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Tanzanian Mothers' Cultural Beliefs and Misinformation Regarding the Reasons for Their Cesarean Sections

Victor Aidan Mathias, Eleanor Holroyd, and Grace Edwards

BACKGROUND: In Tanzania, cesarean section (CS) rates have been steadily increasing, yet little is known about mothers' understanding of the medical rationale for their CSs.

AIM: To identify mothers' cultural understandings of the rationale for their CSs.

METHODS: Design: A qualitative descriptive design was employed.

Setting: A government hospital in the western region in Tanzania.

Participants: A total of 117 mothers were interviewed using convenience sampling post CS.

FINDINGS: Forty percent of the mothers were younger than 18 years, with more than 50% having had five or more live babies. Among multigravida women, 40.2% had had one or more previous CSs.

The emergent themes were lack of dietary knowledge, use of local herbs, delays in coming to hospital, avoiding stressful labor pains and no ability to exercise, and no personal preferences of "push or go for an operation."

CONCLUSION: Pregnant women in Tanzania need improved health education to make informed choices about childbirth and be involved all processes of antepartum care decision making to achieve optimal birth outcomes.

KEYWORDS: mothers; Tanzania; cesarean section; beliefs; misinformation

INTRODUCTION

According to the World Health Organization (WHO), the optimal rate of cesarean section (CS) for a given country should range from 5% to 15%, and CS should be performed only for medical necessity (Gibbons et al., 2010). Unnecessary CSs should be avoided to minimize adverse outcomes from the surgery (Worjolah et al., 2012). It has been argued that if the CS rate in a given country is below 10%, higher rates of maternal and perinatal deaths are seen. Evidence has also shown that a CS rate between 10% and 30% does not improve mortality outcomes for a mother or her baby (Betran, Torloni, Zhang, & Gülmezoglu, 2016).

The WHO Global Survey on Maternal and Perinatal Health collected CS data in 24 countries from 2005 to 2010, describing the average rate of CS in Africa as 9%; subsequent studies, however, have shown CS rates

among African countries ranging from 0.6% to 18% (Worjolah et al., 2012). In a study carried out in Tanzania in 2014, CS rates ranged from 21.4% to 31.8% (Mpogoro et al., 2014).

Documented indications for CSs include maternal or fetal complications such as obstructed labor, prolonged labor, malpresentation, hypertensive disorders, uterine rupture, antepartum hemorrhage, and fetal distress (Aminu, Utz, Halim, & Van Den Broek, 2014). Nilsen, Østbye, Daltveit, Mmbaga, and Sandøy (2014) observed that in high-resource countries, these indications also included the patient's wishes and the doctor's preferences. Additionally, another adverse effect of CSs documented in both low-resource and high-resource contexts is that the scar in the uterus puts mothers at risk of uterine rupture in future pregnancies (Lincenberg, Behrman, Bemby, & Kovac, 2016).

A number of studies have indicated obstetricians' preference for CSs. In Taiwan, Chu, Tai, Hsu, Yeh, and Chien (2010) highlighted that some CSs were performed to defer to the power of doctors and obstetricians and to avoid neonatal complications. In Brazil, a survey of 282 obstetricians found that they encouraged women to be fearful of having a vaginal delivery, while overestimating the safety of cesarean delivery with 31% of the obstetricians preferring CS to vaginal delivery (Faisal-Cury & Menezes, 2006). Of interest is that relatively recently 17% of British obstetricians reported that they would choose elective CS for themselves or their partners (Groom, Paterson-Brown, & Fisk, 2002), whereas only 13% of Israeli obstetricians chose the same. These results are further substantiated by a global survey done to collect doctors' opinions of the optimal cesarean rate, in which Cavallaro, Cresswell, and Ronsmans (2016) identified that obstetricians thought that the optimal rate of CS is 20%.

In low-resource countries, CS carries a greater risk to mothers when compared to high-resource countries due to numerous environmental and human resources factor implications such as potential for postpartum hemorrhage, wound infections, sepsis, injury to proximal organs, and death (Nilsen et al., 2014). A Tanzanian study found multiple adverse effects caused by CS, including high rates of maternal mortality, major medical impediment, and commonly death for the pregnant mother, at a similar rate to that from other major surgeries (Nilsen et al., 2014). Another adverse effect of CS identified in Tanzania is the high cost to the healthcare system, the woman, and her family (Kruk, Paczkowski, Mbaruku, de Pinho, & Galea, 2009). Health facilities expend considerable resources on a skilled health workforce and equipment when performing CS as compared with a vaginal delivery, especially in low-resource settings (Betran et al., 2016).

In Tanzania, there has been no study to date on mothers' beliefs and understandings of why they their obstetricians recommended they undergo a CS. An understanding of these local and empirically based beliefs can be contrasted with the literature on medical rationales to plan evidence-based health education community interventions that can lead to a decrease in unnecessary CSs. Such information will also serve to improve informed consent delivery for women when there are medical indications for CS. This research article explored these beliefs and understandings of mothers who have recently undergone a CS within the context of a Tanzanian public hospital.

METHODS

A qualitative descriptive design was adopted having relevance for gaining an in-depth understanding of a local-based phenomenon (Creswell & Clark, 2007). Qualitative descriptive focuses on describing the informant's view and understanding of the domain and is well suited to addressing questions of human characteristics, opinions, and barriers focusing on "why," "how," and "what" (Sandelowski, 2000).

Through application of this design, data collection focused on mothers' understanding of the reasons for their CS and involved semi-structured open-ended questions. Participants were engaged in in-depth face-to-face interviews within 3 days of giving birth by CS.

STUDY AREA AND SETTING

The study was conducted in a large government hospital in western Tanzania.

Sampling

A convenience sampling was utilized to recruit mothers in the postnatal wards ($n = 2$) who met the eligibility criteria, with a final sample total of 117 mothers being interviewed after data saturation was reached. This rather large qualitative sample size was reached due to the complexity of the developing themes in a low-resource environment. The response rate was 100%, as all 117 mothers who were approached consented to take part in the study. Data collection took place in between October 2015 and March 2016.

Inclusion Criteria

Mothers who delivered by CS during the study period without any comorbidities were included.

Exclusion Criteria

Mothers who delivered by CS during the study period with diagnosed comorbidities such as hypertension or eclampsia, diabetes mellitus, HIV/AIDS, stillbirths or babies in the neonatal intensive care unit (NICU), and other severe complications of postdelivery outcome such psychosis were excluded.

ETHICAL CONSIDERATIONS

Permission to conduct the study in the area was obtained from the Medical Officer in charge of District Hospitals after an approval from Mzumbe University, Tanzania (with ethical clearance number MU/SOPAM/DHR & PSM/VOL.1/18). The respondents were assured of their right to refuse to participate, their right to withdraw at any time, and the confidentiality of the information obtained from them. No names were recorded, with code numbers only assigned to transcripts so anonymity was assured. Written/verbal informed consent was obtained from the participants before the interview was conducted. The respondents were prepared physically and psychologically, and reassured of their safety. The mothers who were found to have maternal health problems were referred to a physician for further management.

INTERVIEW GUIDE

A semi-structured interview questionnaire was developed from the literature review. The questionnaire was developed in English, then translated into Swahili, which is the national language of Tanzania. A pilot study was conducted with two mothers outside of the main study who met the eligibility criteria, and minor modifications were made accordingly. The researcher (fluent in English and Swahili) acquired interview competency skills to avoid controversy and misunderstandings with the interviewee during the interview process. The same researcher, who is the primary author, conducted all the interviews (Table 1).

DATA ANALYSIS

All interviews were audio-recorded using a digital recorder, after obtaining ethical permission by the participants. The data analysis consisted first of transcribing the data into written Swahili, reading and

rereading the data; and noting the initial ideas about themes. Systematic coding of interesting features of the data across the entire data set was done, and the data were organized according to their relevance to each code. After assembling and gathering all data into potential subthemes, a research team member check was conducted to seek agreement on the theme. Then the coded extracts and the entire data set were generated as a thematic map. Ongoing analysis for refining the specifics of each theme and the overall story that the analysis exposed, thereby generating clear definitions and names for each theme, subsequently took place. Finally, vivid testimonies were selected to represent the various themes; compelling extracted examples and a final analysis of selected extracts was performed to relate the analysis back to the research question and literature. During the final analysis, the selected testimonies were translated into English, then compared with the original Swahili versions.

RIGOR

To ensure the trustworthiness of the findings, various strategies were applied. Precise and comprehensive records were kept, there was a clear audit trail of methodical decision making, and data were concurrently and transparently interpreted. Associated cases were identified, and similarities and differences across accounts were sought to ensure different perspectives were represented. Moreover, rich and thick exact descriptions of participants' accounts to support the findings were included. Furthermore, clarity in terms of decision making during data analysis and subsequent interpretations was demonstrated (Noble & Smith, 2015).

RESULTS

Mothers' Demographic Data

A total of 117 mothers participated in the semi-structured interviews. Of these mothers, 40.2% ($n = 47$) were younger than 18 years. This age demographic is

TABLE 1. Interview Questions

What were the indications for the CS you have delivered through?
What do you most like about CS services provided?
What would you like to be changed in providing CS services?
Was it possible to avoid some of the CS(s) you faced? YES/NO . . . If yes, what was supposed to be done to avoid them?
Did you have an opportunity to decide on the method to deliver?
If you have ever preferred to deliver through CS, was your preference considered?
Is there anything that was not asked that you would like to discuss about CS services?

TABLE 2. Demographic Data From Mothers

VARIABLES		NUMBER	PERCENTAGE
Age of respondent (years)	<18	47	40.2
	18–34	50	42.7
	>34	20	17.1
Time to health facility (hours)	<1	29	24.8
	2	41	35.0
	>2	47	40.2
Marital status	Single	18	15.4
	Married	75	64.1
	Separated	9	7.7
	Divorced	7	6.0
	Cohabited	3	2.6
Gravidity	Widow	5	4.3
	≤5	47	40.2
Parity	>5	70	59.8
	≤5	47	40.2
Number of children	>5	70	59.8
	≤5	47	40.2
Level of education	>5	70	59.8
	College	12	10.3
	Secondary	23	19.7
	None	35	29.9
Occupation	Primary	47	40.2
	Employed	12	10.3
	Self-employed	12	10.3
Method of delivery of the last born child	Housewife	93	79.5
	CS	47	40.2
	Vaginally	58	49.6
	Primigravida	12	10.3

similar to the results from the Tanzania Demographic and Health survey of 2010, which found 50% of women give birth to their first baby before they reach 20 years of age. The same survey found that 29% of women between 20 and 24 years old had delivered their first child by the age of 18 years (Macro, 2011). In the current study, a total of 59.8% ($n = 70$) of the participants in the research were above gravida five and had five or more babies. The illiteracy rate among these respondents was 29.9% ($n = 35$), and 79.5% ($n = 93$) were not employed outside of the home. Among women who had previous pregnancies, 40.2% ($n = 47$) had undergone a CS as the mode of their last delivery. The identified sociodemographic data are presented in Table 2.

The emergent themes from the qualitative analysis were lack of dietary knowledge, use of local herbs, delays in coming to hospital, avoiding stressful labor pains and no ability to exercise, and personal preferences of “push or go for an operation.” These themes are presented in Table 3.

TABLE 3. Key Themes From Mothers on the Factors Leading to Increase of CS

Lack of dietary knowledge
Use of local herbs
Delay in coming to hospital
Avoiding stressful labor pains and no ability to exercise
Personal preferences of “push or go for an operation”

Lack of Dietary Knowledge

Type of food consumed or not consumed during pregnancy was indicated by the women to have an impact on the delivery process. This cohort of mothers said that the

type of food used during pregnancy might have caused them to have delivery problems and might be a justification for a CS. One mother relayed a conversation overheard by one of the health workers:

Nurse told us during antenatal clinic that . . . using much starch like ugali lead to have big babies whom we cannot deliver without undergoing the operation. (Mother-037)

Using one type of food like what I do, eating ugali (stiff porridge) every day is not good . . . I remember for my previous pregnancy I delivered through operation (CS) because of a big baby . . . My mother told me to keep on eating ugali, which is a good food for energy, which will enable me to push during delivering the baby . . . We will continue facing problems due to the type of food we are using, as ugali is the common food in this place. (Mother-009)

Furthermore, one of the participants admitted to not eating the food advised during antenatal care (ANC):

Nurses do provide health education on food to eat during ANC . . . food like vegetables, fruits, and others, but then when I am pregnant I do not want to eat these foods because I do prefer ugali than other food . . . and of course I am sure my husband and my mother can't allow me to eat other type of food rather than ugali as they believe I will be weak. (Mother-004)

Use of Local Herbs

Some women acknowledged using herbal medicine before going to hospital for delivery.

Similarly, mothers, when asked for their view of the reasons for their CSs, shared multiple perspectives of how local herb usage had brought about false labor pains and impeded their readiness for labor

When I started to feel labour pains, my mother-in-law gave me a local herb to drink . . . to help to increase labour pains . . . after taking a drug the labour pains increased, but when I came

to hospital, the nurse told me that the baby in my womb was not active, then I was taken in theater for [my] operation. (Mother-011)

Another mother felt that taking herbs meant women could not have a normal vaginal delivery, and was why the doctors had indicated she needed a CS.

Another mother said, "*Unfortunately, mothers believe in using local herbs for increasing labour . . . The time I was admitted in antenatal ward, we were discussing with my fellow mothers that without using local herbs, somebody can't deliver normally just through operation*" (Mother-029).

Delays in Coming to Hospital

The time to be admitted prior the expected date of delivery (EDD) was confusing to mothers.

Other mothers thought that they ended up with a CS because of unclear information and conflicting advice from nurses on when to come for delivery. "*[T]he time I came for delivery . . . nurse told me that I was supposed to come to hospital 2 weeks before EDD . . . but during antenatal clinic I was told to come for delivery when I will start to feel labor pains . . .*" (Mother-050).

Another mother did not agree with her hospital admission guidelines for coming in 2 weeks prior to her EDD:

I cannot come to stay in the hospital for two weeks before EDD while I have a lot of things to do at my home. . . . I have to come when I start to feel labor pains. (Mother-116)

Another mother claimed:

It is difficult to know when the two weeks are remaining before delivery . . . for the last pregnancy, I came thinking that I am remaining with two weeks before delivering . . . but I just stayed for more than three weeks . . . I was tired to stay here for so long . . . and my relatives were also using a lot of time to bring me food. . . . For this pregnancy I came when I just starting to feel labor pains, . . . when I reached here . . . at the hospital, the doctor told me that the baby was tired so I was taken to theatre for operation. (Mother-017)

Avoiding Stressful Labor Pains and No Ability to Exercise

Some participants thought that their CS was due to a need to avoid bad experiences during a vaginal delivery. Some mothers employed as health workers said they preferred to have CS rather than delivering spontaneously because of not wanting to experience the labor pains.

One of mothers who was a health worker and who delivered by CS said: *"I requested to deliver through CS because I was told by my friend that labor pain is too painful . . . stressful . . . and I did not want to experience such problems"* (Mother-043).

Another mother was concerned with the suffering and pain associated with vaginal delivery, she told me, *"[G]o to the labor ward, you will hear mothers crying and being restless because of labor pain, so why to suffer, I think . . . CS is better than vaginal delivery"* (Mother-066).

With CS, nurses and doctors do give anti pain, not in normal delivery . . . so that is why some pregnant mothers especially primigravida, if allowed . . . I think . . . will request to deliver through CS because of afraid of labor pains. (Mother-077)

No Ability to Choose Birth Options of "Push or Go for an Operation"

Most of mothers reported a lack of engagement from health workers when discussing issues or choices related to their delivery. Among all mothers interviewed, 116 (99.1%) respondents strongly expressed that they were not allowed to make personal decisions on their preferred method of delivery.

One mother said, *"Nurses and doctors never asked us which method I want to deliver . . . you will hear them saying either to push or to go for operation . . . ; we patients, we do not propose anything"* (Mother-009).

Similarly, another mother said in the form of a question, *"How can I propose the method to deliver while I do not have 'utaalamu' [expertise] needed for health services . . . ? Nurses and doctors don't want us to give our suggestions"* (Mother-028).

And in support of traditional birth, one mother said:

It is better if we can be allowed to choose either of the methods. . . . Sometimes you find mothers going to traditional birth attendants (TBA),

because there . . . mothers are free to discuss issues related to their delivery. (Mother-003)

DISCUSSION

The practice of using traditional village-based food for energy being linked to the ability to be able to push during child birth was widespread among this cohort of mothers. In a study conducted by Chen et al. (2014) on dietary changes during pregnancy in Singaporean China, Malaysia, and India, it was found that during pregnancy, women increased consumption of milk, fruits, and vegetables and decreased consumption of tea, coffee, soft drinks, and seafood to enable an easier passage of the baby through the birth canal. This practice, however, often brought on false labor and resulted in a CS being performed for safety reasons. In Bali, the beliefs, attitudes, and behaviors of pregnant women provide powerful taboos and proscriptions on which foods should or should not be eaten by pregnant women; strong beliefs about traditional herbal remedies also emerged during a study of this issue (Wulandari & Whelan, 2011). The use of local herbs among women during pregnancy was also found in the Bushenyi district of Uganda (Kamatnesi-Mugisha and Oryem-Origa, 2007), with up to 90% of pregnant women and their newborns relying on local herbs, especially in rural areas. The authors found more than 80% of deliveries being conducted at home using local herbs. While many plants or local herbs were applied to induce labor, some of these plants were suspected to be oxytocic, which could highly endanger the life of the fetus and the mother. In Italy, Cuzzolin et al. (2010) found 36.7% of the 392 women they interviewed took one or more herbal products and used herbs throughout their pregnancy. It is highly possible that the mothers in our study used these herbs as a form of protection and empowerment for their own autonomy in giving birth.

Most of the current cohort of women was very young, from very poor rural farming backgrounds. A study by Chu et al. (2010) in the United States, the United Kingdom, and Australia found that the increased number of CSs was significantly correlated with differences in socioeconomic background and cultural contexts. Healthcare providers need to recognize and appreciate common local beliefs so that they can provide culturally competent care and advice. Instead of reducing pregnant women's choices during pregnancy,

providers should understand, respect, and integrate cultural interpretations and the needs of women and their families into care, providing that the choices available are safe (Withers, Kharazmi, & Lim, 2018). Clearly, further health education needs to be initiated on local herb safety, cultural awareness, and complication during pregnancy and labor in Tanzania.

The preference for personal choice of birth mode and traditional practice indicated by these women is similar to findings from the Bohlabela district in Limpopo, South Africa (Ngomane & Mulaudzi, 2012), where indigenous beliefs and practices by pregnant women delayed attendance at antenatal clinics because of fear of bewitchment. This is similar to mothers' responses in the current study, where women trusted the knowledge of traditional birth attendants, and preferred their care and expertise to the harsh treatment they stated that they received from midwives in hospitals (Ngomane & Mulaudzi, 2012). Of importance here is that the current hospital policy in Tanzanian government-run hospitals does not give women any choice regarding the mode of delivery, as highlighted in a WHO multicountry survey (Souza et al., 2010; WHO, 2011). The same survey concluded that CS should be performed only when a clear benefit is anticipated and that benefit outweighs the risks; that is, the benefit must compensate for the higher costs and additional risks associated with this operation (Lavender, Hofmeyr, Neilson, Kingdon, & Gyte, 2012).

The delays in coming to hospital reported by the current cohort of mothers reflect the findings of another study conducted in Papua New Guinea, another low-resource setting with associated high maternal and neonatal morbidities and mortalities. The study by Kamblijambi and Holroyd (2017) highlighted that mothers, in particular young and single women, delay going to hospitals for delivery for reasons such as fear of stigma, not enough money for traveling, difficult and dangerous transportation routes, and a complete absence of road transport. The long distance to health facilities, in combination with a lack of antenatal care, were seen as key factors contributing to CSs in primipara Chinese women in highly urbanized Shanghai: Those pregnant women faced delays in receiving the appropriate maternal care due to inaccessibility issues, distance from health facilities, and lack of financial means to reach hospitals with good services (Ji, Jiang, Yang, Qian, & Tang, 2015).

These Tanzanian mothers felt highly unsupported in their birth choice and health information. In a study done in Hong Kong to explore women's perceptions

of health professionals' support during labor, Holroyd, Lee, Pui-yuk, Kwok-hong, and Shuk-Lin (1997) found women valued having informational support and praised advocacy efforts for culturally sensitive midwifery care that accommodates local beliefs where feasible. Additionally, Holroyd, Lopez, and Chan (2011) found pregnant women preferred a variety of attitudinal and behavioral practices, including using cultural beliefs, which needed to be understood and respected; they recommended that healthcare providers be informed about cultural belief practices so as to provide cultural congruent care.

Clearly, for the women in Tanzania, the rationale for their CSs was very poorly understood.

LIMITATIONS

Among of the limitations of this study was the respondents' unavailability for follow-up interviews due to the short time of hospitalization for postnatal care. Also, only mothers' perceptions were gathered; no medical or nursing staff members were interviewed to provide a rotational analysis. Another limitation was the exclusion of women with comorbidities, as these mothers could have provided rich data regarding how those comorbidities might have justified or provided a rationale for their CS.

Furthermore, there were considerable language barriers in gathering the interview data due to some mothers' inability to speak fluent Swahili; instead, many spoke the local dialect of Sukuma. To offset these limitations, Sukuma speakers from the Sukuma tribe were used to translate questions from Swahili to Sukuma for the mothers unable speak Swahili.

CONCLUSION

For these Tanzanian women, the rationale for their CSs was very poorly understood. These findings bring into question the nature of informed consent for CSs in the study hospital. Powerful cultural beliefs featured widely in our results and cited as a rationale for CS included the use of herbal medicine and food as medicine, not having choices, and widespread lack of correct and adequate

information on their need for a CS; these were highly salient themes revealed by our research.

RECOMMENDATIONS

Many of the indications for CS self-reported by the mothers showed incongruence between their understanding and the potential medical indicators. Each Tanzanian District counsel health management team (CHMT) should initiate programs of antenatal education classes to educate the community on the importance of pregnant mothers attending ANC and skilled care in labor in which birth choices and rationale for CS are emphasized. The rationale and indications for CS should be clearly explained, should follow international WHO protocols, and should be adhered to by senior clinical service delivery teams within Tanzania government-run hospitals. It is also important to fully involve women in the decision process regarding the mode of delivery. It is crucial for healthcare providers to provide clear, timely information to pregnant mothers, and to engage them in their birth choices. Also, it is important to engage with women to gain an understanding of the importance of local cultural beliefs that are perceived to protect these mothers, thereby showing respect for these women and improving the woman-centered birth options available.

There is an urgent need for Tanzanian policy makers to place more emphasis on maternal health services education. All levels of healthcare system should have an equitable approach for reaching all pregnant women and imparting reproductive care services at the grass roots level. Future triangulated research is recommended as well, gathering the opinions of doctors, nurses, and midwives in the form of case studies to fully understand how the dynamics of informed consent play out.

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