Traditional delivery practices with the assistance of untrained family members in remote rural areas of Riau Province, Indonesia: Qualitative research

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Abstract

Background: An unassisted home birth commonly takes place with the assistance of a traditional birth attendant (TBA). In a remote rural community of Riau Province, Indonesia, unassisted home birth can also transpire with the help of untrained husbands and or parents-in-law. Aims: This study aimed to explore traditional delivery practices that untrained husbands and or parents-in-law do to help birth at home. Settings and Design: This was a qualitative study. Data were collected in three regencies in Riau Province, Indonesia. Methods and Materials: An in-depth interview was used as data collection method. Around 18 respondents were recruited using snowball sampling. The respondents were four women who intentionally had an unassisted home birth, five husbands, seven mothers-in-law, and two fathers-in-law. Data were transcribed and thematically analyzed. Results: In determining labor untrained husbands and or parents-in-law used oil practice. To ease labor pain, they wrapped around a piece of traditional long cloth on the women’s uppermost abdomen. They clamped an umbilical cord as soon as the baby or placenta had been born by tying around a white yarn in the cord three times. They cut the cord using an unsterilized bamboo. They bathed the new-born immediately after birth. Conclusions: This study provided an understanding of traditional delivery practices carried out by untrained husbands and or parents-in-law in assisting home birth. This finding is essential for making proper and effective health policies and interventions.

Keywords: Traditional practice, childbirth, unassisted home birth, husband, parent-in-law, Indonesia

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Introduction

Maternal and neonatal mortalities in Indonesia continue to be public health issues. Having failed to achieve maternal and neonatal-related Millennium Development Goals, Indonesia is committed to reducing its maternal mortality ratio (MMR) and neonatal mortality rate (NMR) to the numbers targeted by the 2030 Sustainable Development Goals (SDGs). This commitment comes with the regular launch of a five-year National Medium Term Development Plan (NMTDP), which sets MMR and NMR declines in its priority target. Through the 2015-2019 and 2020-2024 NMTDPs, the government continues to urge pregnant women to give birth at health facilities\textsuperscript{1,2}. This strategy underscores the country's health policy shifting from childbirth with the attendance of skilled birth attendants (SBAs) to childbirth with the assistance of SBAs only at healthcare facilities. The health policy has shown progress. In 2019, the country's coverage of facility childbirth (88.75\%) continues to surpass its targeted strategic plan of 85\%\textsuperscript{3}. Nonetheless, a persistent disparity between rural and urban areas and different provinces of the country exists. No less than 16.9\% of 5,011,261 pregnant women had childbirth without the assistance of SBAs at home\textsuperscript{3,4}.

Unassisted home birth refers to childbirth carried out at home without SBA assistance. In many cultures, it usually takes place with the assistance of untrained birth attendants. Among untrained birth attendants, traditional birth attendant (TBA) is the most favored one\textsuperscript{5-7}. TBA refers to a woman who gains skills by only watching the childbirth process, assisting childbirth herself, and or having apprenticeship to another TBA\textsuperscript{8}. A TBA is usually old, comes from the local community, and shares the same language and culture\textsuperscript{9,10}. The most reported reasons for using TBA's services were familiarity with TBA, trust in TBA, and confidence in TBA's skill and experience\textsuperscript{10-12}. Cultural norms have also played an important role in influencing the community's preference for TBA\textsuperscript{13}. In most of the developing nations, TBA-attended childbirth has passed across generations\textsuperscript{14}. The use of TBA's services even takes place due to women's mothers, mothers-in-law, and or husbands' encouragement\textsuperscript{10,12}.

A growing number of studies conducted in different countries and cultures had explored how a TBA assisted women in labor, childbirth, and after delivery. A study in Pemba, Tanzania revealed that a TBA did not wash hands before assisting childbirth\textsuperscript{15}. In Kenya, a TBA allowed women to choose their preferred birthing positions\textsuperscript{9}. In Tanzania, a TBA would let a woman deliver their babies in a variety of delivery surfaces\textsuperscript{15}. A study in Ghana showed that a TBA fingered the women's vagina to estimate the cervical dilatation and to predict baby delivery time. The TBA also asked the women to drink blessed milk, malt, and herbal enema to alleviate painful uterine contraction\textsuperscript{8}. In India, a TBA would not make any attempts at the childbirth process starting from not picking up the baby that was coming out to not assisting the birthing of the placenta\textsuperscript{16}. In Tanzania, a TBA would give a woman an abdomen massage if difficult labor occurred\textsuperscript{17}. In Bangladesh, a study showed that some TBAs cut the umbilical cord before the placenta delivery while others cut the cord only after the placenta delivery\textsuperscript{18}. In Southern rural Zambia, a TBA used a new razor blade to cut the cord if only there was enough preparation time. Otherwise, the TBA would only use an old razor blade\textsuperscript{19}. In Southern Province of Zambia, a TBA also used unsterilized traditional tools to cut the cord as an alternative in emergency...
situation. In Australia, a TBA accelerated placenta birth by pulling on the cord. In Tanzania, a TBA would bath the newborn baby immediately after the birth using warm water and soap.

Studies on TBA delivery practices have helped shape relevant health policies and interventions. However, TBA is not the only unassisted homebirth attendant. Studies showed that women in rural areas of the developing nations, including Indonesia, also experienced childbirth with the assistance of their untrained family members, such as husbands, and or parents-in-law, who were even not TBAs. Women's trust in their family members has been one of the primary reasons. Nonetheless, there is a gap in our understanding of how untrained family members help a childbirth process at home. This study, therefore, aimed to explore traditional delivery practices of unassisted home birth with the assistance of untrained family members. This study is important to identify harmful delivery practices to help the policymakers formulate relevant and effective health policies critical to achieving maternal and neonatal-related SDGs.

**Subjects and Methods**

The study used a qualitative research method with a phenomenology approach to understanding baby delivery practices carried out by untrained family members. The study was conducted in Riau Province, Sumatera Island, Indonesia. The province continuously failed to achieve a 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 34.3% delivered their baby with SBA assistance. Consequently, instead of a decline, the province’s maternal death increased from 100 women in 2018 to 119 women. Bleeding was the most common cause of maternal death. Around 374 neonates died due to asphyxia, tetanus, and sepsis. Kampar, Pelalawan, and Siak regencies were three regencies in Riau Province that we selected for their low facility childbirth percentages.

The study used snowball sampling. We recruited a total of 18 respondents comprised of four women who had intentionally unassisted home birth with the attendance of their unassisted family members. We also recruited five husbands, seven mothers-in-law, and two fathers-in-law with home birth assistance experience. All respondents should have at least one year of experience before the study. We determined the final sample size based on data saturation.

The first author contacted her midwifery students who worked full time as village midwives or private practice midwives in three regencies of Riau Province. The midwives helped inform about women who sought antenatal care from them but ended up giving birth at home with their untrained husbands and or parents-in-law assistance. Similarly, the second author who was a part-time private practice midwife contacted her patients who sought antenatal care at her practice 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, at an enclosed place of the respondents’ home by applying a protective measure of Corona Virus Disease 19. The respondents who had agreed to join the study had to sign an informed consent form. We collected the data using in-depth interviews that lasted from 75 to 90 minutes. The interviews were tape-recorded by the consent of the respondents and their family members. The study used a translator who spoke the local language. The translator helped translate interviews with the respondents who could not speak the Indonesian language very well.
The researchers went through the recordings and notes to transcribe the interviews as soon as we completed each interview. The translator transcribed and then translated the interviews conducted in the local language into the Indonesian Language. The translator cross-checked the translation to ensure that the translation was correct. Transcripts were written in the Indonesian Language. To analyze the transcripts, we used a thematic approach. The authors read, reread, and coded the transcripts. Broad themes were then identified. The authors developed new codes along thematic issues to find specific themes. The authors decided on final codes and themes.

The study received its 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

Labor

**Method for determining the start of labor**

Untrained family members, husbands and or parents-in-law, later called birth attendants, started home birth assistance when the pregnant woman complained of having painful contraction, vaginal fluid leakage and or bloody show. The birth attendants would firstly take cooking oil from the kitchen. Asking the woman to stand, the birth attendants put small amount of oil on the woman’s navel. The birth attendants would be convinced that 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 some walk or give the woman an abdominal massage. They believed that these devices could correct baby position, move the baby to the birth canal, and accelerate the progress.

“It was at 12:00 am. 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 bit to the right side. My mother-in-law asked me to walk down inside the house.” (#2, Woman, Siak Regency)

**Method for checking the progress of the labor**

The birth attendants would regularly check the progress of labor by performing the oil practice. If the oil still had not flowed 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 presence and cervical dilatation. The birth attendant put their two fingers into the woman’s vagina without washing hands and wearing gloves.

“You have to check if the baby moves down to the vagina. Slowly insert your two fingers inside her vagina. Just use your bare hands to get the feeling, and use your feeling to feel the baby’s body parts.” (#3, Mother-in-law, Pelalawan Regency)

The birth attendant carried out a cervical examination at the frequency of their preference.
“Sometimes the birth of the baby took us so long to wait. The mother had been having a prolonged pain. You had to frequently check the vagina to see if the baby was already there or not.” (#4, Mother-in-law, Siak Regency)

Method for assuring the labor has progressed to the second stage of labor: baby delivery
The birth attendants would be convinced that it was the time to deliver the baby if the oil flowed straight down to the woman’s vaginal direction.
“I had felt pain for long hours. My husband then put oil again and over again 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.” (#3, Woman, Pelalawan Regency)

Baby delivery

Birthing positions
In assisting baby delivery, the birth attendant would allow the woman to have a birthing position of her preference. Almost all of the women said that they preferred a squatting position while putting their two hands on 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” (#1, Woman, Kampar Regency)

Washing hands and wearing gloves
The birth attendants revealed that they rarely washed 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 tool, material and equipment I needed. I often forgot to wash hands.” (#1, Husband, Kampar Regency)
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.” (#5, Mother-in-law, Pelalawan Regency)

Delivery surfaces
Some birth attendants would put a mat or carpet under the woman either she was squatting on floor or lying down on a bed, some would not put anything.
“My wife was in a squatting position. I did not put anything under her. My both hands were ready to pick the baby. So, the baby would not touch the hard floor.” (#2, Husband, Siak Regency)
“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.” (#4, Mother-in-law, Kampar Regency)
**Pain relievers**

To help relieve the woman’s labor pain, the birth attendants wrapped around a *kain panjang*, a piece of traditional long cloth, on to the uppermost of woman’s abdomen.

“My husband wrapped around *kain panjang* on my belly. It helped reduce the labor pain.” (#3, Woman, Pelalawan Regency)

A mother-in-law said that *kain panjang* would help not only ease the woman’s labor pain, but also push the baby out. The birth attendants would tighten *Kain panjang* even more when a stronger painful contraction occurred.

“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 really helped.” (#1, Mother-in-law, Kampar Regency)

**Prolonged labor**

If a prolonged labor happened, the birth attendant, with or without the help of other untrained family members, would push the woman’s belly. The birth attendant believed that this would help the baby to come out.

“It was my first labor. After long hours of pushing, still the baby did not come out. I was tired, my husband, sister-in-law and father-in-law then worked together to help push my belly.” (#2, Woman, Siak Regency)

**Umbilical cord and placenta delivery time**

The study revealed that there were differences between time for cutting an umbilical cord and time for delivering a placenta. While some cut the cordial cord after the baby had come out, a few cut the cordial cord only after the placenta delivery.

“I cut the umbilical cord after the baby was born.” (#6, Mother-in-law, Siak Regency)

“My husband normally cut the umbilical cord after the placenta had been delivered.” (#1, Woman, Kampar Regency)

“I usually delivered the placenta first. Afterwards, I cut the umbilical cord.” (#4, Husband, Siak Regency)

**Umbilical cord clamp**

**Time**

Our study found that birth attendants paid no attention to the time of clamping the cord. However, they said that there had to be no delay.

“Cut the cord as soon as the baby is born. Make sure you tie it beforehand.” (#2, Mother-in-law, Pelalawan Regency)

**Method for clamping the cord**

The study showed that our respondents clamped the cord by tying around a white yarn in the cord three times. When the rounds completed, they cut the yarn using a new scissor. There
was no traditional belief in the numbers of the tie. The only reason was only to stop the bleeding and that was how to do it right.

“Before we cut the baby’s umbilical cord, we had to tie it with a white yarn for about three times. It made the tie strong and stopped the bleeding right away.” (#1, Father-in-law, Kampar Regency)

One woman we interviewed revealed a unique cord clamping. According to the woman, the birth attendant firstly tied around the cord by a white yarn three times. It was not far from 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. After that, the birth attendant also stabbed tobacco on to another side of the needle. They believed that such the practice accelerated the placenta delivery.

“We had to tie around a white yarn on the cord. After that 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.” (#4, Woman, Siak Regency)

**Umbilical cord cut**

**Tools**

After clamping an umbilical cord, the birth attendants cut the cord. The tools they used were a self-sharpen bamboo, new razor blade, or new small scissor. Of these tools, a bamboo was the most common one. They believed that a bamboo was an organic tool best to use to cut the cord. The birth attendants sharpened the bamboo themselves using a knife or broken glass. They sharpened it two or three months before the childbirth.

“We preferred using a bamboo. I sharpened it months before the childbirth. Bamboo was from the nature. It was good.” (#3, Husband, Pelalawan Regency)

When the birth attendants used a new razor blade or scissor, they would not sterilize them. They believed that when the tools were new they would not harm.

“We can use a newly purchased tool. If we use a new one, It will not harm.” (#2, Woman, Siak Regency)

**Distance**

The birth attendants said that 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 really close nor too far from the clamp.” (#2, Father-in-law, Siak Regency)

**Placenta Delivery**

**Methods to deliver placenta**

In local language, placenta was called *kakak anak*. In delivering a placenta, the birth attendants used different methods. Several birth attendants would ask the woman to drink a small amount of unused cooking oil and then coughed three times. The others would ask the
woman to drink salty water and then coughed. In delivering a placenta, most women were in standing position.

“Before delivering *kakak anak*, 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 to deliver the placenta.” (#4, Woman, Siak Regency)

“To deliver *kakak anak*, I asked my wife to drink a spoon of salty water and then cough three times.” (#5, Husband, Pelalawan Regency)

**Accelerating placenta delivery**

A mother-in-law also gave the woman an abdomen massage in order to accelerate the placenta delivery.

“I would ask my daughter-in-law to drink cooking oil and then coughed three times. While she was coughing, I gently massaged her belly to help *kakak anak* came out easily.” (#7, Mother-in-law, Siak Regency)

When the placenta did not want to come out, the birth attendants would gently pull on the umbilical cord.

“I pulled the placenta gently. Just a little bit to help it come out.” (#3, Husband, Pelalawan Regency)

**Baby bath**

Regardless of time delivery, the birth attendant bathed the baby immediately after the birth. There was no delay in baby bath because the baby was fully covered by blood, and thus considered dirty. The baby will be bathed in a big plastic basin filled with lukewarm water. Baby soap and shampoo were used to wash baby’s body and hair. To cleanse, the baby was moved to another clean lukewarm water basin. Afterwards, the birth attendant covered the baby from head to toe with tick cloths, locally called bedong.

“We bathed the baby as soon as the baby was born. We used lukewarm water in two big basins, baby soap and shampoo.” (#6, Mother-in-law, Siak Regency)

**Discussion**

This study aimed to explore how untrained family members in the community we studied assisted a home birth. Our study revealed that in assisting the childbirth process at home, the birth attendants used traditional tools, materials and equipment as well as carried out traditional procedures. The assistance started from the start of labor to the baby bath.

In the community we studied, birth attendants perform an oil practice to determine start of labor and start of baby delivery. When pregnant woman has shown the onset of labor, birth attendants will put a small amount of cooking oil onto the pregnant woman’s navel. Directions of the oil flow determine start of labor or start of baby delivery and actions the birth attendants will take. If the oil flows down, yet not straight to the woman’s vaginal direction, the birth attendants will be convinced...
that it is the start of labor. They will suggest the woman to walk down and or give the woman an abdominal massage. The birth attendants believe that such these practices will help correct the baby position, move the baby to the birth canal, and accelerate the progress. This practice is similar to that carried out by a TBA in Pemba, Tanzania where a TBA encouraged the woman to walk around to help the baby come down into the birth passage\textsuperscript{15}. However, if the oil has flowed down straight to the woman’s vaginal direction, birth attendants will be completely assured that it is the time to baby delivery. They will order the woman to start pushing the baby out. The practice of oil use in our study is similar with that in Turkey. The differences lay on oil type, method, and function. In our study birth attendants use cooking oil, put the oil onto woman’s navel to determine the start of labor. In Turkey, a TBA used olive oil, had the woman to drink it to help ensure a smooth labor and delivery\textsuperscript{26}. The surprising finding of this oil practice is that birth attendant puts a small amount of oil onto the women’s navel when they are in a standing position. In such this position the oil most likely flow down to the woman’s vaginal direction since flowing down following the gravity is one of fluid characteristics. Deviation occurs if only the woman does not stand straight, for example, because painful uterine contraction has made them cannot do it so. One possible repercussion of such this practices is birth attendants are convinced that the woman has progressed to second stage of labor or baby delivery while she is actually still in latent or active phase of first stage of labor. This suggests that the cooking oil practice may not only give inaccurate prediction of baby delivery time, but also mislead.

In its recommendations on intrapartum care for a positive childbirth experience, the World Health Organization (WHO) stated that first stage of labor comprised latent and active stages. There has been no standard duration of the latent first stage. The duration can differ from one woman to another. An active first stage takes 10 hours for a woman with subsequent labor to 12 hours for a woman with first labor\textsuperscript{27}. The birth attendants who do not have an understanding about the concept of the first stage of labor duration, and an adequate experience in assisting home birth can simply assume that the labor is prolonged. As revealed by the study, when a prolonged labor occurs, birth attendant will do frequent cervical examinations by fingering the woman’s vagina. Research showed that frequent vagina fingering was associated with a higher risk of infection\textsuperscript{28}. Our study also found that no birth attendants wash their hands and wear gloves before assisting the childbirth. Preparing childbirth tool, material and equipment essential for the birthing process usually causes the absence of wash hands. The reason given by the community we studied is similar to a TBA practice in Tanzania\textsuperscript{15}. Due to time constraint not all of the TBAs washed hands or wore gloves. In our study, however, we found that time is not the only issue. Knowledge about infection prevention during childbirth attendance has also been a challenge. One birth attendant said that washing hands barely have any importance because when assisting a childbirth process, the attendant will be touching blood, which is dirty.

Our study findings revealed that to help lessen labor pain, birth attendant ties around a traditional long cloth on the uppermost part of woman’s belly. The tie is tightened and pushed down each time the woman feels a stronger painful uterine contraction. Birth attendants believe that the practice of long cloth use is to reduce pain and to accelerate the childbirth process. However, a study
showed that there was inadequate evidence regarding benefits and disadvantages of fundal pressure by any methods both for the woman and the unborn baby\textsuperscript{28}. The practice carried out by the birth attendants in our study to help lessen labor pain is different from the practice a TBA carried out in Ghana. In Ghana, the TBA only used artifacts such as water, ada salt, milk, malt and herbal enema that have been prayed over\textsuperscript{8}.

Our study finding also shows that when a prolonged labor occurs, birth attendants, with or without other family members’ help, will push the woman’s abdomen by their hands. The birth attendants believe that such the practice could help push the baby out. A study showed that manual fundal pressure did not shorten duration of second stage. Women who received manual fundal pressure were even prone to suffer from cervical tears\textsuperscript{28}. The practice carried out by the birth attendants we studied is different from that in Tanzania where a TBA gave only an abdominal massage to help ease woman's difficult labor\textsuperscript{17}.

Our study showed that the time to cut an umbilical cord varies in the community we studied. Some birth attendants cut the cord before the placenta delivery, some cut it afterwards. This study finding is the same to the study in Bangladesh. TBAs who preferred cutting the cord before placenta delivery believed that the practice could harm the woman\textsuperscript{18}. This was different from our study where there is no traditional belief in the appropriate time for cutting the cord.

Our study showed that birth attendants clamp the umbilical cord before cutting it. There was 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\textsuperscript{27}. In its recommendation, WHO recommends to not clamp the cord earlier than 60 seconds. Similarly, in terms of the umbilical cord cutting, our finding reveals that there is no delay in cutting it. The birth attendants cut the cord right after they clamp it. This finding is different from that in Ghana and India where the TBA cut the cord only after its pulsation diminished or stopped\textsuperscript{8,16}. Health education is necessary to improve the untrained family members’ knowledge about the right practice of cord clamping and cutting.

In cutting the cord, our study finding also showed that the birth attendants prefer using a bamboo. The birth attendants consider bamboo an organic tool. The attendants have never sterilized the bamboo before its use. Our result is similar to the study in Zambia where the TBA did not need a sterilization as it may result in the tools’ physical integrity loss. In addition, TBA considered traditional tools naturally clean\textsuperscript{20}. When the birth attendants 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. Such the practice is different from that in Tanzania where the TBA sterilized a new scissor or razor in boiling water before its use\textsuperscript{15}. Health education about tools used in childbirth process is critical to prevent from childbirth-related infections.

Our study findings show that most of the babies receive their first bath soon after birth. The reason is because the newborn babies are dirty because of blood. However, this practice is contrast to the WHO’s recommendation. According to the WHO, bathing should be delayed until 24 hours of birth or at least six hours if bathing could not be delayed for cultural reason\textsuperscript{30}. This practice also took place in Sylhet, Bangladesh, where newborn baby bathing occurred soon after birth\textsuperscript{18}.

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Limitation of the study

This study was based on reported practices, not on actual observation. Therefore the study was subject to recall and response bias. Also this was qualitative, as a result, the study findings might be different in different contexts. The results were limited to three regencies in Riau Province and might not be generalizable to the entire population.

Conclusion

This study findings showed that in assisting birth at home, untrained family members used traditional tool, equipment, material and procedure. Such this practice is not adherent to the WHO’s recommendations and can pose risks not only to birthing women but also to their babies. This findings suggest that policy interventions that focus on educating untrained family members about how to help women in childbirth are urgently needed.

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References


