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Research Article

Why Women Living in an Obstetric Care Underserved Area Do Not Utilize Their Local Hospital Supported by Korean Government for Childbirth

Jung-Eun Kim, PhD, [1] Baeg Ju Na, MD, PhD, [2] Hyun Joo Kim, RN, PhD, [3] Jin Yong Lee, MD, PhD, MHA [4, 5, *]

[1] The Center for Social Sciences, Seoul National University, Seoul, South Korea
[2] Seoul Metropolitan Government Seobuk Hospital, Seoul, South Korea
[3] Department of Nursing Science, Shinsung University, Dangjin, South Korea
[4] Public Health Medical Service, Boramae Medical Center, Seoul National University College of Medicine, Seoul, South Korea
[5] Institute of Health Policy and Management, Medical Research Center, Seoul National University, Seoul, South Korea

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SUMMARY

Purpose: This study aimed to understand why mothers do not utilize the prenatal care and delivery services at their local hospital supported by the government program, the Supporting Program for Obstetric Care Underserved Area (SPOU).
Methods: We conducted a focus group interview by recruiting four mothers who delivered in the hospital in their community (a rural underserved obstetric care area) and another four mothers who delivered in the hospital outside of the community.
Results: From the finding, the mothers were not satisfied with the quality of services that the community hospital provided, in terms of professionalism of the obstetric care team, and the outdated medical device and facilities. Also, the mothers believed that the hospital in the metropolitan city is better for their health as well as that of their babies. The mothers who delivered in the outside community hospital considered geographical closeness less than they did the quality of obstetric care. The mothers who delivered in the community hospital gave the reason why they chose the hospital, which was convenience and emergency preparedness due to its geographical closeness. However, they were not satisfied with the quality of services provided by the community hospital like the other mothers who delivered in the hospital outside of the community.
Conclusions: Therefore, in order to successfully deliver the SPOU program, the Korean government should make an effort in increasing the quality of maternity service provided in the community hospital and improving the physical factors of a community hospital such as outdated medical equipment and facilities.
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Introduction

As of June 2011, there were 54 out of 232 administrative districts in Korea which had no obstetrics and gynecology (OBGY) clinics or hospitals providing prenatal care and delivery services [1]. This is because the infrastructure for childbirth in Korea has continuously decreased. Total fertility rate of South Korea has dramatically dropped from 4.53 in 1970 to 1.23 in 2010 [2]. Such low total fertility rate has a bad impact on hospital business and management for delivery services. The total number of OBGY clinics for delivery services in South Korea decreased from 1,311 in 2004 to 777 in 2011, that is, approximately 40.7% of the OBGY clinics closed down in 7 years [3–5]. These regions are mostly located in rural areas and the Korean government designated these areas as the Obstetric Care Underserved Area (OCUA). In particular, the mothers in rural communities are less likely to access sufficient prenatal care. They are also more likely to experience obstetrical

* Correspondence to: Jin Yong Lee, MD, PhD, MHA, Public Health Medical Service, Boramae Medical Center, Seoul National University College of Medicine, 20 Boramae-ro 5-gil, Dongjak-gu, Seoul 07061, South Korea.
E-mail address: jylee2000@gmail.com

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complication and risk of neonatal health outcome, because of delayed treatments in the urgent conditions of obstetric care and delivery [6–9]. Furthermore, the mothers with long distance to prenatal care are more likely to experience a time consuming physical and economic burden [1]. Likewise, the increasing geographical gap of delivery services is a critical issue that the Korean government has started to focus on.

The Korean Government recognized the seriousness of this problem and launched the new demonstration program, The Supporting Program for Obstetric Care Underserved Areas (SPOU) in July 2011 at three OCUA regions including Youngdong, Yecheon, and Gangjin. These areas no longer had a hospital or clinic providing prenatal care and child birth. The Korean government provided grants and subsidies in order to reopen the department of OBGY in local hospitals [1,10,11]. One year later, the Korean government yielded the 1-year basic statistics from July 2011 to June 2012, showing how many pregnant women gave birth within these regions. However, the preliminary results were not enough to satisfy the policy makers. Approximately only 25.0% of the mothers living in the three OCUA regions utilized their local hospitals supported by the government project, but the other mothers still used the hospitals outside of their community [1,11]. The mothers now having access local obstetric care are still going away to deliver despite the effort of the Korean government. It is well known that delivering a baby and receiving maternity care at one's own region is physically easier for the mothers' health. Nevertheless, the mothers are not using these community hospitals. Some mothers, living in rural areas with no hospital for obstetric care, could not help but go out of their communities for obstetric care, but it is curious why the other mothers living in rural areas now having a hospital that provides obstetric care would not go to their community hospital.

Thus, the purpose of this study is to understand why mothers do not use the department of OBGY at their local hospital supported by the SPOU program, and what specific characteristics of maternity care are determined by the mothers when they do choose the hospitals for delivery services. In future, we will use our findings as baseline data to redesign the current SPOU program and reconsider the essential factors of developing policies for OCUA, and apply the findings into policy evaluation with a follow-up client satisfaction survey.

Methods

Focus group interview

The focus group interview has been used in health research to gather exploratory data, develop a testable hypothesis, and assist in developing a detailed contextual explanation of the quantitative study findings as nested [12]. We conducted a focus group interview by recruiting eight mothers living in one of the OCUAs which has the community hospital supported by the government to restart obstetric care. A focus group can promote self-disclosure among participants by “questioning each other's responses, eliciting clarification, and exploring caveats to their statements” [13]. In particular, such interaction processes among participants can clarify similarities and differences in expressed opinions, views and attitudes efficiently [13]. The focus group also provides information for developing ideas that participants know about specific topics and to yield baseline qualitative data for developing and evaluating programs [14,15]. Thus, the focus group interview is a good fit for this study to explore why the mothers, who are residents of the OCUA and have delivery experience (as common specific topic which the mothers can share), were less likely to use their community hospital for obstetric care and delivery. As the data collection method, we used the focus group interview with exploratory and qualitative study design applied [16,17]. Additionally, to enhance the level of interaction among the mothers and to clearly identify what agreement and controversy exists among the mothers by characteristics of the hospital the mother used, we purposely selected the group members including four mothers who delivered in the community hospital and another four mothers who delivered in a hospital outside of their own community. We described more specific information of this recruiting method in the participant section.

To encourage the mothers to provide specific and detailed stories during the interview, we focused on several key questions based on common interests between our research team and the mothers [12]. Key questions we used in the focus group interview are listed as follows (Figure 1): (a) Why did the mothers choose their hospitals? (b) What was the general perception of the obstetric care at the hospital they used? (c) What were satisfactory or dissatisfactory factors of obstetric care the mothers experienced? (d) What are the conditions of hospitals that the mothers want to use in future delivery? (e) What do the mothers think for obstetric care improvement?

The focus group interview was conducted for 2 hours on November 19, 2012 at the observation room with one-way mirror to observe participants, and audio and video recording, at Jung-Bu Research building. The building is the branch of Gallup Korea located in D Metropolitan City in South Korea and close to the selected OCUA that the participants live in (approximately 20-minute bus ride away). For convenience for the focus group interview, we provided the participants with a vehicle to pick them up and drop them off. One professional interviewer of Gallup Korea (as an independent moderator of the focus group), one interview assistant of Gallup Korea for audio and video recordings as well as note-taking of any significant nonverbal behavior, and three research team members (as observers) participated in the interview. Except for the interviewer, the interview assistant and the research team members stayed in the one-way mirror room. Focusing on the study topic, the moderator led participants to a natural discussion by using the key questions for obtaining more valid findings. During the group interview lasted, the moderator checked with the participants to see if they had any issues and questioned them to confirm and clarify what they said, especially for the quiet participants. Additionally, because the moderator had experiences in conducting group interviews, he naturally introduced the aim of the study, tried to equally assign the order of speakers, encouraged interaction among the mothers, and stressed that every mother's opinion was valuable (there was no right and wrong answer). When 5 minutes were left before the end of the interview, the moderator went to the one-way mirror room for a short time to meet with the research team to check if they had additional issues to confirm and ask before the interview ended. In general, we followed the standardized focus group interview process of Gallup Korea (Figure 2).

Participants

We recruited eight purposely selected participants, living in Y Gun (a county of within a province) in B Province (in the middle of South Korea). Y Gun is located at the central area of B Province and one of the regions considered as the OCUA where national support for improving obstetric care system was required. In 2012, the total population of Y Gun was 50,633, and the annual number of births was 318.

As mentioned earlier, to enhance a level of interaction among the mothers and to clearly identify what agreement and controversy exists among the mothers, we considered homogeneous and heterogeneous characteristic of the participants for enhancing

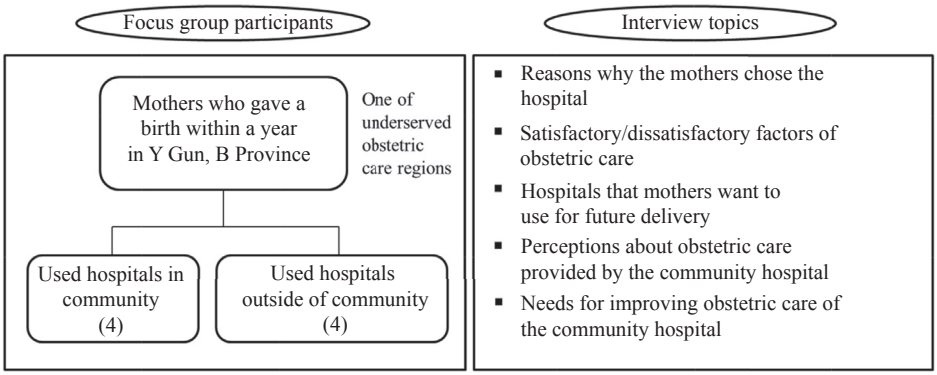

Figure 1. Participants and interview topics.

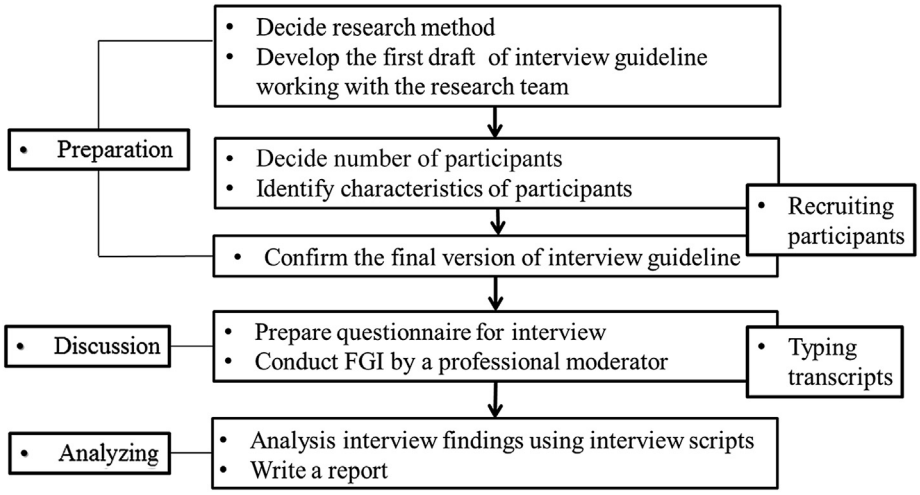

Figure 2. Standardized focus group interview (FGI) process of Gallup Korea.

applicability and dynamics among the participants [15]. In terms of common interest for the mothers, the first selection criterion of participants was that the mothers gave a birth within 1 year. In order to compare different experiences, half of the group who used the community hospitals in their own community (Y Gun) and the other half who used the hospitals outside of community (outside of Y Gun, such as C Metropolitan City) were concurrently recruited (Table 1). One public officer working at Y Gun county office collaborated with Konyang University College of Medicine and made phone calls randomly to mothers on the directory who met the selection criteria to inquire about their willingness to participate in the focus group interview. We set the appropriate number of participants as eight, and stopped calling to recruit when we got the number. The optimal number of participants for a focus group is variable, but a group of 6–10 people are usually recommended in the focus group literature [18]. The average age of the eight mothers was 33.5 years including two 40-year-old mothers at high risk. There were four mothers who gave birth at the hospital in Y Gun. Except for one mother, the rest had delivery experience of their first and second child at the hospital in Y Gun. They were all in their early 30s. The other four mothers who gave birth at the hospital outside of Y Gun included the two mothers in their early 40s and two mothers in their late 20s. The late 20s mothers experienced the delivery of their first child and the others had delivery experience of their second child. We did not collect other personal information beyond age, place of childbirth, and order of child in the specific hospitals. The interview was audiotaped and video recorded with the informed consent of participants (Table 1).

Table 1 *Participant profile.*

Participant no.	Region of delivery (Gun)	Age (yr)	Hospital for obstetric care and delivery	Birth order
1	In Y	33	A	Third
2	In Y	32	A	Third
3	In Y	33	A	Second
4	In Y	32	A	First
5	Outside of Y	40	B	Second
6	Outside of Y	40	C	Second
7	Outside of Y	28	C	First
8	Outside of Y	26	D	First

Data analysis

One interview assistant transcribed the audiotape verbatim in an electronic (Microsoft Word) transcript. One interview assistant (but a skillful researcher working at Gallup Korea) and one research team member independently reviewed the transcription for accuracy. We used systematic data analysis by examining the content of the mothers' narratives to find specific meaning and its implications driven by the key research questions. To be familiar with the transcribed data and to understand the overall discussion [15], the two reviewers read the whole transcripts several times and highlighted important paragraphs. To identify specific themes from

significant content that the participants repeatedly illustrated, we wrote memos and highlighted themes in different colors. Then we sorted out significant quotes and categorized them by theme. In this process, we compared the categorized findings by the differentiated sample criterion that we purposely designed in sampling. The coded themes were constantly compared in terms of key different experiences and perceptions between participants using hospitals in their own community and those outside of the community. This reiteration process of content analysis kept adding and merging key themes from the coded contents by the two coders for reliability improvement. In addition, the research team also reviewed the coded themes and discussed to reach agreements among researchers and coders to finalize key study findings.

Ethics considerations

The institutional review board approved this study (IRB No. 13-26). Informed written consent was obtained from each participant before the focus group interview was performed. Participants were informed that their personal information would be kept confidential and their responses would be only used for research purposes.

Results

Key common themes emerged as follows: (a) trustworthiness of obstetric care the hospital provided, (b) service quality in terms of obstetricians' expertise, mother-friendly counseling services, and facilities for maternity care, (c) perception of the community hospital as notorious, and (d) personal characteristics of mothers, such as older mothers at high risk and prior delivery experience. These four key themes commonly emerged under each semistructured question that we used during the focus group interview. Thus, the following result section included the key themes restructured by each interview question (Figure 3).

Reasons why mothers chose the hospital

Convenience and emergency preparedness

Mothers, who delivered their babies at the hospital in Y Gun, chose the hospital, because it was close to their houses or had no other hospital in their community. In addition, they chose the hospital, because they already had prior delivery experience for their first or second child, or used the hospital in case of emergency. The mothers delivered in the community hospital considered its geographical convenience and emergency preparedness as priority, but these conditions of the hospital were not key determinants for the other mothers, who chose the hospital outside of Y Gun. Moreover, the convenience and emergency preparedness of the hospital in their community did not guarantee that they received better quality of obstetric care or perceived higher satisfaction.

> Mother 1: Because I gave birth to the first and second in that hospital in Y Gun, I used that hospital when I was in emergency. However, sometimes I went to alternate hospital outside of Y Gun to check the result of complicated examination again.

Service quality and trustworthiness of obstetric care

The mothers who delivered their babies at the hospital outside of Y Gun used the hospitals located in C metropolitan city because they trusted the quality of medical services provided by the obstetricians. The hospitals outside of their own community provided the mothers with more mother-friendly services and counseling as well as specific information of their babies after check-up. However, the mothers strongly expressed the reasons why they did not choose the hospital in their community in terms of service quality of the obstetricians, their expertise and mother-friendly counseling. The most important reason why the mothers chose the hospitals in C metropolitan city were the same reasons why they did not go to the hospital in Y Gun. The mothers delivered at the hospital outside of

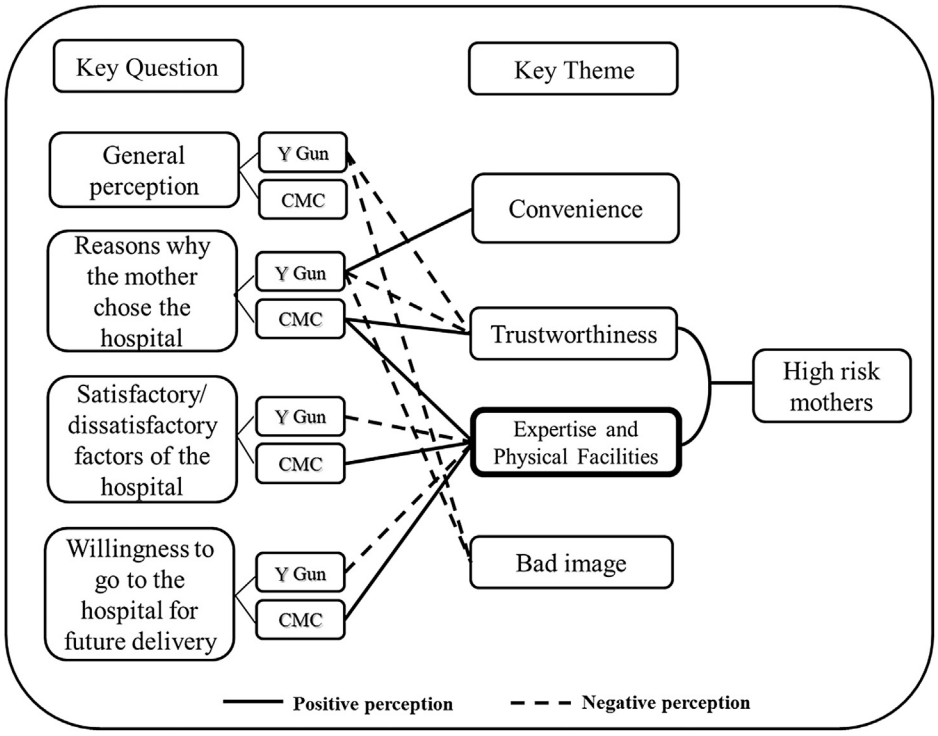

Figure 3. Mapping of findings.

Y Gun, perceived that the Y Gun hospital was notorious and not reliable. This was because they heard the rumors of the history of medical malpractice at the hospital and they had bad impression about the hospital. These reasons not only influenced trustworthiness of obstetric care and image of the hospital as notorious mothers' choice of the hospital for obstetric care, but also became the important factor why they went to outside of community.

> Mother 8: I used the Y Gun hospital at 20 weeks of pregnancy, and examined my baby there. I was very curious about my baby, so I asked the obstetrician lots of questions because I was having the first baby! However, the obstetrician did not answer my questions specifically. So, I moved to the hospital in C metropolitan city referred by a friend of mine. Staff at the hospital in C metropolitan city were very nice.

> Mother 7: I heard the Y Gun hospital has many benefits for mothers living in the community, so I tried to move from the hospital in C metropolitan city to the Y Gun hospital and had check-ups there several times. However, the obstetrician of the Y Gun hospital was unskilled in using the ultrasonic instrument for examining my baby and he asked his nurse how to use the instrument. He also did not explain my baby's condition in detail. I was so anxious. Because I had been used to the hospital in C metropolitan city, I could not help comparing the levels of the obstetricians' expertise and the service quality of the hospitals between Y Gun and C metropolitan city. The obstetrician of the hospital in C metropolitan city explained my baby's conditions from top to toe specifically and nicely, but the obstetrician in the Y Gun hospital spent a very short time telling me about my baby.

Satisfactory and dissatisfactory factors of obstetric care

Service quality of obstetricians' expertise and physical facilities for maternity care

Mostly, satisfactory and dissatisfactory factors of obstetric care related to the quality of services that the hospital provided, especially interpersonal services for mothers and physical facilities that the mothers used. One satisfactory factor, described by the mother who delivered at the Y Gun hospital, was nurses' sufficient care for their babies. Because the Y Gun hospital had only three rooms for mothers at the maternity ward, the nurses were not so busy taking care of other babies and had enough time to look after individual babies. However, such a positive factor for this hospital was seen as a dissatisfactory factor by the other mothers who delivered at the same hospital (Y Gun hospital). The dissatisfactory factors were (a) a lack of patient rooms (only 3), (b) less independent physical areas for maternity care (no separate place for infant, delivery, and mothers who already delivered), (c) outdated ultrasonic instrument, (d) a lack of mother-friendly interpersonal services with detailed information on babies provided, (e) poor quality of meals for mothers, and (f) insufficient provision of baby goods from the hospital. Ironically, these six dissatisfactory factors that the mothers experienced at the Y Gun hospital were described as satisfactory factors by the mothers who delivered at the hospital outside of Y Gun.

> Mother 5: It was such relief when my obstetrician at the hospital in C metropolitan city explained to me where my baby's head, hands, heart, intestine, gall bladder, and other bodily organs are (during ultrasonography). Have you ever heard such specific explanation from the doctor at the Y Gun hospital? No, I did not. The obstetrician only mentioned, “Your baby is okay.” That was it. No more comment.

> Mother 4: When I visited the hospital in C metropolitan city, I saw very clearly my baby's arms, head, and legs, even though I am a novice mother. However, I could not figure these out at the Y Gun hospital. I heard that the Y Gun hospital has a different kind of ultrasonic instrument unlike what the hospital in C metropolitan city has, but I could not see by myself when I was back home. At the hospital in C metropolitan city, however, they nicely wrote specific comments on the sonogram of my baby.

Hospitals that mothers want to revisit in future delivery

Service quality of physical facilities for maternity care

Mothers delivered at the Y Gun hospital showed their willingness to revisit it if the facilities for maternity care improved in the future. For example, it would be necessary that the hospital rebuilds independent obstetric care ward with well-equipped infant unit and delivery rooms. However, only a few of mothers who delivered at the hospital in C metropolitan city were willing to visit the Y Gun hospital even if the existing poor quality of obstetric care system improved. Most of the mothers delivered in C metropolitan city never want to revisit the Y Gun hospital in future delivery.

Older mothers at high risk and emergency situation

Mothers, regardless of the hospital they chose, importantly considered whether their safety of life is guaranteed by the hospital. In other words, the mothers did not trust that the Y Gun hospital can treat emergency situations of delivery well or take good care of older mothers at high risk. Thus, the mothers' unwillingness to use the Y Gun hospital in future could hardly be changed from negative to positive, no matter how much the quality of services in the Y Gun hospital improved. Such deep distrust of service quality of the Y Gun hospital makes the mothers go out of their own community for their safe delivery.

> Mother 2: Because I am a mother at high risk, it is dangerous to take a baby out after 40 weeks of pregnancy. However, I knew that the Y Gun hospital did not have surgery equipment for high risk mothers like me.

Perception of community hospital as notorious

Most of the mothers who participated in the focus group interview, perceived the Y Gun hospital as a “rural hospital”, “not permanent and temporary hospital”, “no choice but to use for delivery”, and that it would “shut down soon”. Such a strongly negative image of the hospital seems to be caused not only by poor quality of obstetric care but also by old and notorious image of the Y Gun hospital in general.

> Mother 3: The obstetrician told me, “Why not go to the hospital in C metropolitan city?” I was very disappointed and could not trust their obstetric care anymore. Because he avoided his duty as an obstetrician, so the image of the hospital got worse and worse, I think.

Service quality improvement for future obstetric care at community hospital

According to comments from the mothers on their willingness to use the Y Gun hospital for future delivery, they wanted the Y Gun hospital to be changed first, by rebuilding an independent obstetric care ward with improvement of maternity care facilities (e.g., ultrasonic instrument), strengthening the quality of both obstetricians' expertise and mother-friendly counseling, and altering the existing negative image of the hospital in the community. To

enhance credibility of service provision of the hospital, these factors for improvement suggested by the mothers should be reflected and considered at a policy and practice level in obstetric care.

> Mother 1: In this hospital, the same number of personnel is working, regardless of different kinds of medical wards. One doctor sees all patients of orthopedics, medicine, and obstetrics.

> Mother 6: Doctors should be mindful of their responsibilities! They wanted me to move to the bigger hospital when they could not handle my situation. That is my first reason why I could not trust this hospital anymore. I could not understand why they avoided having patients and even suggested that I go to other better hospitals, even though he is a doctor! Because of the attitude of the doctor here, the image of the hospital got worse and worse.

Discussions

Y Gun is one of the unique areas reopening obstetric care and delivery services supported by government funding. Without national support for that area, Y Gun might have no hospital to provide delivery services for the mothers because of the low rate of fertility in the community. The most interesting issue that we focused on was why the mothers still leave their communities, such as Y Gun, even though they now can deliver in their community hospital. Such mothers' choice of the hospitals outside of their communities might be understood as that they have something else to consider for baby delivery than convenience of service accessibility. If so, why do the mothers leave Y Gun for their obstetric care? From the findings of this study, first, the mothers were not satisfied with the quality of services that the community hospital provided, in terms of the professionalism of the maternal care team, and absence of updated medical devices and facilities. Moreover, the quality of services that the mothers considered not only stemmed from their direct experiences but also from the negative image of the community hospital perceived by word of mouth. Second, how freely the mothers can travel to a different and better hospital depended on the health status of the mothers. For example, older mothers or those at high risk were likely to distrust the community hospital. The mothers also believed that the hospital in the metropolitan city is better for their health as well as their babies' health. Some mothers delivered in the community hospital provided the reasons for why they chose the hospital, which were convenience and emergency preparedness because of geographical closeness. However, they were not satisfied with the quality of services provided by the community hospital because of the same reasons as the mothers who delivered in the hospital outside of the community.

Based on our study findings, we recommend three possible actions on which the Korean government should focus. First, improving the quality of maternity service provided at the hospital level should be a top priority. In particular, the quality of core healthcare personnel such as medical doctors and registered nurses working at community hospital should be of focus. Training programs for the medical personnel should be prepaid and be provided on a regular basis. Second, physical factors of a community hospital such as old-fashioned medical equipment and facilities should be improved by increasing the government's grants and subsides. According to the scheme of SPOU, a local hospital could receive grants or subsides for hiring two obstetricians and eight nurses to restart providing previous obstetric care [11]. Therefore, we should listen to the voices from mothers. They had complaints such as a lack of patient rooms, and inadequate physical areas for maternity care. Mother-friendly facility allocation and equipment should be done. Third, the government should consider establishing comprehensive and collaborative maternity care system in rural areas with participating stakeholders. Currently, the Korean government is just focusing on the reopening of OBGY clinics in community hospitals. Financial support is given to these hospitals. However, it is not a perfect answer for strengthening maternity care in rural area because a community hospital cannot provide comprehensive and collaborative maternity care alone. Maternity care is a team approach that includes participating doctors, nurses, health educators, nutritionists, and social workers. In addition, institutions such as the clinic, hospital, public health center, administrative organization, and community should be involved. For example, the government can encourage collaboration with public health center. In particular, public health nurses, public servants working at these centers with nursing license in Korea, can provide mothers in the community with essential prenatal tests and nutritional supplements by gestational age; they can also provide other maternity services such as education and information of pregnancy and childbirth, and other relevant social services [19]. Thus, well-trained public health nurses could take important roles in public health centers, as a partner organization of the community hospital, such as securing the quality of maternity care before and after childbirth at community level and delivering accurate information to mothers in the community [20–22]. The community hospital can focus more on bettering the quality of obstetric care and the public health center can develop the scope of maternity care more by interacting with mothers in the community. Such community service linkage of maternity care in underserved community should be considered in near future to improve the quality of services. However, these research implications and suggestions still need to more empirical evidence, and additional follow-up studies are required.

In terms of research method, the focus group interview was chosen for an in-depth understanding of the mothers' obstetric care experiences and perspectives in a natural setting. Nevertheless, this qualitative approach still has limitations in that the findings cannot be generalized to other populations with different personal characteristics, delivery experiences, and mothers living in different areas. To verify our findings, future studies need additional interviews for mothers living in other OCUAs and nations. In addition, the mothers' experience of maternity care provided by other types of maternity care organizations such as public health centers are necessary. Follow-up interview is necessary to review how perspectives of the mothers change according to the change of policy support for the OCUAs.

Conclusion

There has been an increasing number of rural areas without a local hospital for prenatal care and delivery services in Korea. This phenomenon could be a potential threat to maternal and child health in rural and remote areas in Korea. In order to resolve this problem, the Korean government launched the SPOU program for three OCUA regions [1,23,24]. However, we confirmed that there were some dissatisfactory factors for the mothers, such as the quality of maternity care team and outdated medical equipment and facilities. In addition, these dissatisfactory factors became the main reasons why mothers living in the OBGY reopened area were seeking maternity care outside their own community. Therefore, in order to successfully deliver the SPOU program, the Korean government should make an effort to increase the quality of maternity service provided in the community hospital and to improve the physical factors of a community hospital such as updating old-fashioned medical equipment and facilities.

Conflict of interest

There is no conflict of interest.

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