

## Pregnant Women's experiences of Birth Preparedness and Complication Readiness in Ghana

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### ABSTRACT

**Background & aim:** Most of the maternal mortalities are preventable when safe maternal healthcare practices adhere to antenatal care. Lack of birth and emergency preparedness is one of several factors contributing to maternal mortalities. Adequate birth preparedness (BP), as well as emergency, and complication readiness (CR) planning can determine the survival rate of a pregnant woman and her unborn neonate. The present study aimed to describe the experiences of pregnant women at Jachie Health Center regarding BP and CR.

**Methods:** In this qualitative study, a phenomenological approach was used for data collection. In-depth interviewing was conducted with a total of 15 pregnant women from Jachie Health Center. The interviews were digitally recorded, transcribed verbatim, reviewed several times, and thematic analysis was performed. NVivo software (version 11) was utilized to manage the data and help with thematic analysis.

**Results:** The pregnant women practiced preparations towards the place of delivery, support person, layette, and warning signs of pregnancy. The majority of the cases were not aware of obligatory preparations in terms of transportation and the need for emergency compatible blood donor prior to delivery. Most of the respondents were not sufficiently prepared for delivery due to poverty and low educational status.

**Conclusion:** The role of community members could include the instruction of pregnant women to attend antenatal clinic to receive education regarding birth preparedness and complications readiness. The district health directorate and public health nurses should train community leaders for the benefits of birth preparedness and complications readiness.

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## Introduction

Maternal and neonatal mortalities have decreased worldwide in the last ten years; however, in the sub-Saharan Africa, it is still high (1). In 2014, the World Health Organization (WHO) report on maternal mortality rate in developing countries revealed that maternal mortality ratio in developing countries in 2013 was 230 per 100,000 live births versus 16 per 100,000 live births in developed countries. The sub-Saharan Africans suffer from the highest

maternal mortality ratio (MMR) that is 546 maternal mortalities per 100,000 live births, or 201,000 maternal deaths a year. This is two-thirds (66%) of all maternal mortalities per year worldwide (2).

In addition, the WHO (2016) revealed that the MMR in developing countries in 2015 was 239 per 100,000 live births versus 12 per 100,000 live births in developed countries (3). Ghana is one of the sub-Saharan African

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countries with a high MMR and very slow progress. The WHO in collaboration with other agencies estimated that Ghana recorded 319 maternal mortalities per 100,000 live births (3).

Most of the maternal mortalities are preventable when safe maternal healthcare practices adhere to antenatal care (2). These practices include birth preparedness (BP) and complication readiness (CR). The BP and CR is the process of planning for normal birth and anticipation of the required actions in case of emergency (4). The BP programs aimed to address 'three delays' with regard to care seeking for obstetric emergencies, namely delay in problem recognition, delay in care seeking, and delay in care receiving at a health facility. The mentioned delays represent barriers that often result in preventable maternal mortalities (5).

The BP and CR is an integral content of antenatal education offered to pregnant women (6, 7). Kaur, Saini, and Walia (2009) reported that BP and CR became important topics for midwives in the discussions with expectant mothers during antenatal care due to the WHO report, which estimates that 500,000 to 600,000 women die from pregnancy and childbirth-related complications each year. Furthermore, 99% of these mortalities occur in developing countries due to expectant mothers' insufficient preparedness for birth (8).

Despite the information about BP and CR dominating antenatal discussion between midwives and pregnant women, some women continued to go into labor unprepared. The results of a study conducted by Rajesh (2016) about pregnant women's preparation need for birth and the related complications in India revealed that out of 110 pregnant women, 35% of the cases were prepared for birth and the related complications at the time they came to a hospital for delivery. However, 65% of the subjects were unprepared in this regard (9).

Moreover, according to the findings of a cross-sectional study conducted in Aleta Wondo District, South Ethiopia, it was observed that only 17% of the participants were prepared for birth and the related complications (10). Similarly, the results of a study carried out by Ukaegbu, Nwokeukwu, and Uzochukwu (2014) regarding the assessment of BP and CR in

antenatal care among women in Nigeria revealed that while 44% of the pregnant women were prepared for delivery, 56% of the cases were reported unprepared (11).

A few studies conducted in Ghana revealed that most of the pregnant women go for delivery unprepared. For instance, in a study conducted by Suglo and Siakwa (2016) about knowledge and practice of BP among expectant mothers seeking antenatal care at Tamale Teaching Hospital, it was concluded that most of the participants had adequate knowledge with regard to birth preparedness and complication readiness. However, some of the pregnant women came to the hospital for delivery unprepared (12).

Lori, Dahlem, Ackah, Adanu (2014) in their study pointed out that in Ghana women with antenatal care and sufficient knowledge considering birth preparedness and a few warning signs could not implement the knowledge. It was observed that the challenging issue for the pregnant women is to differentiate between common discomforts of pregnancy and emergency signs when taking prompt action to receive skilled care, and the main reason for preparedness and complication readiness was unclear to them (13).

Currently, at Jachie Health Center, some pregnant women deliver in cars before reaching the health facility and others come with layette or support person. It remains a threat to the type of maternal care services rendered to pregnant women in order to reduce maternal mortalities. Therefore, it is required to assess the perceptions of the pregnant women attending antenatal care regarding BP and CR at Jachie Health Center.

The present study assessed the perceptions of pregnant women about BP and CR at Jachie Health Center.

## Materials and Methods

This was qualitative study with a phenomenological approach. Phenomenological approach to qualitative method of enquiry offers an approach that can be applied to a myriad of experiences especially women experiences regarding birth preparedness and complications readiness. Phenomenology also offers the research the ability to examine the cumulative

experience of participant as they relate to the single point in time. The cross-sectional design allowed the participants to share their perceptions, feelings, and experiences in the community and how these experiences affected their perspectives on a given situation (14).

Jachie Health Center is located in Bosomtwe District of the Ashanti Region, Ghana. The health center is situated in the Jachie Township, a peri-urban area on the Bosomtwe lake road headed by a medical assistant. There were five midwives, four general nurses, and seven community health nurses. The Jachie Health Center has a medical laboratory and an eye clinic.

A total of 15 female adults above the age of 18 years were recruited for this study. The purposive sampling method was used to choose the patients in the present study. The data collection strategies utilized in qualitative-based studies include interviews, conversations, observations, group discussions, and the analyses of personal text (15). The data collection method of in-depth interviewing (IDI) was used in this study. Fifteen pregnant women in the second and third trimesters of pregnancy were interviewed. The data collection was conducted from December 2017 to February 2018.

Large qualitative data set is often generated when a researcher employs a phenomenological approach (15). This data set come in the form of interview notes, tape recordings, field notes, and jottings that are often analyzed together (15). The in-depth interviews were digitally recorded and transcribed verbatim with the participants' permission. Each subject was assigned a unique identification number.

All transcripts were reviewed by an independent person. In the review, the independent person listened to the various recorded voices and compared them with the transcripts. Then the qualitative narrative data in English were entered into a word processor (Microsoft Word) and imported in a format that allowed the coding of the interview transcripts in NVivo software (version 11).

In data analysis, thematic analysis was employed that includes three interrelated stages, namely data reduction, data display, and data conclusion drawing/verifying (16). In addition, Guest, Macqueen, and Namey summarized the

process of thematic analysis as reading through textual data, identifying data themes, coding the themes, and then interpreting the structure and content of the themes (17). In using this method, a codebook was first developed, discussed, and accepted by the authors. The nodes were then created within NVivo software (version 11) using the codebook. Line-by-line coding of the various transcripts was performed as either free or tree nodes.

Double coding of each transcript was carried out by two of the authors. Coding comparison query was used to compare the coding and a kappa coefficient (the measurement of inter-coder reliability) was generated to compare the coding that was conducted by the two authors. Matrix coding query was performed to compare the coding against the nodes and attributes using NVivo software (version 11) that made it possible for the researchers to compare and contrast within-group and between-group responses.

Trustworthiness of the study was ensured by member checking with the participants during the data analysis that facilitated the full understanding of the cases. Furthermore, writing detailed field notes and discussing the findings among the investigators helped ensure trustworthiness of the study (18).

The researchers used a self-developed semi-structured interview guide to elicit responses from the pregnant women in Jachie Health Center. Using a semi-structured interview schedule offers participants the opportunity to construct their own world (19).

The instrument was pretested on three pregnant women who attended antenatal care at Abono Health Center. The mentioned center was chosen for the pretesting because the pregnant women had similar characteristics to the participants at Jachie Health Center.

The present study was approved by the Ethics Committee of the University of Health and Allied Sciences. The consent forms were obtained from the participants before their involvement in the study. Moreover, the consent was sought before entering into the private or personal lives of the subjects as it was in case of enquiring about BP and CR. The participants were free to decide how they would like to open up. The participants were ensured of the

confidentiality terms. The participants were assured that they were not easily identified based on the information they may provide. To achieve this, the researchers used codes instead of participants' names in the report.

## Results

The obtained data were simultaneously organized during data collection through the process of thematic analysis. The information that was similar or had same connotations were grouped and transcribed under the study themes. The transcripts were read several times to make meanings of participants' accounts. In addition, NVivo software (version 11) was used to manage the data. Initial themes were followed in subsequent interviews and corroborated with field notes to fully developed themes.

Using a phenomenological approach to qualitative inquiry requires that the researcher provides a summary of the findings in form of themes. These themes should emerge from the data and reflect the key issues from participants. In order to achieve this, the researcher is expected to remain faithful to the participants by employing what is known as bracketing in phenomenology (20).

Bracketing is utilized to minimize personal bias in the presentation of the findings of a study (20). This is often necessary due to the close relationship between the researcher and the participant during the research process. Therefore, the results of this study were summarized by the themes that emerged from the data and supported the narratives with illustrative quotes obtained from the

respondents as required in a phenomenological research approach (15). The participants were numbered (1 to 15) and the number after each quotation shows who was talking.

### Socio-demographic characteristics Components of birth preparedness and complication readiness Preparations prior to birth

All the 15 interviewed participants were aware that before delivery there are some preparations needed to be performed. However, they all knew that they have to be prepared, some of them had no or little idea about some of the required preparations.

#### Layette

A layette is considered as the clothing and supplies needed to care for the neonate following birth. Parents in classes are encouraged to be prepared for the newborn's arrival before birth. The findings of this study revealed that all the participants had knowledge about preparations concerning the layette, and they purchase and bring them along when referring for the delivery. For instance, the participant number 2 in response to her knowledge about layette and usage of the knowledge said:

"... the things I know are Dettol, Parazone (bleach), and bucket for bathing after delivery, rubber to sleep on during delivery, and I know if you are not able to bring these items it will be inconvenient. So you have to make sure you come with all the items."

**Table 1.** Demographic characteristics of participants

Variable	Category	Frequency (n=15)	Percentage
Age	20-35 years	11	73.33
	36-45 years	4	26.67
Marital status	Married	11	73.33
	Single/Separated	4	26.67
	Widow	0	0
Religion	Christian	9	60
	Muslim	6	40
Educational status	Senior High School	7	46.67
	Tertiary	4	26.67
	No formal education	4	26.67
Employment status	Employed	11	73.33
	Unemployed	4	26.67
	Total	15	100

The participant number 6 also said:  
 "...You have to come to the hospital with the things you have bought since some of them will be used for me and the baby during and after the delivery."

### Support person

All the 15 participants were informed that they have to get someone to support when preparing for delivery and during delivery; however, this knowledge was not always utilized all the time by all of them.

"...a family member, such as the mother or sister is supposed to escort you to the health center but for my first pregnancy I came alone, it was after my delivery that my mother came around... ..But so far I've given birth to five children, two were delivered here and for all the first three I came alone..... but the main reason that I didn't come with anyone on my previous deliveries was that I didn't have any sign of delivery or that I would give birth that day. It was just a normal routine that I came alone." (Participant number 4)

The participant number 3 also responded:

"...it is my mum who usually comes with me to the health center..... because there could be any sort of emergency that requires a relative."

"My husband always accompanies me when coming to the clinic so he will be the one to bring me to the hospital when I go into labor... but my mother will be taking care of me after the delivery since my husband will be going to work." (Participant number 14)

### Place of delivery

All the 15 participants had already identified a place of delivery, which was the clinic and decided to be attended by a professional midwife.

"...For the place of birth, I can even choose to give birth in the bathhouse but my preference is the health center where I can receive more medical attention. I feel more secured to give birth at the hospital." (Participant number 3)

When asked about the knowledge of preparedness relating to the place of birth and usage of the knowledge the participant number 6 said:

"...I choose this place (the health center) to give birth at because it is close to me."

The participant number 1 also added that:

"...I know that I will give birth at this particular health center and will not allow anybody to deliver my baby in the house, even my husband will not permit me to deliver in the house."

"...in these modern days nobody likes to be attended by the women who conduct deliveries at home? My mother won't even allow me to give birth at any place except the clinic." (Participant number 10)

### Skilled birth attendant

The subjects identified a skilled person to attend during the labor.

"...it is not my type to give birth at home so it is always a qualified midwife who helps me deliver and I am even afraid to deliver at home." (Participant number 6)

"...I didn't have in mind to let an elderly woman in the house deliver my child but a qualified midwife." (Participant number 4)

"I have the plan to be attended by a professional midwife because I'm afraid to lose my life or my baby." (Participant number 11)

"All I am expecting is to deliver safely and don't care either it's going to be a doctor or a nurse who will attend but I don't like to give birth at home or attended by an old woman at home who conducts delivery. I feel unsafe to deliver at home even if by a trained traditional birth attendant." (Participant number 9)

The participant number 10 also added that:

"I don't want to deliver through the vagina I heard it is painful so I want to get operated and get my baby since I know that I will be put under sleep and won't feel any pain even if there will be pain it will be less than vaginal delivery so I am expecting a doctor to deliver my baby."

### Means of transportation

All the patients except the participant number 3 had no idea about the preparations in terms of transportation though she claimed to know drivers in her neighborhood; however, she did not arrange with them.

"...but I didn't arrange for any means of transportation. It was something I didn't know about." (Participant number 4)

"I will walk because the health center is close to my house." (Participant number 1)

"For the transportation arrangement, I didn't do it because I didn't know about it." (Participant number 5)

"I know a lot of drivers in my area but I have never arranged with any of them." (Participant number 1)

"Yes, please I do not know about any means of transportation to use in case I go in to labor immediately." (Participant number 3)

"You know when you have the thing at your disposal you normally don't think about it like me, I have my own car and my husband also drives so I have never thought about it because I know my husband will drive me to the clinic." (Participant number 15)

### Emergency expenses

Every pregnant woman must have some funds to spend in case of emergency. This can be best achieved with the support of the husband or family members. In this regard, even a friend can be helpful.

Only the participant number 4 said:

'...I had some money but not with the intention of using for emergency purposes.'

Though the participant number 2 did not know about savings for an emergency, she had some savings, which was not intended for an emergency. She said:

"... I also know money for emergency purposes."

The rest knew nothing about savings in case of emergency; however, the participant number 8 said:

"though I don't know about savings in case of emergency my mother-in-law will take care of extra costs because I am not working."

The answers given by some of the participants were:

"It has not come to my mind to plan for money for an emergency though I am working and I have a savings account but I haven't thought about withdrawing money to put at home for an emergency and I think in case of emergency my husband will pay." (Participant number 15)

"For monetary issues, my husband will be responsible." (Participant number 7)

### Compatible blood donor

Except the participant number 3, no other

cases had no information about the preparedness for compatible blood donor as a component of BP and CR.

"... for means of transportation and compatible donor, I didn't really have any knowledge. This my first time to hear about it maybe I am now going to start make an arrangement about it." (Participant number 2)

"... I've known about the blood donor but didn't know I have to make arrangement for it. I've thought if I can get some from the blood bank anytime, I need." (Participant number 3)

"For the donation of blood, I didn't arrange with anybody because I didn't know about it and I haven't heard any of my friends or relative talking about it. In fact, it's some news to me." (Participant number 4)

"...I don't know, and as you have made me aware I don't think I will get anyone to donate or plan with except my boyfriend and I don't think he will because ... . So, I think when it comes that I am to receive blood I will pay for it" (Participant number 11)

### Warning signs in pregnancy

All the 15 pregnant women were enlightened on the warning signs of pregnancy.

"Yes, the signs are pains in any part of your body especially the abdomen or feeling sick, profuse bleeding, when you often vomit .... Also, when you feel dizzy and have a severe headache." (Participant number 3)

"... some examples are excessive bleeding, severe stomach pain, severe headache, and swollen feet." (Participant number 5)

"... I know about them and they have even been printed at the back of the antenatal book." (Participant number 8)

"... I always don't remember all (the warning signs of pregnancy) so when I experience any signs and symptoms, I always refer to my antenatal book and see the back to check if it is the warning signs." (Participant number 12)

The participant number 9 answered:

"For that one, I even knew about it before getting pregnant but have not been trained yet by the midwife since I started attending the clinic not long ago."

### Challenges regarding birth preparedness and complication readiness

### Midwives' information on birth preparedness and complication readiness

All the 15 cases thought that though the midwives were trying; however, not all the information needed by them was given out. For instance, the participant number 8 said:

"The midwives I think are doing their best but some of the information was not given to us and they have helped me with little information."

"The midwives don't tell us all these things. I just got to know from you. They tell us some of it". (Participant number 1)

"The midwives have educated me on some of the preparations, for example, any warning signs should be reported and also some escort but about the earlier transportation and blood donor I had no idea." (Participant number 2)

"...I attended an antenatal clinic quite late so I missed some of the topics and I don't think it is the fault of the midwives but my own fault. But I think there can be a way for people like me who report late so that we can also get the missed topics" (Participant number 9)

### Challenges regarding birth preparedness and complication readiness education

All the 15 participants said that they did not have any challenges about the midwives' education regarding BP and CR; though, some claimed that the information they gave was not sufficient, for instance, the participant number 1 said:

"For this health center, though they didn't let us know all but the little they tell us they do well to give enough information about it especially when you asked them."

The participant number 5 also added that:

"the midwives have given us the knowledge about that and I understood all. There was no challenge for me in any of them."

"I don't have any problem with the education the midwives are giving us here because they use our own dialect and we understand them all" (Participant number 7)

### Challenges in birth preparedness

Most of the pregnant women had one or two challenges with regard to BP and CR. Some of the challenges were financial issues, traditional beliefs, and poor families.

"There is no problem with preparation so far.

It is just the blood donor and I will make sure I will get someone .... I don't think there is something midwives can do to help me they have done their part it's up to me to search for it myself." (Participant number 1)

The participants number 5 and 2 also said:

"It is your responsibility to get these items so you have to try hard."

"I don't really have any problem with any of the preparations because my husband is there for me since he is the one taking care of everything I need." (Participant number 3)

### Discussion

This study assessed BP and CR among pregnant women seeking services in Jachie Health Center in the Ashanti region, Ghana. As part of BP, some families engage in baby showers. Baby showers are usually given by the family and friends to help provide the layette. The obtained results of this study revealed that all the participants had knowledge about the preparations regarding the layette and practiced the knowledge they had by providing the layette and taking it along when going to the health facility. In Tanzania, the community members expressed the need to be prepared for childbirth. They were aware of the importance to attend the antenatal clinics and rely on family support (21).

Giving birth is one of life's most emotional, intimate, and instinctive experiences. Support people need to respect this fact and be able to enhance that experience. Having the right support person can help childbirth a better experience. Women receiving close support and care throughout labor are less likely to need pain relief or have major interventions, such as cesarean sections, forceps, or vacuum deliveries. They are also more likely to be satisfied with their birth experience if necessary, support person arrangement is made (10). It was shown that all the 15 participants knew that they have to get someone to support them when preparing for delivery and during delivery; however, this knowledge was not always utilized all the time by all the cases.

Every birth is unique and hard to predict and adequate preparation in terms of place of delivery can help the individual feel more confident during the labor (11). As a pregnant

woman prepares for delivery, it is important to consult a healthcare professional in every step (12). Basically, a pregnant woman must plan about where to deliver. In a related cross-sectional study carried out in Southern Ethiopia among 743 pregnant women, only 20.5% of the cases identified a skilled provider as a necessary component to the birthing process and 8.1% identified a health facility for delivery care (22).

All the 15 participants had already identified a place of delivery that was a clinic and decided to be attended by a professional midwife. It is in contrast with the results of a study conducted by Hailu et al. (2011) in which the majority of the participants delivered at home (87.9%), with only 8% of the cases planning to deliver in the hospital (23). According to a study carried out by Debelew et al. (2014), it was indicated that in the evaluation of BP, CR, and male participation in maternal care in Ungogo, a northern Nigerian community, there was very little preparation for skilled assistance during the delivery (6.2%) (24).

The majority of the participants never knew that they have to be prepared regarding the transportation though some women indicated that they knew drivers in their community. However, these cases never had an arrangement with them. Ideally, every pregnant woman must arrange the means of transportation before the delivery using private transportation, neighbor, or a taxi driver to call for transportation during the labor or any cases of emergency in the course of the pregnancy. These findings are in line the results of a study carried out by Zubairu, et al. (2010) in which the identification of means of transportation to a health facility was also low (19.5%) (22).

Furthermore, it corresponds to a study in Southern Ethiopia among 743 pregnant women in which the identification of means of transportation to a health facility was also low (7.7%) (23). In a descriptive cross-sectional study conducted in Indore, India, it was also observed that 18.6% of 828 randomly selected women had means of transportation which was as low as identified in this study (25). In addition, according to a northern Nigerian community report, it was shown that there was very little preparation considering transportation during the labor (24.2%) (24).

Maternity care is free of charge in Ghana; however, in case of emergency, the expected mother may be required to purchase some items, such as drugs or other things, or do some investigations requiring cash payment. The obtained results of this study revealed that a few cases knew that there is a need to save some money in case of emergency. Mutiso (2008) reported that most of the participants (84.3%) had allocated some funds to the transportation issue during the labor while 62.9% of the cases had considered funds for emergencies (7).

On the other hand, Debelew et al. (2014) indicated that funding for emergencies was as low as in 19.5% of 3612 participants (24). Moreover, in a study carried out by Hailu et al. in Southern Ethiopia (2011) it was indicated that only 34.5% of 743 pregnant women had considered some money for delivery costs (23). In addition, in a study conducted by Zubairu, et al. in northern Nigeria (2010) about BP and paternal participation with 736 randomly selected participants, only 6.2% of the cases had allocated money to delivery costs (22).

Deoki (2009) in a descriptive cross-sectional study in Indore, India also observed that 44.2% of 828 randomly selected cases had considered money for delivery that is quite higher than the percentage of pregnant women who saved for emergencies observed in this study (25). The results of another descriptive study in Homa Bay, Kenya, among 234 subjects showed that women and families were prepared for the arrival of a neonate by allocating some money; however, many pregnant women were not fully prepared for the upcoming birth (26).

Few pregnant women prepared for compatible blood donor as a component of BP and CR. Post-partum hemorrhage and severe anemia in pregnancy are some of the possible complications during labor and pregnancy. In this regard, the pregnant women should ensure that sufficient provisions are prepared for compatible blood donor when the need arises. Therefore, it will ensure prompt availability of blood transfusion in case of bleeding or after delivery. In Nigeria, as many as 304 pregnant women (79.4%) did not arrange for a blood donor (27).

A severe headache, anemia, vaginal bleeding,

abdominal pain, foot swelling, and excessive vomiting are some of the warning signs of pregnancy about which a pregnant woman must be informed and immediately reports to the nearby hospital. All the participants were aware of warning signs of pregnancy. This finding is contradictory with the findings of a study conducted in Nigeria where 39.3% of the participants could not identify any warning signs of pregnancy (27).

All the 15 participants indicated that they did not have any challenges about the midwife's education for birth preparedness and complications readiness though some of the cases claimed that the provided information was not sufficient. It is the responsibility of the healthcare providers especially the midwives to provide pregnant women with the preparation information they should have before labor. It is often performed during antenatal care. The midwives should also ensure that pregnant women fully understand the given information addressing their concerns.

All the participants did not have any challenges in BP with regard to the components that is consistent with the results of a descriptive cross-sectional study carried out by Mutiso (2008) on 994 women attending antenatal care at Kenyatta National Hospital in which over 60% of the participants were counseled by health workers considering various elements of BP (7). It was reported that the participants were prepared in the areas they received counseling from midwives that is in line with the findings of a study carried out by Mihret et al. (2006).

In the aforementioned study, it was observed that given advice for birth preparedness and complications readiness during antenatal clinic follow-ups was also significantly associated with preparation for birth/complication. Moreover, the women advised about the delivery place, financial arrangements, and means of transportation during their antenatal clinic follow-ups were more likely to be prepared for birth and the related complications than those who were not received such advice (28).

In the present study, the pregnant women were in various stages of pregnancy (that is the first, second, and third trimester of pregnancy); therefore, their level of knowledge varied

regarding birth preparedness. More practical birth preparedness and complications readiness for low-risk pregnancies are intensively performed in the third trimester of the pregnancy. Therefore, appropriate measures with regard to BP varied, as the actual experiences have not occurred.

## Conclusion

Health information and education should be provided for every mother in the reproductive age regardless of the educational status and monthly income considering BP and CR before marriage. The health sectors should strengthen the efforts of all pregnant women in receiving quality, the optimum number of antenatal clinic visits, and involving their partners in BP and CR counseling during maternal antenatal clinic follow-ups.

The role of community members can include influencing the friends of pregnant women to attend antenatal clinic follow-ups to be educated about BP and CR, as the district health directorate must educate community leaders about the benefits of BP and CR in order to train their members especially in the field of preparation for a compatible blood donor, since most of the participants were not aware in this regard.

All of 15 participants that were interviewed had knowledge about BP and CR; however, some of the cases had no or limited information considering the preparations that were required to be performed. All of the pregnant women were aware of and practice for the preparations toward the place of delivery, support person, layette, and warning signs of the pregnancy.

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## Conflicts of interest

The authors declare no conflicts of interest.

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