciousness (Djandar 2003).

Similarly, in Thailand, pregnant women are also not allowed to attend funerals, because these are sad events that may affect pregnancy. If it is necessary for her to attend the funeral, she must wear a brooch on her abdomen to counterbalance the ill effects of a funeral on pregnancy (Liamputtong et al. 2005). Furthermore, in India, pregnant women are not allowed to see or touch any dead body (Pramanik 2008). In Indonesia, pregnant women are also prohibited from passing through a cemetery at night to ensure that the baby is not disturbed by Satan (Rachmayanti et al. 2023). In Uganda, it is believed that a pregnant woman should avoid seeing or burying a dead person or an animal, seeing someone drown, seeing a burning house, seeing someone commit suicide, or even seeing a rope used to commit suicide (Beinempaka 2015). Finally, this belief is also practised, for instance, in the Sotho culture of the Free State Province (South Africa), where it is forbidden to attend funerals while pregnant, out of fear of harbouring evil spirits (Mofokeng 2009).

The second most mentioned cultural behaviour taboo is that pregnant women are not allowed to wear tight clothes, or a scarf/cloth around their waist because it is believed that the umbilical cord will wrap around the baby's neck; the baby will not have freedom to play well; the baby will be born with a helmet on the head; the baby will fold its arms and labour will be difficult; as well as that the baby will be born disabled (Table 1). This corresponds once again to beliefs from other cultures. In Iraq, for example, pregnant women have reported that it is a taboo to wear tight clothes and high-heeled shoes during pregnancy, and they recommend that a pregnant woman should wear loose-fitting clothes and flat shoes (Al-Youzbari et al. 2007). In Namibia, pregnant women are prohibited from wearing trousers because it is believed that this will give the baby a prominent forehead. Wearing a scarf around the neck is also not recommended during pregnancy due to the belief that it may cause the baby to be born with the umbilical cord around the neck (Mulenga et al. 2016). In Sotho culture (Free State, South Africa), they believe that a pregnant woman should wear a loose, full-length dress, so that people may not know the gestational period of the pregnancy. They also believe that loose

clothes allow the baby to breathe, grow, and kick. No skirts are allowed during pregnancy, as skirts must be tied or fastened with a belt, which can obstruct labour (Mofokeng 2009). In Xhosa culture (Eastern Cape, South Africa), women are cautioned against tying any knots during pregnancy. Their elders also encourage them to wear loose-fitting clothes without any form of bows or knots, including decorative ones. It is believed that tying knots can cause a delay in the delivery process, even causing the death of the unborn baby (Naidu and Nqila 2013). This restriction is intended to promote healthy dressing habits among pregnant women. Wearing tight clothing during pregnancy can interfere with the physical changes that occur, such as the loosening of ligaments and the expansion of the chest and abdominal cavities, leading to discomfort. Additionally, this constriction may have negative health effects (Takehara et al. 2015). During antenatal classes, women are often advised to wear loose clothing to enhance comfort (Ngomane and Mulaudzi 2010). While the reasons participants give for adhering to this taboo may not be supported by scientific research, it is a beneficial practice that encourages women to avoid tight clothing that could negatively impact their pregnancy.

The third most mentioned cultural behaviour taboo is that pregnant women are not allowed to sleep during the day, because of the belief that the baby will then sleep during labour, causing delays or complications (Table 2). This behaviour taboo was also reported in the Lao People's Democratic Republic (PDR), where it is believed that sleeping during the daytime, while pregnant, could lead to difficult labour, retention of placenta, and jaundice in the baby. As such, pregnant women are advised not to take a nap during the day, even when they feel tired (Sychareum et al. 2016). Sleeping during the day is also considered taboo by Sotho women in the Free State. They also share this belief with Zulu women, who further emphasise that women must alternate between sleeping during the day and engaging in activity (Mofokeng 2009). In the literature, however, no scientific explanation has been found for how daytime sleep may obstruct or prolong labour (Chang et al. 2010; August et al. 2013).

According to Lee and Gay (2004), healthcare providers should recommend eight hours of sleep at bedtime during pregnancy to ensure adequate rest. During the first and second trimesters of pregnancy, hormonal changes can significantly reduce sleep quality, causing women to feel more tired during the day and experience increased sleep need. Pregnancy symptoms, such as heartburn, body aches, discomfort, increased urination, and the baby's movement, can also lead to poor sleep at night (Rajagopal and Sigua 2018). Poor sleeping may be detrimental to the labour and delivery process, as women may experience longer labour, more pain and discomfort during labour, and higher rates of preterm labour and necessary caesarean sections (Chang et al. 2010). Napping and frequency of afternoon napping during late pregnancy were found to reduce the risk of low birth weight (Song et al. 2018). Thus, pregnant women should not be discouraged from taking naps, as this can benefit birth outcomes.

Participants further reported that it is taboo to enter crowded areas, such as weddings, competitions, ceremonies, and Zulu traditional dances (Table 1). This is because one may meet up with people who use *muthi* (traditional medicine) that can affect pregnancy by causing a miscarriage, or tiredness and fatigue to the mother and the baby. Another reason is that, since in most ceremonies alcohol is provided, the baby might crave alcohol. A strong *muthi* called *intelezi*, which is usually sprinkled during ceremonies, may also affect the baby and lead to miscarriage. This taboo was also reported in Sotho culture, where women are not allowed to go to crowded places, in case they come across people who use bad *muthi* that may affect pregnancy negatively and cause complications (Mofokeng 2009).

One cultural behaviour mentioned for observation during labour was that a pregnant woman's husband must not fasten a belt during labour, as this may prolong labour (Table 1). This belief was also reported in a study done by Mothiba et al. (2015), where the practices to prevent labour included the husband of the pregnant woman not tying a belt around the waist, as it prolongs birth.

Spiritual Beliefs and Rituals Performed during Pregnancy, Labour and Infant Care

The Zulu people believe that the spirits of their ancestors constantly watch over the family, and therefore, the family should behave in a manner that pleases the ancestors (Mnguni 2006). During pregnancy, women also intensify their prayers to God for protection, safe delivery, and blessings (Aziato et al. 2016). Callister and Khalaf (2010) also report that these women believe that childbearing is a time of profound connection with their God. Zulu culture encompasses a range of spiritual beliefs and rituals observed during pregnancy, labour, and the postpartum period. The most cited ritual performed during pregnancy is the one in which a string, given by the church or a traditional healer, is tied around the woman's waist (Table 3). The most common reasons for performing this ritual during pregnancy are to prevent miscarriage, protect the baby from evil spirits, and prevent complications during pregnancy and delivery. In Limpopo Province (South Africa), *ritlangi* (runner grass) was reported to be cooked and tied around the waist of a pregnant woman to strengthen the pregnancy and to observe whether it was growing. Women also reported wearing a thread from traditional healers around their waist to protect pregnancy from aborting or premature birth (Ngomane and Mulaudzi 2010). These strings must be deemed part of one's body and only taken off when labour pains are experienced (Mogawane et al. 2015).

The second most frequently mentioned ritual performed during pregnancy is visiting spiritual healers for prayers and drinking water that has been blessed (blessed water), as it is believed to facilitate an easy delivery and prevent complications. This religious practice is common across Africa. In Uganda, a female priest is called to conduct rituals for a smooth delivery (Pramanik 2008). In Ghana, most women also reported seeking prayer from pastors during pregnancy. They believe that pastors have revelations about pregnancy, such as witchcraft aimed at adverse outcomes. Sometimes, pastors are also

consulted when women cannot feel foetal movements, and pregnant women also use blessed water as a religious artefact (Aziato et al. 2016).

During labour, pregnant women mentioned burning of *impepho* (a herbal plant, *Helichrysum* spp.) to ask the ancestors for an easy delivery and to reduce possible complications (Table 4). *Impepho* is a shrub that grows in the bush. Like incense, it is burned during ritual ceremonies when the head of the family wants to communicate with the ancestors (Mnguni 2006). In Xhosa culture (Eastern Cape), *impepho* is traditionally used to ward off evil and familiar spirits, or to appease ancestors. It is also burned during the birth of a newborn baby (Naidu and Nqila 2013). Conversely, a study conducted in Taiwan reveals that prenatal incense burning is associated with lower birth weight in boys and smaller head circumferences in both boys and girls (Chen and Ho 2016). Thus, the safety of burning *impepho* and the frequency of use should be questioned before pregnant women are encouraged to burn it.

Another ritual performed when a pregnant woman is in labour is putting some stones in fabric and carrying them on one's back, as this is believed to delay labour until the woman reaches the hospital (Table 3). In Limpopo, the mother-in-law carries a stone so that the pregnant woman does not deliver on her way to the hospital (Ngomane and Mulaudzi).

After delivery, some spiritual rituals are also performed for the newborn babies to help them grow quickly (Mogawane et al. 2015). *Isiphandla* is a traditional bracelet made from the skin of a sacrificed goat, tied around a newborn baby's hand. This is the most widely performed ritual to protect the baby from evil spirits (Table 3). The child wears this bracelet until it rots off (Oyama 2016). The second most frequently mentioned ritual is the slaughtering of a goat to introduce the baby to the ancestors and the family. This also corresponds with a study conducted in the southern part of KwaZulu-Natal (Oyama 2016).

In the current study, the third most mentioned ritual performed for newborn babies is the burning of *impepho* to introduce the baby to the ancestors so that they can protect the baby (Table 4). Another study, focusing on spiritual rituals performed for newborns in Zulu culture, also reported that the *ugogo* (grandmother) or another family member burns *impepho* to communicate with the ancestors and ask them to bless and protect the child. Without this blessing, the ancestors will not protect the child from evil spirits, and the child may easily be affected by them and fall ill (Oyama 2016). In the Xhosa culture, *impepho* is also put on burning coals, and the baby is fumigated to chase away evil spirits (Dlisani and Bhat 1999). In Limpopo, they also smear *Dupa* on a monkey's skin and burn it in a closed room so that the newborn can inhale the smoke (Mogawana et al. 2015). Frequent burning of incense has been linked to respiratory health hazards (Wang et al. 2011). Exposure to indoor incense burning has also been linked to delays in child development milestones, particularly in the gross motor developmental domains (Wei

and Chen 2018). *Impepho* must be evaluated for safety before women can be encouraged to continue burning it for their newborn babies.

According to a study by Oyama (2016), *imbeleko* is performed for every newborn child. The ceremony comprises slaughtering a goat to introduce the newborn to the ancestors. The goat's skin (*isiphandla*) is tied around the baby's hand, and *impepho* is also burnt to talk to the ancestors and ask them to bless and protect the child. If *imbeleko* is not performed, it is believed that the child will face numerous hardships throughout their life, including difficulties in securing a job, getting married, and having children (Oyama 2016). However, in our study, the participants indicated that the *imbeleko* ceremony is only to welcome the firstborn baby (Table 3).

Conversely, Zulus generally regard the *imbeleko* ceremony as a compulsory ritual for every child in the family (Ngcongo 1996). This ceremony marks the birth of a child, and it symbolises love and protection in African culture (Stiles et al. 2004). During the ceremony, a newborn baby will be given a name and be introduced to their ancestors (Zungu 2016). The goat is slaughtered so its skin can be prepared for this purpose (Mtumane 2014). In many traditional African societies, fatherhood is established only at the *imbeleko* ceremony, which marks the child's introduction to their family and ancestors (Hobongwana-Duley 2014). The ceremony is said to be performed by the father's family (Howard 2016). Without a father, the family cannot perform an *imbeleko* ceremony, thus the child cannot be formally introduced to their family and ancestors (Hobongwana-Duley 2014). However, if the ritual is not performed early in life, it may even be held when the child is an adult (Mtumane 2014).

Conclusion

Women residing in northern Maputaland still hold several cultural beliefs regarding childbirth. Some cultural beliefs and behaviours recorded are harmless, such as not attending funerals. Despite the potential benefits of specific cultural beliefs and behaviours, it should not be ignored that some cultural practices during childbearing may harm the health of both the mother and the child. It is thus recommended that harmless, acceptable, or potentially beneficial practices observed during pregnancy, labour, and postpartum infant care be considered part of Zulu cultural richness. However, harmful practices, such as burning incense next to a newborn baby, should be discouraged through scientific explanations and educational sessions provided in antenatal classes. The findings of this study highlight the importance of healthcare workers being aware of women's religious and spiritual needs during pregnancy and childbirth. The findings also provide a deep understanding of the reasons behind the observed taboos, although they are not scientifically based.

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Table 1. Good behaviour taboos observed during pregnancy, labour, and the reasons why they are observed

Education background						
None n = 23	**Grades 1–7 n=24**	**Grades 8–12 n = 63**	**TEd n = 30**	**Total n = 140 (%)**	**Behaviour taboos during pregnancy**	**Reasons for observing them**
14	22	44	16	**96 (69)**	Do not attend a funeral	It will induce a miscarriage, and the baby will inhale or attract the evil spirits. If attending a funeral, put the ashes from your fire and soil from your homestead on the tummy, or drink water with ashes. Tie a piece of the Ilala palm root (*Hyphaene coriacea* Gaertn.) around the waist during early pregnancy. Do not pick up stones at the funeral. This will prevent miscarriage and prevent the spirits of death from attacking the baby.
11	12	38	9	**70 (50)**	Do not wear tight clothes or a scarf (cloth) around your waist	The umbilical cord will be around the baby's neck; the baby will not have freedom to play well; the baby will be born with a helmet on the head; the baby will fold its arms, and labour will be difficult. The baby will be disabled.
10	13	26	10	**59 (42)**	Not to go into crowded areas (weddings, competitions, ceremonies, and Zulu traditional dances)	People may use *muthi* (traditional medicine) that can affect pregnant women and cause a miscarriage, causing tiredness and fatigue in the mother and the baby. The baby may crave alcohol, *intelezi muthi* (traditional medicine), which is sprinkled during ceremonies, may affect the baby, leading to miscarriage.
3	4	8	4	**19 (14)**	Do not walk at night	The baby will inhale evil or dark spirits.
	2	8	5	**15 (11)**	Do not go to the sea	May lead to miscarriages.

1	1	3	7	**12 (9)**	Do not stand or sit by a doorway	The baby will refuse to come out, prolonging the delivery; the baby will get stuck in the uterus.
	1	6	4	**11 (8)**	Do not reveal the tummy	To prevent evil spirits from attacking the unborn baby; the baby will have green faeces and a painful tummy; the baby will always be frightened and have green veins on the stomach, and the baby will be born sick
	3	6		**9 (6)**	Do not carry anything heavy or work too hard	The baby will have breathing problems. It may cause miscarriage. It may induce premature labour

2	5		2	**9 (6)**	A pregnant woman's husband must not fasten the belt during labour	To prevent prolonged labour.
3		3	1	**7 (5)**	Do not eat standing up, or stand too long	During delivery, the feet will come first. The baby will have visible veins. When the baby is teething, the teeth will come out with blood.
1	2	2	1	**6 (4)**	Do not go near places struck by lightning	The baby will experience a bad stomach ache; the baby's faeces will have worms and be green; the baby will always be frightened and have green veins on the stomach.
1		5		**6 (4)**	Avoid anger or crying for a long time, or being frightened	To prevent miscarriage, stillbirth or giving birth to a premature baby.
2			3	**5 (4)**	Do not swim or cross the river	To prevent miscarriage.
1		2	1	**4 (3)**	Do not exchange partners while pregnant	It will cause a miscarriage; it may cause the baby to have the personality of all the different men; and it can turn the child into an albino.
2			1	**3 (2)**	Do not come near a corpse	It will cause a miscarriage.
	3			**3 (2)**	Do not walk a long distance	The baby will have problems with breathing, and this may induce unexpected labour.
1	1	1		**3 (2)**	Do not look at a disabled or ugly person or persons you dislike	The baby will be born disabled or ugly, and the baby will look like the person one dislikes.

1		2		**3 (2)**	Do not wear high-heeled shoes	It causes miscarriage.
1		2		**3 (2)**	Do not climb trees	May lead to delayed labour, or the woman may give birth to a gallivanting baby.
	1	2		**3 (2)**	Do not eat from the pot (container)	The woman will give birth to a child with a big head.
		1	1	**2 (1)**	Avoid using mirrors	The baby will have crossed eyes.
		1	1	**2 (1)**	Do not sit on a stone	It causes delayed labour.
	1		1	**2 (1)**	Do not turn your back on the door	The baby will also turn back during delivery.
	1			**1 (0.7)**	Do not travel too much	You may attract evil spirits, which may cause miscarriage.
1				**1 (0.7)**	Do not hold another infant when you are pregnant	The infant will not start walking until your baby starts walking.
1				**1 (0.7)**	Not to drink a full glass of water at once	The umbilical cord will be around the baby's neck.
		1		**1 (0.7)**	Do not buy the baby's clothes before birth	To avoid miscarriage or death soon after birth.
		1		**1 (0.7)**	Do not drink strong *muthi* (traditional medicine)	The baby will be born prematurely.
			1	**1 (0.7)**	Avoid walking where the snake crossed	The baby will crawl like a snake.

		1	**1 (0.7)**	When you leave, do not say, “goodbye”	You will have a miscarriage.
		1	**1 (0.7)**	Never eat leftover food	During delivery, the faeces will come first before the baby.
		1	**1 (0.7)**	Do not tell people your exact month of pregnancy	May result in stillbirth, miscarriage or the death of the mother.
	1		**1 (0.7)**	A pregnant woman should not be talkative	The woman will forever be talkative even after pregnancy.
	1		**1 (0.7)**	Do not go to church	When pregnant before marriage, they consider you a sinner.
1			**1 (0.7)**	Do not sing out loud	It causes a baby to cry a lot.

n = number of respondents; TEd = Tertiary Education; Grade = refers to the twelve classes (Grade 1–12) that one attends at basic education before qualifying for the senior certificate to tertiary institutions

Table 2. Harmful behaviour taboos observed during pregnancy, their reasons for being observed, and why they may be harmful

Education background							
None n = 23	**Grades 1–7 n=24**	**Grades 8–12 n = 63**	**TEd n = 30**	**Total n = 140 (%)**	**Behaviour taboos during pregnancy**	**Reasons for observing these taboos**	**Reasons why they may be harmful**
8	13	32	11	**64(46)**	Do not sleep during the day	The baby will also sleep during labour, causing a delayed labour	Napping and frequency of afternoon sleeping during late pregnancy have been found to reduce the risk of low birth weight (Song et al. 2018). Poor sleeping may be detrimental to the labour and delivery process, as women may experience longer labour, more pain and discomfort during labour, higher rates of preterm labour and caesarean section (Chang et al. 2010).
	4	4	4	**12 (9)**	Do not have too much sex, especially after eight months of pregnancy	The baby will have bad luck and come out covered by sperm; it will result in a slow child, may cause miscarriage, may damage the baby's head and cause the baby to be hairless	Sexual practice in pregnancy can protect women from excessive use of oxytocin, cervical and perineal tears, postpartum haemorrhages, and uterine ruptures (Essome et al. 2020) An increase in the frequency of intercourse during pregnancy is associated with a rise in uterine activities, acceleration of the onset of labour and prevention of prolonged pregnancy, thus reducing the need for induction (Tan et al. 2006; Sekhavat and Akhavan 2010).

1	**1 (0.7)**	You must always be active	This facilitates easy delivery	Daily rest during pregnancy is encouraged to prevent pre-eclampsia and its complications (Meher and Duley 2006). Bed rest and activity restriction are common therapies used to prevent preterm birth, premature rupture of membranes and vaginal bleeding (Palacio and Mottola 2023).

n = number of respondents; TEd = Tertiary Education; Grade = refers to the twelve classes (Grade 1–12) that one attends at basic education before qualifying for the senior certificate to tertiary institutions

Table 3. Good spiritual beliefs and rituals performed during childbearing, and the reasons why they are observed

Education background					Spiritual beliefs and rituals during pregnancy	Reasons
None n = 23	**Grades 1–7 n = 24**	**Grades 8–12 n = 63**	**TEd n = 30**	**Total n = 140 (%)**		
5	8	18	8	**39(28)**	Tie a string given by the church/traditional healer around the waist	To prevent miscarriage and protect against evil spirits.
3	6	12	2	**25(18)**	Visit pastors for prayer and drink water that has been prayed for	Prayer prevents pregnancy complications, and water helps with easy delivery.
		1		**1 (0.7)**	Slaughter a chicken under the tree outside the homestead	To report to the ancestors that a girl/wife is pregnant.
1				**1 (0.7)**	Wear a bracelet of goat skin	Tradition of the Mhlongo family.
1				**1 (0.7)**	Lighting candles	Prevent complications during pregnancy.
	1			**1 (0.7)**	Putting some ashes on the tummy	To stop complications during pregnancy that may be caused by parents' unhappiness.
					Spiritual beliefs and rituals during labour	
	1	3		**4 (3)**	Pregnant women carry some stones wrapped in fabric on their backs during labour	This prevents delivering the baby before reaching the hospital.
					Spiritual beliefs and rituals after the baby's birth	
2	1	6	1	**10 (7)**	Tie the goat skin around the baby's hand (*isiphandla*)	To protect the baby from evil spirits.

2	1	4	1	**8 (6)**	Slaughtering of a goat	To introduce the baby to the ancestors and family.
1		1	3	**5 (4)**	*Imbeleko* – a traditional Zulu ceremony whereby the child is introduced to the ancestors	To welcome only the firstborn.
	1	1	3	**5 (4)**	Tie a rope around the baby's hand	To ensure that the baby does not lose weight, teething, and connecting the baby with ancestors.
	1	2	1	**4 (3)**	Tie a rope with a button on around the baby's arm	To treat strabismus (misalignment of the eye).
1		1	2	**4 (3)**	Tie the rope from the church around the baby's waist	Protect the baby; it helps the baby to sleep well and not have bad dreams, and prevents the baby from getting hungry fast.
		2		**2 (1)**	The baby wears a black rope (made by the mother)	So that the baby will not lose weight.
		1	1	**2 (1)**	The mother should stay indoors for seven days, proclaiming all the good things she wishes to see in her baby	This helps the baby have a successful life.
		2		**2 (1)**	If the baby is born out of wedlock, the father of the baby must give two cows to the family of the pregnant girl	To apologise to the ancestors, prevent the child from getting sick, and to pay damages to the family of the girl.
		1		**1 (0.7)**	The baby wears a coloured rope from a *sangoma*	Protection against evil spirits.
	1			**1 (0.7)**	The mother must spill some breast milk on the ground before feeding the baby	To avoid the baby from inhaling evil spirits.
			1	**1 (0.7)**	Do not cut the baby's hair before the baby starts walking	Cutting hair delays walking.
			1	**1 (0.7)**	Infant (less than a month) is not allowed to stay with males	Males normally burn *muthi* (traditional medicine), which may affect the baby.
	1			**1 (0.7)**	Perform a ceremony when the baby is three months old	To introduce the baby to the ancestors.
1				**1 (0.7)**	Tie a waist rope made from the *umqhuqhumba* (traditional medicine) on the baby	Protect the baby from evil spirits.

1		**1 (0.7)**	Wearing a horse tooth as a necklace	Prevent evil spirits.
	1	**1 (0.7)**	Rubbing the baby with Lennon *Entressdruppels*	Keeps the baby calm.
	1	**1**	Bury the placenta next to the door. The hole must be on the left side if the baby is a male, and the hole must be on the right side if the baby is a girl	To connect the baby to their home.

n = number of respondents; TEd = Tertiary Education; Grade = refers to the twelve classes (Grade 1–12) that one attends at basic education before qualifying for the senior certificate to tertiary institutions

Table 4. Harmful spiritual beliefs and rituals performed during childbearing, why they are observed and reasons why they may be harmful

Education background					**Spiritual beliefs and rituals during pregnancy**	**Reasons for observing these beliefs and rituals**	**Reasons why they may be harmful**
None n = 23	**Grades 1–7 n=24**	**Grades 8–12 n = 63**	**TEd n = 30**	**Total n = 140 (%)**			
	1			**1 (0.7)**	Burn *isibunge* muthi (traditional medicine)	To fight evil spirits	By-products of burning, such as gases, are toxic and dangerous for a developing baby (CDC 2023).
					Spiritual beliefs and rituals during labour		
4	2	11	1	**18 (13)**	Burn *impepho* (herbal plant - *Helichrysum* spp.) during labour	To ask the ancestors for an easy delivery, to reduce complications during delivery	Incense burning has been associated with respiratory distress, headaches, cardiovascular complications, cancer, and unwanted transformations in lung cell structure (Kunene 2017). Prenatal incense burning has been associated with lower birth weight for boys and smaller head circumference for boys and girls (Chen and Ho 2016).
					Spiritual beliefs and rituals after the baby's birth		

	5		1	**6 (4)**	Burn *impepho* when the baby is born	To introduce the baby to the ancestors so that they protect the baby	Incense burning has been associated with increased risk of childhood brain tumours (Kunene 2017).
1		3		**4 (3)**	Burning of traditional medicine (*vimbela* and i*nyamazane*) as an incense	It chases evil spirits away and gives the baby a peaceful sleep	Exposure to indoor incense burning has been associated with delayed child development milestones achievement particularly gross motor development domains (Wei et al. 2018).
	2		1	**3 (2)**	*Mbiza muthi* (traditional medicine) is given to the baby as an enema and then taken orally after three to four days, or applied to the belly button of the baby	To clean the system of the baby, to heal the belly button fast, and to prevent the red mark (*ibala*)	Administration of traditional medicine to infants has been associated with seizures, developmental delay, anaemia, and respiratory depression (Choonara 2003).
		1		**1 (0.7)**	*Isibunge* (traditional medicine) is burnt around the baby	Prevent the baby from attracting evil spirits	According to UNICEF (2022), indoor burning should be discouraged because children are more vulnerable to air pollution, as their brains, lungs, and other organs are still developing. They also breathe twice as fast, often through their mouths, taking in more pollutants.

n = number of respondents; TEd = Tertiary Education; Grade = refers to the twelve classes (Grade 1–12) that one attends at basic education before qualifying for the senior certificate to tertiary institutions