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Knowledge, attitude and practice of parents on maternal care in a mountainous district of Vietnam: A qualitative study

Nguyen Thi Thanh. Huong[a,*], Hoang Phuong. Anh[b,c], Mai Thi Thuy. Hao[d], Nguyen Thi Hoa. Huyen[a]

[a] Senior Lecturer, College of Health Sciences, VinUniversity, Vinhomes Ocean Park, Da Ton, Gia Lam 100000, Hanoi, Vietnam
[b] Researcher, College of Health Sciences, VinUniversity, Vinhomes Ocean Park, Da Ton, Gia Lam 100000, Hanoi, Vietnam
[c] Lecturer Assistant, Faculty of Nursing and Midwifery, Hanoi Medical University, 1 Ton That Tung, Dong Da 100000, Hanoi, Vietnam
[d] Health Specialist, ChildFund in Vietnam Representative Office, Vinafor Building, 127 Lo Duc, Hai Ba Trung 100000, Hanoi, Vietnam

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ABSTRACT

Barriers preventing parents from accessing healthcare services affect the effectiveness of maternal care in mountainous areas of Vietnam.

Aim: This study aimed to examine the current knowledge, attitudes, and practice of parents about maternal care in a mountainous region of Cao Bang province.

Method: With the participation of 18 individuals (mothers, fathers, and pregnant women), six semi-structured interviews and three group discussions were conducted at different commune health centers.

Result: This study emerged three themes, including knowledge, attitude, and practice of parents. Overall, parental knowledge about maternal care was at a basic level. While they showed positive attitudes towards the importance of maternal healthcare, unexpected behaviors such as homebirth or poor attendance at maternal health visits were still evident. These behavior patterns reflect incorrect cultural beliefs about health along with geographical and economic barriers.

Introduction

According to the World Health Organization (World Health Organization, 2015), maternal care refers to a process of caring for a woman from pregnancy to the postnatal period, allowing her babies and her family to reach their full potential of health and well-being. This process involves both parents and healthcare providers. While sepsis, as well as pregnancy induced hypertension and diabetes mellitus, continues to be the major cause of maternal mortality (Lee et al., 2020), insufficient and improper maternal care may result in delivery complications, stillbirths, neonatal mortality, and child morbidity (Vogel et al., 2014). In Vietnam, a study reported that the number of maternal mortalities decreased from 69 per 100,000 live births in 2009 to approximately 50 per 100,000 live births in 2015 as a result of strong political efforts and determination toward Millennium Development Goals, which focused on improving maternal care (Chuong et al., 2018). The rate of infants-under-1-year-old mortality had a similar result, decreasing from 15,8/1000 infant deaths in 2010 to 14,7/1000 in 2015 (Vi and Hoang, 2017). Thanks to strong maternal health programs provided by the Ministry of Health, the accessibility of healthcare services to mothers and their children has significantly improved. However, in remote or mountainous areas, the use of these healthcare services can be limited due to a variety of factors, including availability, geographical accessibility, and cultural impacts (Dinh, 2019).

Cao Bang is a province in the northeast region of Vietnam with a mostly mountainous geographical setting. The province is home to five ethnic minority groups, including the Tay, Nung, Dao, Mong, and Kinh. Here, maternal care services are challenged by economic difficulties, geographic limitations, limited educational awareness, and the traditional customs of the local people. During the past ten years, Cao Bang has been receiving healthcare intervention programs provided by governmental and non-governmental organizations to improve the accessibility of parents to maternal care services. However, a survey conducted in 2017 by Childfund Vietnam, a non-governmental organization, revealed that the rate of expectant mothers who sufficiently attended four pregnant check-ups during their pregnancy was only 66.7%. Further, there were still 7.4% of expectant women chose to give birth at home (Childfund Vietnam, 2020). Whether these governmental intervention

* Corresponding author.
E-mail addresses: huong.ntt@vinuni.edu.vn (N.T.Thanh. Huong), phuonganh97.hmu@gmail.com (H.Phuong. Anh), amda.hao@gmail.com (M.T.Thuy. Hao), huyen.nth@vinuni.edu.vn (N.T.Hoa. Huyen).

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programs indeed created changes in the health behaviors of local people remains a question. Therefore, the aim of this study was to answer the question, "What is the knowledge, attitudes, and practices of parents regarding the maternal care in a mountainous district of Cao Bang province?".

Method

Study design

This study used the qualitative approach with Krippendorff´s technique to collect the data regarding knowledge, attitudes, and practice of parents about maternal care.

Settings and time

Data were collected at four commune health centers of the Trung Khanh district: Xuan Noi, Quang Han, Cao Chuong, and Quang Vinh in September 2020.

Participants

A list of pregnant women and mothers who have delivered within the last year was sent to the research team prior to the interview. The authors used convenience sampling strategy to invite fathers and mothers whose children under one year and pregnant women to participate in this research. The invitation to participate in this study was sent to eligible participants prior to the interview. However, few participants were not available during the data collection due to geographical distance, language difficulties, and other personal reasons. The research team kept randomly inviting participants until reaching the principle of saturation. That principle of saturation (Polit & Beck, 2009) was used to determine the completion of the interviewing process when no more new information emerged.

In total, 18 parents from both the Kinh group and the Mong ethnic minority group participated in this study, including eight mothers whose children under one year old, six fathers (or future fathers), and four pregnant women. The average age of participants was 20-30 years old, approximately half of the participants have already had at least one child.

Interview

A semi-structured interview guide (with prompts) was developed by the research team and revised by two other specialists in community health nursing from Childfund. The official interview guide was then used after three pilot interviews. Six interviews and three group discussions in total were tape-recorded with permission from participants. Each lasted for approximately 45 minutes in a private room at the local commune health center. As for the face-to-face interview, the quiet space without any other individual except participant(s) and interviewer(s) was important to ensure minimal background noise and distraction as well as an open space for participants to share.

The research was conducted by the research team specialized in maternal health. The team has 4 members, including 2 senior university lecturers who hold a PhD degree, 1 nursing lecturer assistantand 1 specialist in maternal community nursing.

Data analysis

All the identifying data were removed to ensure the interviews and all texts were confidential. After being recorded, the interview was all transcribed word-by-word as the primary data and was read several times separately by both authors to get an overall impression of the text on the evening of that day. A qualitative content analysis was performed utilizing the Krippendorff method (Krippendorff, 2004). This method has some fundamental steps involving unitizing, reducing, inferring, and interpreting data before making a conclusion. In unitizing, the meaning units (words, sentences, and paragraphs that had special meanings) from primary data were identified. This stage was also involved in establishing the coding frame. Based on the frequency of the data, the similar meanings of the sentences, they were placed under one structure. By analyzing and condensing the key context, the data reduction occurred, and the sub-categories of data were identified then clustered to final themes. In the advanced stages of inference and conclusion, the investigator interpreted the findings and writing data to text.

Ethical implications

The study is a part of the parent project "Essential care for pregnant women and infants" approved by ChildFund Vietnam in December 2017 (Project code: VN02-011) and Cao Bang provincial People's Committee (Decision no 433/QĐ-UBND). Prior to implementing the parent project, all required approvals from ChildFund Australia were obtained.

Result

Based on interview analyses, three main themes of parents' knowledge, attitudes, and practice about maternal care were identified. Nine sub-themes were also identified. Table 1 illustrates an example of the data analysis process.

Knowledge of parents about maternal care

The importance of 4 pregnant check-ups

Overall, mothers and fathers demonstrated basic knowledge of pregnancy check-ups. Generally, parents could remember the four milestones that pregnant women need to visit a doctor - one during the first trimester, one during the second trimester, and two during the last three-month as recommended in the National Guidelines on Maternal Healthcare Services by the Ministry of Health (Minitry of Health, 2016). A mother said that:

> *"My first pregnant time was not carefully monitored by a doctor. I just went to the health center if I had free time. Some of my friends even did not go to the health center at any time. However, this pregnant time, I changed my mind. I understand that I have to visit the commune health center as scheduled at least four times during the pregnancy to see how my baby is growing up".*

The pregnant woman demonstrated their understanding of what needs to be done during the visit. One woman shared her thought:

> *"It is insufficient for a pregnant woman to take only ultrasound without examination. We should go to the healthcare center to measure blood pressure, abdominal circumference, cervix uterus height, fetal heart, and then get a consultation".*

Expectant mothers also mentioned abnormal signs of pregnancy that need to be examined by a doctor, including abdominal pain, fever, hemorrhage, and tiredness. A woman said: *"Bleeding is not normal during pregnancy; if it happens, I will go to see health workers immediately".*

Risks of homebirth

Parents were aware of the importance of giving birth at a health care center or at least having support from health workers. The two most common risks of homebirth listed by parents were hemorrhage and infection.

A woman mentioned *blood loss* as one of the complications during labor and delivery. She shared her sister's story:

> *"My sister got a miscarriage at 4-month pregnancy, the labor was at home, and the baby came out without the placenta. She got a hemorrhage for a couple of days and then saw a big blood clot. It was very dangerous…and she needed quite a long time to fully recover".*

Table 1
An example of the data analysis process.

Step 1. Decontextualization *Identify meaning units*	*"My first pregnant time was not carefully examined. I went to the health center if I had free time. Some of my friends even did not go to the health center any time. However, this pregnant time, I changed my mind. I have to go to health center to see how my baby is growing up."*	*"I do not have enough professional knowledge to explain but I know that my wife's health and baby's health are so important that I will bring them to the hospital for health check-up and delivery in case of unexpected events."*	*"In case it's easy for my baby to come out, it would be okay that my wife delivers at home with support from people around, otherwise, it is 90% sure that I will bring my wife to the health care center for delivery."*
↓		↓	
Step 2. Recontextualization *Condense the key context*	Get knowledge to change her mind to visit health center more frequently.	Ready to seek health care services.	Still consider about delivery at home.
↓		↓	
Step 3. Sub-categorization *Identify homogeneous themes*	Knowledge about important of pregnant health check-up	Positive attitude on seeking health care services.	Improper practice following traditional unscientific conception.
↓		↓	
Step 4. Compilation *Shape sub-categories to key categories.*	Knowledge of parents about maternal care	Attitude of parents about maternal care	Practice of parents about maternal care

Another father demonstrated his understanding of the risk of infection-related childbirth. He said: *"home delivery that does not meet the hygiene condition can put both the mother and newborn baby at a risk of infection"*.

Monitoring kids during the postpartum period

Mothers recognized the importance of postpartum care for babies. For newborn babies, the two common concerning issues of mothers were *"fever"* and *"jaundice."* Although they could not explain the consequences if these symptoms are not examined and treated by doctors, they still recognized abnormal and alerting symptoms requiring follow-up care.

For babies at 6-12 months, parents' concerns turned towards nutrition and vaccination. Mothers showed appreciation of a maternal and child health handbook that they received from the commune health center. The book reminded them of the vaccination schedule and provided information on preparing meals and caring for their baby. A mother whose baby boy was under one year old stated that *"now I know how to cook the best meals with good nutrients for my boy as I understand more about the nutritional value of different types of food"*.

Attitude of parents about maternal care

Ready to seek for health care services

During the interviews, participants showed a positive attitude towards seeking healthcare services. Although parents were not always able to list all of the available health services at the commune health centers and how these services are essential to pregnant women or mothers with newborns, they still believed in the importance of maternal healthcare and the necessity of services provided by healthcare professionals: *"I do not have the professional knowledge to explain",* said one father. Another father stated: "*my wife's health and baby's health are so important that I will bring them to the hospital for check-up and delivery to avoid any unexpected events"*. A similar expression from a mother, "*hospital can save our life in emergency cases*". Parents also appreciated the positive changes in the attitudes of doctors and nurses when providing services. One mother said, *"commune health workers are now more friendly in communicating and consultation whenever we visit the health station; it makes me want to come back"*.

Open-minded to new knowledge

Although parents lived in mountainous areas with limited access to updated information, they still showed open-minded attitudes to obtain new knowledge. New knowledge created changes in their attitudes, and then with positive attitudes, parents were more interested in acquiring new knowledge. In one interview, a father asked the interviewer a question about the health of women during the delivery time, *"why a mother who has just delivered normally can turn into fatigue, faint, and even died?"*. This father demonstrated a very passionate attitude when listening to the answer explained by the interviewer.

Believe in scientific knowledge

Although "word of mouth" perceptions and understanding about health issues are still prevalent in Vietnam, especially in mountainous areas, parents who participated in this study shared their perspectives that unscientific information is not a trustful source of knowledge. *"These tips should be replaced by modern medical knowledge soon",* said a father. Parents even showed an attitude against wrong beliefs about the maternal care of other people. A father used himself as an example stating that if his mother asked him to let her wife deliver at home, he would say sorry to his mother without any doubt: *"I am sorry, I have to bring my wife to the hospital, regardless of money or 1-hour travel"*.

Practice of parents about maternal care

Insufficient health check-up during pregnancy

Although most parents showed basic knowledge and positive attitudes towards maternal care, their practice was not as expected since there were still mothers who insufficiently completed their pregnancy appointment visits. The predominant reasons for missing the healthcare visits were geographical and economic challenges. A mother explained that:

> *"For mothers who visited commune health centers during her pregnancy for the 1st time, they will then be encouraged by healthcare providers to visit at least four times or more frequently and they will follow the advice; for others who did not, maybe due to distance or economic barriers, they will still stay at home without any pregnant examination"*.

Homebirth remained

There were still mothers who delivered the baby at home at the time of data collection. When being asked, all parents could recall at least one case living in their commune area who delivered at home. There was a variety of reasons associated, but the most common one was that they lived too far from the commune health center. A story was shared that *"Mong people live on the mountain which is away from the center; it even takes them 3 hours to go to the health station, they need to walk, no vehicle can work as the road is very steep and slippery… and it's very dark at night, no light at all"*.

Financial difficulties make local people in the remotely mountainous areas hesitate to deliver the baby at a health station. Some touching stories were told, *"a couple of Mong people went to the hospital to wait for delivery, they took with them only maize powder as food for few days, but their food run out before the mother delivered the baby"*. Another story was that *"my friend was worried about who will be in charge of households and earning money when he brings his wife to the healthcare station for delivery"*. It is a fact that local people living in poor conditions have to prioritize basic needs like full meals and warm clothes to other issues.

Improper practice shaped by wrong perception

Many couples of ethnic minority groups in Vietnam practice rituals, herbal approaches, and similar approaches as part of their healthcare during pregnancy. But many of these practices are ineffective, and some may even be harmful. A mother believed that massage could help her baby relieve a sore throat and cough: *"If my child has a sore throat, I know how to massage, I learned it from my mom"*. Another mother took her sister-in-law as an example: *"She delivered at home with her mother's support, but she almost fainted due to a big amount of blood loss; luckily her family members let her drink back her blood to recover"*.

Discussion

Generally, parents participating in this study demonstrated basic knowledge of maternal care, which aligns with National guidelines on maternal health care services developed by the Ministry of Health in 2016 (Minitry of Health, 2016). Results from this study are similar to a study conducted by Lilungulu et al. (2016) in Tanzania that revealed most expectant mothers being equipped with basic knowledge, including the importance of going to the antenatal clinic at least five visits during pregnancy (Lilungulu et al., 2016). Another study from Malawi (a low-income country) examining parents' perception of the postpartum period and knowledge about postnatal care reported that mothers should have knowledge about family planning, immunization, or neonatal care (Zamawe et al., 2015). In our qualitative study, although basic knowledge was demonstrated, participants' knowledge was not perfectly adequate.

Traditional beliefs have heavily influenced the health behaviors of ethnic minority people over centuries. It is not easy to change beliefs and replace ideas with modern medical knowledge. However, participants in this qualitative study showed positive, open-to-change and ready-to-update attitudes towards maternal care, which can be explained by environmental or personal factors. In terms of environmental effects, Cao Bang province has witnessed rapid economic growth in recent years as it is located in cross-border economic zones in the north of Vietnam, where the shortcomings of present cross-border economic cooperation can be resolved by connectivity (Anh Thu et al., 2019). These advantages afford local people more chances to ensure their financial stability followed by changes in mindset. Economic growth is related to human development to reach a healthier life with knowledge and accessibility to available capacity (Hiep, 2008). An affective-cognitive consistency theory of Rosenberg in 1956 investigated the relationship between attitudes and beliefs in a person. Individuals receiving new knowledge (importance of maternal care) that reach the cognitive components of attitude allow a change in attitudes toward an object (seeking health care services) (Rosenberg, 1956).

With improved knowledge and changes in attitude, local parents were expected to follow healthy maternal care practices. In fact, the results of this study demonstrated that there were still people delivering their babies at home and following traditional potentially harmful beliefs about health. These findings correspond with quantitative reports in a study published by Duong et al. in 2020 about the use of maternal healthcare services among ethnic minority groups in Vietnam. Results of that study showed that the Mong community remained at the lowest percentage in having a minimum of four contacts with antenatal services and that the percentage of delivery at health facilities has not yet reached 100% (Duong et al., 2020). According to the Theory of Planned Behavior (Ajzen, 1991), in addition to considering attitudes, norms, and intentions, the Theory of Planned Behavior takes perceived behavioral control (PBC) into account. The PBC is defined as the perceived ease/difficulty of successfully performing a behavior influenced by experience, modeling, expected support, and potential obstacles. In our study, PBC can be explained by geographical barriers, poor traffic conditions, or financial difficulties. Although parents have basic knowledge and a positive attitude toward maternal care, the PBC factors are still barriers that prevent proper practice as expected.

Conclusions

Parents demonstrated a basic level of knowledge along with positive attitudes towards maternal healthcare. However, their practice of maternal care was not as expected. Wrong cultural beliefs about health, in addition to geographical and economic barriers, were still causes of inadequate pregnancy health check-ups of pregnant women and home-births.

Author's contribution

The author Huong, Nguyen Thi Thanh and Huyen, Nguyen Thi Hoa have the same contribution to the paper.

Ethical approval

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Declaration of Competing Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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