Indonesian Journal of Global Health Research
Volume 6 Number 5, October 2024
e-ISSN 2715-1972; p-ISSN 2714-9749
http://jurnal.globalhealthsciencegroup.com/index.php/IJGHR

HOW HOME CHILDBIRTH TAKES PLACE WITH THE HELP OF UNTRAINED FAMILY MEMBERS?: QUALITATIVE RESEARCH

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ABSTRACT
In Indonesia, childbirth is still taking place at home, with the help of either traditional birth attendants or untrained family members. This study aimed to explore how the childbirth process took place at home with the help of untrained family members. The study was qualitative research with a thematic analysis design. Eighteen respondents were recruited, as determined by data saturation. Semi-structured interviews using topic guides were performed to explore the phenomenon. Data was analyzed using Nvivo 11. The study emerged with six themes. They were unassisted home birth practice for labor progress methods, unassisted home birth practice for the baby delivery process, unassisted home birth practice for umbilical cord clamping procedure, unassisted home birth practice for umbilical cord cutting procedure, unassisted home birth practice for placenta delivery method, and unassisted home birth practice for the baby bathing process. Home childbirth with the help of untrained family members uses unique techniques and tools. There is a need for policymakers and relevant stakeholders to provide women and their family members with health education about safe facility childbirth.

Keywords: baby delivery; home birth; unassisted childbirth; qualitative

First Received	Revised	Accepted
28 March 2024	28 April 2024	30 April 2024

Final Proof Received	Published
20 June 2024	01 October 2024

How to cite (in APA style)
Kusumawati, N., & Dhilon, D. A. (2024). How Home Childbirth Takes Place with the Help of Untrained Family Members?: Qualitative Research. Indonesian Journal of Global Health Research, 6(5), 2811-2822. https://doi.org/10.37287/ijghr.v6i5.3621.

INTRODUCTION

Maternal and neonatal mortalities continue to be Indonesia's public health issue. As reported by the latest Indonesian Health Profile, Indonesia had no less than 4,221 maternal deaths and 20,244 neonatal deaths in 2019 (MoH Ri, 2020). Indonesia is committed to reducing these mortalities to the numbers targeted by the 2030 Sustainable Development Goals. The commitment comes with the regular launch of a five-year National Medium Term Development Plan (NMTDP), which sets the mortalities declines as its priority target. Through the 2015-2019 and 2020-2024 NMTDPs, the government urges pregnant women to give birth at health facilities (MoH RI, 2015; MoA RI, 2020). This strategy underscores the country's health policy shifting from childbirth with the attendance of skilled birth attendants (SBAs) to childbirth with the help of SBAs only at healthcare facilities. Since its implementation, the country's childbirth coverage facility has surpassed its targeted strategic plan. A persistent disparity between rural and urban areas and different provinces still exists. Around 16.9% of 5.011.261 pregnant women had childbirth at home (MoH RI, 2020).

Home birth refers to childbirth carried out at home. It often transpires with the help of traditional birth attendant (TBA), widely called paraji or dukun bayi in Indonesia or Dai in Pakistan and Bangladesh (Sarker et al., 2016; Adatara et al., 2019; Titaley et al., 2010). TBA refers to a woman who gains skills by watching the childbirth process, assisting childbirth, and having an apprenticeship with another TBA (Aziato & Omenyo, 2018). A TBA is usually old, comes from the local community, and shares the same language and culture (Byrne et al., 2016; Titaley, 2010). The most reported reasons for using TBA's services were familiarity with TBA, trust in TBA, and confidence in TBA's skill and experience (Titaley et al., 2010; Sialubanje et al., 2015; Shaikh et al., 2014). Cultural norms also influenced the community's preference for TBA (Ogbo et al., 2020). TBA-attended childbirth has passed across generations (Agus, Horiuchi, 2012). Women's mothers, mothers-in-law, and or husbands were among the family members who encouraged using TBA's services (Titaley et al., 2010; Shaikh et al., 2014; Kusumawati et al., 2023).

Studies conducted in different countries and cultures recorded how a TBA assisted women in labor, childbirth, and after delivery. A study in Pemba, Tanzania, revealed that a TBA did not wash their hands before assisting childbirth (Dhingra et al., 2014). In Kenya, a TBA allowed women to choose their preferred birthing positions (Byrne et al., 2016). In Tanzania, a TBA lets women deliver their babies on various delivery surfaces (Dhingra et al., 2014). A study in Ghana showed that a TBA fingered women's vagina to estimate cervical dilatation and to predict baby delivery time. The TBA asked the women to drink blessed milk, malt, and herbal enemas to ease painful uterine contraction (Aziato & Omenyo, 2018). In India, a TBA did not attempt childbirth until the woman delivered a placenta (Iyengar et al., 2008). In Tanzania, a TBA gives a woman an abdominal massage if hard labor occurs (Mosley et al., 2020). In Bangladesh, some TBAs cut the umbilical cord before the placenta delivery, while others cut the cord after the placenta delivery (Alam et al., 2008). In Southern rural Zambia, a TBA used a new razor blade to cut the cord if there was enough preparation time. Otherwise, the TBA used an old razor blade (Sacks et al., 2015). In the Southern Province of Zambia, a TBA cut the umbilical cord using an unsterilized traditional tool in an emergency (Herlihy et al., 2013). A study in Australia reported that a TBA sped up placenta birth by pulling on the cord (Reed et al., 2019). In Tanzania, using warm water and soap, a TBA bathed the newborn baby immediately after the delivery (Dhingra et al., 2014).

Studies on TBA delivery practices have shaped relevant health policies. However, many studies have shown that TBA is not the only unassisted home birth attendant (Lewis et al., 2015; Gurara et al., 2019). Women in rural areas experienced childbirth with the help of their untrained family members, such as husbands and or parents-in-law as well. Women's trust in their family members has been one of the primary reasons (Hodgkin et al., 2019; Kusumawati et al., 2023). There is a gap in our understanding of the childbirth process. This study, therefore, aimed to explore local delivery practices of unassisted home birth with the help of untrained family members. This study is essential to help policymakers plan relevant and effective health policies critical to achieving maternal and neonatal-related SGDs.

METHOD

This study used a qualitative research method with a phenomenology approach. We conducted the study in Riau Province, Sumatera Island, Indonesia. The province was selected because it continuously failed to achieve the minimum target of facility childbirth targeted by the 2019 country's strategic plan. Out of 162,622 pregnant women who gave birth in 2019, only 55,776 (34.3%) delivered their babies with SBA attendance. Instead of a decline, the province's maternal death increased from 100 women in 2018 to 119 women in 2019.

Bleeding was the most common cause of maternal death. Around 374 neonates they died because of asphyxia, neonatal tetanus, and sepsis. Kampar, Pelalawan, and Siak regencies were the three regencies where we conducted the study. The study used snowball sampling. We recruited respondents who comprised women who had at least one home birth merely with the help of their untrained family members. In addition, we recruited husbands, mothers-in-law, and fathers-in-law. They must not be TBAs in the communities but have experience helping their family members with home births. We determined the final sample size based on data saturation.

The first author, a faculty member of the Faculty of Health Sciences, contacted her midwifery students who worked as village or private practice midwives in three regencies of Riau Province. The midwives informed about women who sought antenatal care from them but ended up giving birth at home with their untrained husbands and or parents-in-law's help. The second author, who was a faculty member of the Faculty of Health Sciences and a part-time private practice midwife, also contacted her patients who sought antenatal or postnatal care from her but gave birth with their untrained husbands and or parents-in-law's help at home. We collected the data from June 6 to July 6, 2020. The interviews took place in an enclosed place of the respondents' homes. We applied a protective measure of Corona Virus Disease 19. The respondents who agreed to join the study signed an informed consent form. We collected the data using semi-structured interviews of 75 to 90 minutes. The reviewed interview topic guides included main questions, such as "How does your home birth take place? What do you do to help your family with the home birth process?". We recorded interviews with the consent of each respondent. The study used a translator who spoke the local language. The translator helped translate interviews with the respondents who spoke not fluent Indonesian.

As soon as each interview was complete, the authors made its transcript. The translator transcribed and translated the interviews conducted in the local language and double-checked the transcripts for accuracy. To analyze the transcripts, we used a thematic analysis. First, we familiarized ourselves with the data. We then generated codes. We searched for, reviewed, and defined the themes. Our respondents checked the interpretations we pulled from the data as the trustworthiness method. Reflexivity was ensured by making a field note. The study received ethical approval from the Ethics Committee of Nursing and Health Research, Faculty of Nursing, University of Riau, Riau Province, Indonesia (Number 36/UN.19.5.1.8/KEPK.FKp/2020).

RESULTS

Our study recruited 11 participants: five women, three husbands, one father-in-law, and one mother-in-law. No woman had facility childbirth (Table 1). The participants mostly lived in a secluded area of Riau Province, where they worked as palm oil plantation workers. All of them were of Nias ethnicity and moved to Riau Province around 1 to 6 years ago.

Table 1.
Participants' Sociodemographic

Participant Code	Participant's Residence	Participant Type	Education Level	Numbers of Childbirth		Numbers of Home Births Assisted	Health Insurance
				Home Birth	Facility Childbirth		
P1	Pelalawan	Women	No formal education	2			No
P2	Siak	Women	No formal education	5			No
P3	Kampar	Women	No formal education	3			No
P4	Pelalawan	Women	No formal education	3			No
P5	Kampar	Women	No formal education	2			No
P6	Pelalawan	Husband	Elementary School			4	No
P7	Siak	Husband	No formal education			3	Yes
P8	Kampar	Husband	No formal education			4	No
P9	Pelalawan	Father-in-law	No formal education			2	No
P10	Siak	Mother-in-law	No formal education	6		12	No
P11	Pelalawan	Mother-in-law	No formal education	4		7	No

Our study emerged with six themes. The coding three can be seen in the table 2.

Table 2.
Categories and Themes generated from the data

Themes	Categories
Unassisted Home Birth Practice of Labor Process Methods	✓ Method for determining the start of labor Method for checking the progress of the labor ✓ Method for assuring the labor has progressed to the second stage of labor: baby delivery
Unassisted Home Birth Practice of Baby Delivery Process	✓ Birthing positions ✓ Washing hands and wearing gloves ✓ Delivery surfaces ✓ Pain relievers ✓ Prolonged labor
Unassisted Home Birth Practice of Umbilical Cord Clamping Procedure	✓ Clamping time ✓ Clamping the umbilical cord method
Unassisted Home Birth Practice of Umbilical Cord Cutting Procedure	✓ Umbilical cord-cutting Time ✓ Umbilical cord-cutting Tools ✓ Umbilical cord-cutting Distance
Unassisted Home Birth Practice of Placenta Delivery Method	✓ Methods to deliver the placenta ✓ Methods to speed up placenta delivery
Unassisted Home Birth Practice of Baby Bathing	✓ Baby bathing time ✓ Baby bathing procedure

Theme 1. Unassisted Home Birth Practice of Labor Progress Methods
Our study showed that untrained family members had their methods of determining labor time.

Method for determining the start of labor
Untrained family members, husbands, and or parents-in-law, later called birth attendants, started helping home birth when the pregnant woman complained of having a painful contraction, vaginal fluid leakage, and or bloody show. The birth attendants responded by taking cooking oil from the kitchen. The birth attendants asked the woman to stand and put a small amount of oil on the woman's navel. The woman was in labor if the oil flowed down, yet not straight down to the woman's vaginal direction. The birth attendants would encourage the woman to take a walk or give the woman an abdominal massage. According to the birth attendants, these practices corrected the baby's position, moved the baby to the birth canal, and sped up the labor progress. "I started having pain and blood show. My mother-in-law took cooking oil and put some on my navel. The oil went a little to the right side. My mother-in-law asked me to walk down inside the house." (P2)

Method for checking the progress of the labor
The birth attendants regularly checked the labor progress by performing the oil practice. If the oil kept not flowing down straight to the woman's vaginal direction, the birth attendant would conduct a cervical examination. The objectives of the examination were to check the baby's presence and cervical dilatation. The birth attendants put their two fingers into the woman's vagina without washing hands and wearing gloves. "Check if the baby has moved to the vagina! Slowly insert your two fingers inside her vagina. Just use your bare hands to feel the baby's body parts." (P10). The birth attendant did a cervical examination at the frequency of their preference. "Sometimes the birth of the baby takes so long. The mother has a prolonged pain. We have to check the vagina to find if the baby is already there or not." (P11)

Method for assuring the labor has progressed to the second stage of labor: baby delivery.
The participant used oil to determine the labor progress. If the oil flowed straight down to the woman's vaginal direction, it was the time to deliver the baby. "I had felt pain for hours. My husband then put oil several times on my navel. It flowed right down. My husband said it was the time. He then asked me to take a birth position to push the baby out." (P3)

Theme 2. Unassisted Home Birth Practice of Baby Delivery Process
Untrained family members used unique techniques and tools to assist the home birth process.

Birthing positions
The birth attendant allowed the woman to have a birthing position of her preference. Most women preferred a squatting position while putting their hands at the side of a bed or a chair. "When it was the time to deliver my baby, my mother-in-law asked me to choose a birthing position. I liked a squatting position when delivering my baby." (P1)

Washing hands and wearing gloves
The birth attendants rarely washed their hands and did not wear gloves before assisting the childbirth. "I did not wash my hands. My wife had pain and in no time would deliver our baby. I rushed to prepare tools, material, and equipment. I forgot to wash hands." (P6). Chuckling, a mother-in-law said, "I am not a doctor. Why should I wear gloves?. Washing

hands is not that important. You know, when we are helping deliver a baby, we are dealing with blood, which is dirty." (P10)

Delivery surfaces

Some birth attendants put a mat or carpet under the woman; some put nothing. "My wife was in a squatting position. I put nothing under her. My both hands were ready to pick the baby. So, the baby would not touch the hard floor." (P8). A mother-in-law also said, "I put a plastic mat under my daughter-in-law. There was blood flowing down when the baby was coming out. That was why I needed a mat." (P11)

Pain relievers

To help relieve the woman's pain, the birth attendants wrapped around a *kain panjang*, a piece of traditional long cloth, onto the uppermost of the woman's abdomen. "My husband wrapped around *kain panjang* on my belly. It helped reduce the labor pain." (P5). A mother-in-law said *kain panjang* helped ease the woman's labor pain and push the baby out. The birth attendants tightened the kain panjang even more when painful contractions occurred stronger. "The long fabric tied up to mother's belly in labor was essential. It would not only relieve labor pain but also push the baby out. It helped." (P11)

Prolonged labor

When prolonged labor happened, the birth attendant pushed downward the woman's abdomen. According to the attendant, the abdomen push helped the baby's delivery. "It was my first labor. After long hours of pushing. Still the baby did not come out. My husband, sister-in-law, and father-in-law worked together to help push my belly" (P2)

Theme 3. Unassisted Home Birth Practice of Umbilical Cord Clamping Procedure

Untrained family members had unique time and method to clamp the umbilical cord.

Clamping time

Our study found that birth attendants paid no attention to umbilical cord clamping time. However, they said there should be no delay. "Cut the cord as soon as the baby is born. Make sure you tie it beforehand." (P10).

Clamping the umbilical cord method

Our respondents clamped the cord by tying around a white yarn in the cord three times. When the rounds are completed, they cut the yarn using a new scissor. There was no traditional belief in the tie numbers. The reason was to stop the bleeding, which was how to do it right. "Before we cut the baby's umbilical cord, we had to tie it with a white yarn about three times. It made the tie strong and stopped the bleeding right away." (P9). One woman revealed a unique cord clamping. The birth attendant tied around the cord with a white yarn three times. It was close to the yarn that the birth attendant stabbed an unsterile yet new sewing needle into the cord. The birth attendant stabbed a chopped lime to one side of the stabbed needle and stabbed tobacco onto the other side of the needle. They believed the practice sped up the placenta delivery. "We had to tie around a white yarn on the cord. We used a new sewing needle to stab the cord. On one side of the needle, we stabbed a chopped lime. We stabbed a tobacco on another side. It helped the placenta to come out faster." (P5)

Theme 4. Unassisted Home Birth Practice of Umbilical Cord Cutting Procedure

Untrained family members had unique time and tools to cut the umbilical cord.

Umbilical Cord Cutting Time

Some birth attendants cut the umbilical cord after the baby's delivery, while others cut it after the placenta delivery. "I cut the umbilical cord after the baby was born." (P11). A woman added, "My husband cut the umbilical cord after I had delivered the placenta." (P4). A husband also revealed, "I delivered the placenta first. Afterwards, I cut the umbilical cord." (P7)

Umbilical Cord Cutting Tools

The birth attendants cut the cord after clamping an umbilical cord. They used a self-sharpen bamboo, a new razor blade, or a small scissor. Of these tools, bamboo was the most common. They considered bamboo an organic tool that is best for cutting umbilical cords. The birth attendants sharpened the bamboo using a knife or broken glass. They sharpened it two or three months before childbirth. "We preferred using a bamboo. I sharpened it months before the childbirth. Bamboo was from nature. It was good." (P6). When the birth attendants used a new razor blade or scissors, they did not sterilize it. They asserted that when the tools were new, they did not harm. "We can use a newly purchased tool. If we use a new one, It will not harm." (P1)

Umbilical Cord Cutting Distance

The birth attendants said they cut the cord at any distance from the yarn clamp. "You can cut the cord at any length you wanted as long as it was neither close nor too far from the clamp." (P9)

Theme 5. Unassisted Home Birth Practice of Placenta Delivery Method

Birth attendants had several methods for placenta delivery.

Methods to deliver placenta

The birth attendants used several methods for the placenta delivery. The woman drank a small amount of cooking oil and coughed thrice. The others drank salty water and coughed. When delivering a placenta, most women were in a standing position. "Before delivering *kayak anak (placenta),* my mother-in-law asked me to drink one or two spoons of cooking oil. After that, she asked me to cough. It was effective in delivering the placenta." (P5). A husband added, "To deliver *kakak anak*; I asked my wife to drink a spoon of salty water and then cough three times." (P6)

Methods to speed up placenta delivery

A mother-in-law gave the woman an abdominal massage to speed up the placenta delivery. "I asked my daughter-in-law to drink cooking oil and then coughed three times. While she was coughing, I massaged her belly to help *kakak anak* come out." (P10). When the placenta did not want to come out, the birth attendants gently pulled on the umbilical cord. "I pulled the placenta gently. Just a little to help it come out." (P8)

Theme 6. Unassisted Home Birth Practice of Baby Bathing

In an unassisted home birth, baby bathing had its time, procedure, and tools.

Baby bathing time

Regardless of the delivery time, the birth attendants bathed the baby after the birth. Since the baby was dirty by blood, there was no delay in the baby bath. "We bathed the baby as soon as the baby was born." (P10)

Baby bathing procedures and tools

The birth attendants bathed the baby in a big basin filled with lukewarm water. They used baby soap and shampoo to wash the baby's body and hair. The attendants moved the baby to another clean, lukewarm water basin to cleanse. The birth attendant dried the baby with a towel. They covered the baby from head to toe with a thick cloth. "We used lukewarm water in two big basins, baby soap, and shampoo." (P8)

DISCUSSION

This study aimed to explore how untrained family members in the community we studied assisted childbirth at home without a health provider presence. Our study findings revealed that untrained family members used unique methods and tools to help the women with labor progress, baby delivery, umbilical cord clamping, umbilical cord cutting, placenta delivery, and baby bathing. Our study finding shows that when a pregnant woman has shown the onset of labor, a birth attendant will perform an oil practice. The attendant puts a small amount of cooking oil onto the pregnant woman's navel. The direction of the oil flow determines the stages of labor and actions the birth attendant has to take. The birth attendant puts the oil onto the navel when the woman is in a standing position. In this position, the oil most likely flows down straight to the woman's vaginal direction since liquid flows down by gravity. Deviation occurs if the woman does not stand straight, for instance, because painful uterine contraction makes her unable to do so.

This practice brings repercussions. If the oil flows down right into the woman's vaginal direction, the birth attendant will order the woman to start and keep pushing the baby out. The birth attendants believe that the woman has progressed to the second stage of labor, or baby delivery, while the woman may still be in the latent or active phase of the first stage of labor. While a woman is in the first stage of labor, the cervix has not yet reached full dilatation. As a result, the baby cannot come out regardless of the woman's pushing efforts. Novice birth attendants may presume that prolonged labor is occurring. They will conduct frequent cervical examinations by inserting their fingers into the woman's vagina. A study showed that frequent vagina fingering was associated with a higher risk of infection (Hofmeyr et al., 2017). This study is the first to get information about labor stage prediction using cooking oil. Another study showed that a TBA in Turkey also used olive oil for women in delivery. The woman in delivery had to drink it to ensure a smooth labor and delivery (Karahan et al., 2017). Our study suggests a need to educate women and their untrained family members about the stages of labor. Health providers can use the World Health Organization's recommendations on intrapartum care for a positive childbirth experience.

Our study also reveals that no birth attendants wash their hands and wear gloves before helping the childbirth. The birth attendants also conduct frequent cervical examinations without handwash and gloves protocol compliance. The attendants assert that childbirth preparation causes the absence of washing hands. TBAs in Tanzania also gave the same reason (Dhingra et al., 2014). Because of time constraints, not all the TBAs washed their hands or wore gloves. In our study, however, time is not the issue. Knowledge about infection prevention is a challenge. One birth attendant says that washing hands before childbirth is not essential. The reason is that when assisting in the childbirth process, the attendant touches blood, which is dirty. Our study suggests educating the birth attendants about hand hygiene protocol. Health providers may use the WHO's Guidelines on Hand Hygiene in Health Care. Our study finding reveals that when prolonged labor occurs, birth attendants push downward the woman's abdomen with their hands. The birth attendants believe that the practice helps push the baby out. However, a study showed that manual fundal pressure did not shorten the

second stage of durian. Women who received manual fundal pressure were even prone to suffer from cervical tears (Hofmeyr et al., 2017). This practice differs from that in Tanzania, where a TBA gives an abdominal massage to help ease difficult labor (Mosley et al., 2020).

Our finding shows that the birth attendants clamp the umbilical cord before cutting it. There is no delay in clamping the cord. Based on the WHO's recommendations, cord clamping should be postponed to maximize maternal and infant health and nutrition outcomes (WHO, 2018). The WHO recommends not clamping the cord earlier than 60 seconds. Our study findings reveal no delay in cutting the umbilical cord. The birth attendants cut the cord right after they clamp it. This finding differs from that in Ghana and India, where the TBAs cut the cord after their pulsation diminished or stopped (Aziato et al., 2018; Iyengar et al., 2008). Our study suggests that health education about cord clamping and cutting is essential.

Our study shows that birth attendants prefer using bamboo when cutting the cord. The birth attendants consider bamboo an organic tool. The attendants do not sterilize the bamboo before its use. Our result supports the study in Zambia, where the TBA did not sterilize tools. They believed sterilization may cause the tools' physical integrity loss. In addition, the TBA considers traditional tools to be naturally clean (Herlihy et al., 2013). When the birth attendants in our study choose a new scissor or razor blade, they do not sterilize the tools either. The birth attendants believe that a new tool poses no harm. The practice differs from that in Tanzania, where the TBA sterilized a new scissor or razor in boiling water before its use (Dhingra et al., 2014). Our study suggests that health education about childbirth tools and sterilization tools is critical to avoid childbirth-related infections. Our study findings reveal that most babies receive their first bath soon after birth. The reason is that the newborn babies are dirty because of blood. However, this practice is in contrast to the WHO's recommendation. According to the WHO, baby bathing should be delayed until 24 hours of birth or at least six hours if bathing cannot be delayed for cultural reasons (WHO, 2014). This practice also occurred in Gurage Zone, Ethiopia, where newborn bathing occurred less than 24 hours (Derribow et al., 2023.

Our study finding suggests a need to educate untrained family members about baby bath timing.
This study has limitations. The authors did not have a chance to observe untrained family members helping with childbirth at home. The study findings might be different in different contexts, in other provinces in Indonesia, and in other countries and cultures. The results were limited to three regions in Riau Province and might not be generalizable to the entire population.

CONCLUSION

This study showed that unassisted home birth with the help of untrained family members took place using unique methods and tools. This research suggests that relevant policy makers and stakeholders need to provide untrained family members with health education about safe motherhood or safe childbirth. Health education is also important for women to have facility childbirth.

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