Original Papers

Understanding Postpartum Healthcare Services and Exploring the Challenges and Motivations of Maternal Health Service Providers in the Philippines: a Qualitative Study

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Abstract: Background: Given the shortage of medical professionals in the Philippines, Barangay Health Workers (BHWs) may play a role in providing postpartum healthcare services. However, as there are no reports regarding BHW activities in postpartum healthcare, we conducted this study to understand postpartum healthcare services and to explore the challenges and motivations of maternal health service providers.

Methods: Focus group interview (FGI) of 13 participants was conducted as qualitative research methodology at Muntinlupa City. The results were analyzed according to the interview guide. The proceedings of the FGI were transcribed verbatim, and researchers read and coded the transcripts. The codes were then used to construct categories.

Results: Four important activities were highlighted among 11 analysis codes. These activities were "Assessment of postpartum women's conditions," "Recommendation to visit a health facility," "Measurement of blood-pressure and vitamin intake," and "Providing postpartum health information." Among five analysis codes, we identified three challenges that BHWs face, which were "No current information regarding postpartum care," "Some postpartum women do not want to receive healthcare services from BHW," and "Too many assigned postpartum women." Among five analysis codes, we identified two reasons for continuing BHW activities, which were "Hospitality to help postpartum women and their family in the community" and "Performance of mission in providing BHW services."

Conclusion: This study is the first to evaluate BHW activities in postpartum healthcare services. Our results indicate that BHWs play a potentially important role in evaluating postpartum women's physical and mental conditions through home-visiting services. However, several difficulties adversely affected their activities, and these must be addressed to maximize the contributions of BHWs to the postpartum healthcare system.

Key words: Barangay Health Worker (BHW), Health volunteer, Postpartum, Maternal health, Health system, Philippine

Introduction

The maternal mortality rate (MMR), or number of maternal deaths per 100,000 live births, in the Philippines was 170 in 1990, 120 in 2000, and 99 in 2010. Although this rate has undergone a slow decrease over time, it remains unacceptably high [1–3]. To improve the MMR, efforts in the Philippines have focused on pregnancy and

delivery [4–7]. However, maternal death occurs, not exclusively at delivery, but also during the postpartum period [8–10]. Unfortunately, only 13.5% of postpartum women receive their first postpartum check-up in the 3–41 days after delivery, and 9.0% do not receive any check-ups [11, 12]. Interestingly, Singh et al. have demonstrated that the under-utilization of postpartum maternal healthcare services might explain why maternal mortality remains high

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among adolescent mothers in India [13]. In addition, Romeo et al. suggested that women should consistently obtain care and support from skilled providers in the Philippines, throughout the gestation, birth, and postpartum periods [14]. Therefore, the low level of maternal healthcare services that are provided to postpartum women by health centers may be responsible for the persistently high MMR in the Philippines. Previous studies have reported that the reasons for this reduced level of service includes economic factors, access to service, transportation issues, and permission from the patient's family [15-19]. In addition, Yamashita et al. have reported that the majority of postpartum women have a poor overall understanding of postpartum health issues, especially profuse bleeding, postpartum depression, and increased blood pressure [20]. Furthermore, they reported that women who gave birth at home utilized postpartum healthcare services less than women who gave birth at medical centers.

Unfortunately, the Philippines has a shortage of medical professionals who are qualified to evaluate the health of postpartum women in the community. However, there are health volunteers ("Barangay Health Workers"; BHWs) who work as assistants to nurses or midwives in the City Health Center, the Barangay Health Station, and the Barangay Health Post [4]. They are registered with the Local Government Unit, and work at the above facilities as part of the healthcare delivery system (Fig. 1). These workers are defined by the Republic Act (law 7883, approved on 20 February 1995 by the Department of Health) as "A person who voluntarily renders primary healthcare

services in the community, in accordance with the guidelines promulgated by the Department of Health in the Philippines" [21–24]. Interestingly, several sources had reported that "BHWs, as key health providers in health service delivery, have been successfully implemented as public health programmers, but their potential contributions to scale up health services have yet to be fully tapped" [25, 26]. Yamashita et al. have also reported that they might be able to play an important role in educating postpartum women regarding the utilization of postpartum healthcare services [20]. It is important for BHWs to fully understand postpartum health care services and to be highly motivated in their activities. However, there are no studies that have examined these activities in the Philippines.

Thus, we conducted a focus group interview (FGI) of BHWs regarding the postpartum healthcare services that they provided in Muntinlupa City, the Philippines. In this study, we evaluated the specific activities of BHWs, the problems they encountered in conducting these activities, and their reasons for choosing to work as a BHW.

Methods

A qualitative descriptive FGI method was used in this study. The FGI allowed us to obtain comprehensive and diverse data in a short period of time, and allowed us to investigate the BHW's perceptions and their activities.

Setting

Muntinlupa City is located in the Luzon region of the

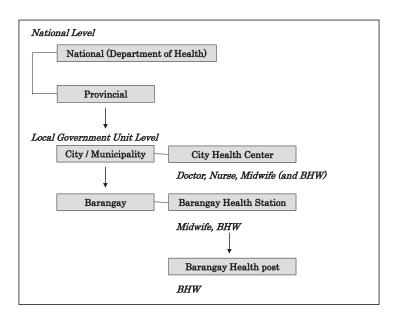


Fig. 1. The healthcare delivery system in the Philippines and the role of Barangay Health Workers (BHWs).

Republic of the Philippines, neighboring the capital city (Manila). Muntinlupa City is divided into nine districts (barangays), with a total population of 487,376 (2013) [27]. In 2009, the total number of births in the Philippines was 2,245,000, and the fertility rate was 3.1 children per couple [28]. The total number of BHWs in Muntinlupa City is approximately 450.

Participants

The study target was subjects who had worked as a BHW for at least one year. Among the 450 BHWs who we approached in Muntinlupa City, we obtained informed consent from 13 BHWs, who were included in the study.

Interview

1) FGI

The FGI was conducted in a Muntinlupa City Hall conference room for approximately 90 min during January 2013, with the 13 participants and an interviewer (TY). To proceed with FGI, the interviewer firstly asked the participants' characteristics (sex, age, educational background, BHW experience, child-rearing, number of professional seminars attended, and the motivation for attending the seminar). The interviewer also asked the participants the following questions: "What maternal and child health activities do you provide as a BHW?", "During your home visits, what difficulties do you face in supporting your patients?", and "What is the reason you continue to work as a BHW?" according to the interview guide, which is shown in Table 1. A lot of discussion focused on the three topics. The answers were then analyzed according to the interview guide, using a qualitative research method. The records of the FGI were translated from Tagalog to English by a Filipino translator.

2) Data analyses

The proceedings of the FGI were transcribed verbatim, and constant comparative analyses were used to analyze the data [29, 30]. For these analyses, three researchers (TY, SAS, and HM) independently read and coded the focus group transcripts, based on the similarities and differences in the responses. The codes were then used to

Table 1. Interview Guide

Topics

- What maternal and child health activities do you provide as a BHW?
- 2. During your home visits, what challenges do you face in supporting your patients?
- 3. What is the reason you continue to work as a BHW?

BHW: Barangay Health Worker

construct a primary coding framework and categories, and the reliability of this framework and categories was assessed. The trustworthiness of the data was confirmed by examining the data that has been reported in a wide range of literature [31, 32]. The researchers confirmed the reliability of the FGI analysis by re-checking the codes and categories.

Ethical Considerations

This study was approved by the Ethical Committee of Kobe University Graduate School of Health Sciences, as well as the Human Research Ethics Committee of Philippine General Hospital. All participants provided written informed consent prior to participation in the study.

RESULTS

Participants' characteristics

The participants' characteristics are summarized in Table 2. All participants were women, with a mean age of 49.8 ± 5.9 years (mean \pm SD). The participants' educational background was classified into four categories: bachelor degree (38.5%), some college (30.8%), high school graduate (23.1%), and other (7.7%). The mean period of experience as a BHW was 7.2 ± 4.0 years, and all participants had experience in child rearing. The mean number of participants who had attended professional development seminars was 2.5 ± 2.0 . Most participants reported being motivated to attend a seminar on postpartum care.

Postpartum healthcare services

Following the interview guide, we evaluated the participants' activities in providing postpartum healthcare services, the challenges that they encountered while providing home-visit services, and their motivation to continue their work (Table 3). These results are summarized in Figure 2.

1) BHW's postpartum healthcare activities

Four categories were highlighted from among eleven analysis codes: "Assessment of postpartum women's conditions," "Recommendation to visit a health facility," "Measurement of blood-pressure and vitamin intake," and "Providing postpartum health information." The "Assessment of postpartum women's conditions" category assessed the BHW's evaluation of postpartum women's health during home-visits, and consisted of code 1-1 (Ask about their vaginal bleeding), code 1-2 (Ask how they are), and code 1-3 (Ask about their well-being). The "Recommendation to visit a health facility" category evaluated the BHW's recommendations to postpartum women with complicated illness, and consisted of code 1-4 (Recommend

Table 2. Participant characteristics

ID	Age (years)	Education	BHW experience (years)	Seminars attended as a BHW (n)	Motivated to attend a seminar
1	57	High school	17	5	+
2	52	High school	4	5	+
3	43	Bachelor	4.5	1	+
4	49	Bachelor	15	0	+
5	58	Bachelor	6.5	5	+
6	56	College	5	2	+
7	40	College	6	1	+
8	44	College	4	2	+
9	44	_	4	0	+
10	57	Bachelor	6	3	+
11	45	High school	7	0	_
12	52	Bachelor	5	4	+
13	50	College	9	5	+
Mean ± SD	49.8 ± 5.9		7.2 ± 4.0	2.5 ± 2.0	

ID: Participant identification number, SD: Standard deviation, BHW: Barangay Health Worker

that they visit a health center when they have pain or infection in the breast), code 1-5 (Recommend that they visit a health center when they have bleeding or infection), code 1-6 (Recommend that they visit a doctor when they feel pain in the breast during breastfeeding), and code 1-7 (Recommend that they visit a health center when they have bleeding or fever in the breast). The "Measurement of blood-pressure and vitamin intake" category evaluated the BHWs' ability to examine postpartum women, and consisted of code 1-8 (Provide vitamin A) and code 1-9 (Measure blood pressure). The "Providing postpartum health information" category evaluated the BHWs' ability to manage postpartum physical and mental conditions, and consisted of code 1-10 (Counseling regarding vaccination) and code 1-11 (Providing information regarding health).

2) Difficulties encountered while providing home-visit services

Three categories were highlighted from among five analysis codes: "No current information regarding postpartum care," "Some postpartum women do not want to receive healthcare services from a BHW," and "Too many assigned postpartum women." The "No current information regarding postpartum care" category consisted of code 2-1 (Our knowledge of postpartum care is not updated), code 2-2 (Our knowledge of postpartum care is insufficient, due to minimal training), and code 2-3 (Limited ability to acquire additional knowledge regarding postpartum care during their work). This category indicates that BHWs do not have the latest information, knowledge or skills regarding postpartum healthcare services. The "Some post-

partum women do not want to receive healthcare services from a BHW" category consisted of code 2-4 (Patients are stubborn and refuse healthcare services from BHWs), and indicated that some patients do not respond well to BHWs. The "Too many assigned postpartum women" category consisted of code 2-5 (BHWs have many patients, and there are few BHWs), and indicated that BHWs have too many clients to care for.

3) Motivation to continue working as a BHW

Two categories were highlighted from among five analysis codes, which were defined as "Hospitality to help postpartum women and their families in the community" and "Performance of mission in providing BHW services." The "Hospitality to help postpartum women and their families in the community" category consisted of code 3-1 (We enjoy helping patients, especially poor patients), code 3-2 (We want to help patients and their families), and code 3-3 (We want to promote postpartum healthcare services through our own activities). That category indicated that BHWs would like to support postpartum women and their families in the community. The "Performance of mission in providing BHW services" category consisted of code 3-4 (We enjoy our activities) and code 3-5 (We love the BHW's role); this category indicates that BHWs enjoy their activities.

DISCUSSION

This study, the first to evaluate BHWs' activities in postpartum healthcare, indicated that BHWs play an im-

Table 3. Postpartum healthcare services provided by Barangay Health Workers (BHWs)

	Code	Category	
Intervie			
1-1)	Ask about their vaginal bleeding	Assessment of postpartum women's conditions	
1-2)	Ask how they are		
1-3)	Ask about their well-being		
1-4)	Recommend that they visit a health center when they have pain or infection in the breast		
1-5)	Recommend that they visit a health center when they have bleeding or infection	Recommendation to visit a health facility	
1-6)	Recommend that they visit a doctor when they feel pain in the breast during when breastfeeding		
1-7)	Recommend that they visit a health center when they have a wound or fever in the breast		
1-8)	Provide vitamin A	Measurement of blood-pressure and vitamin intake	
1-9)	Measure blood pressure		
1-10)	Counseling regarding vaccination	Providing postpartum health information	
1-11)	Provide health information		
Intervie	ew Guide 2. Challenges in supporting patients		
2-1)	Our knowledge regarding postpartum care is not updated		
2-2)	Our knowledge of postpartum care is insufficient, due to minimal training		
2-3)	We have a limited ability to acquire knowledge regarding postpartum care during work		
2-4)	Patients are stubborn and refuse healthcare services from BHWs	Some postpartum women do not want to receive health care services from a BHW	
2-5)	BHWs have many patients, and there are few BHWs	Too many assigned postpartum women	
Intervie	ew Guide 3. Motivation to continue BHW work		
3-1)	We enjoy helping patients, especially poor patients	Hospitality to help postpartum women and their family in the community	
3-2)	We want to help patients and their families		
3-3)	We want to promote postpartum healthcare services through our own activities		
3-4)	We enjoy our activities	Performance of mission in providing BHW services	
3-5)	We love the BHW's role		

portant role in evaluating the physical and mental conditions of postpartum patients through home-visits. However, three major challenges affected their activities ("No current information regarding postpartum care," "Some postpartum women do not want to receive health-care services from BHW," and "Too many assigned postpartum women"). Several sources also reported that "BHWs, as key health providers in health service delivery, have been successfully implemented as public health programmers, but their potential contributions to scale up health services have yet to be fully tapped" [25, 26]. Therefore, although BHWs can help improve postpartum maternal healthcare services in the Philippines, the above challenges must be resolved in order to fully maximize the

BHWs' contributions.

The main causes of maternal death in the Philippines are bleeding (17.9%), sepsis (8.0%), complications that occur at partum and in the postpartum period (41.0%), and pregnancy-induced hypertension (32.1%) [2]. However, maternal deaths can be prevented by the early detection of abnormalities, provision of health information, and recommendation to visit a health center. Our results indicate that the BHWs' activities were "Assessment of postpartum women's conditions," "Recommendation to visit a health facility," "Measurement of blood-pressure and vitamin intake," and "Providing postpartum health information." Therefore, it is possible that these activities may have helped reduce the MMR in the Philippines, although their ef-

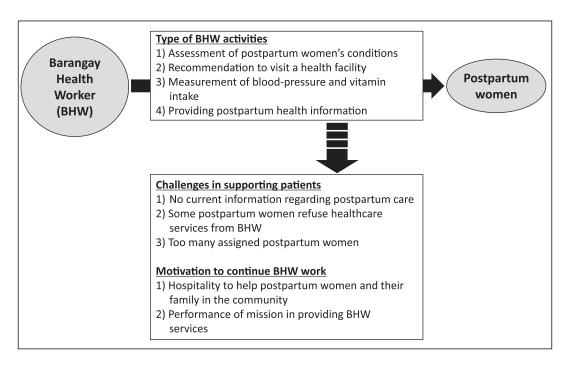


Fig. 2. A summary of Barangay Health Workers' activities, challenges and motivations for providing postpartum healthcare services.

fectiveness must be explored further. However, our results also indicate that the primary postpartum healthcare services that are provided by BHWs are important for enhancing the health of postpartum women and their families.

Unfortunately, we also detected three critical challenges that affect the postpartum healthcare services provided by BHWs. The first challenge was that some postpartum women did not want to receive healthcare services from a BHW, which may be caused by a lack of understanding regarding the BHW's roles. Therefore, postpartum women and their families should be informed about the BHW's roles and the related benefits. The second challenge was that BHWs support too many postpartum women and their families. Therefore, it might be useful to adjust the priority of BHWs' home-visit services, based on the health of the postpartum women (e.g., from normal to high risk). Alternatively, the total number of BHWs might be increased to reduce each individual's burden. The third challenge was that BHWs did not have the opportunity to acquire knowledge and skills regarding postpartum healthcare. However, we observed that BHWs are motivated to undergo further postpartum training. Therefore, various educational opportunities and programs should be prepared for BHWs by healthcare professionals.

Our study had three major limitations: the small sample size, the limited geographical area, and the lack of statistical analysis. However, this study was the first survey to

identify current BHW activities, and the challenges that they face in providing postpartum healthcare services. Therefore, additional research is needed to confirm our results regarding the BHWs' activities and their role in postpartum healthcare services in the Philippines.

In conclusion, we described the current activities and challenges that are encountered by BHWs while providing postpartum healthcare services in the Philippines. Through home-visit services, BHWs may play an important role in evaluating the physical and mental conditions of postpartum women. However, BHWs face several challenges regarding their knowledge, skills and ability to deliver health services. To address these challenges, patients must be informed regarding the BHWs' role in the community, and educational initiatives for BHWs must be developed by healthcare professionals.

CONFLICTS OF INTEREST

We declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

Concept and design: TY, SAS, CL, MTRT, YT, and HM. Performed the experiments: TY, SAS, CL, YT, and HM. Data analysis: TY, SAS, and HM. Contributed materials and analytical tools: TY, SAS, CL, MTRT, YT, and

HM. Drafted the manuscript: TY, SAS, CL, MTRT, YT, and HM.

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