

Development of a Culturally-Based Care Model for Muslim Mothers in a Rural Community in Southern Thailand

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Abstract

This study applies community-based participatory research to develop a culturally-based care model for Muslim mothers. It was conducted in a rural community in one of the three southernmost provinces in Thailand from May 2013–June 2014. The study involved three groups of participants: 26 Muslim mothers and 17 of their husbands, 14 community and religious leaders, and 14 healthcare providers, including village health volunteers and traditional birth attendants. Qualitative data were collected through focus group discussions, in-depth interviews and participatory observations. Data were analyzed using content analysis. The results indicate that the critical elements of a culturally-based care model include community partnerships and networks, cultural competence in care among healthcare providers, culturally-sensitive maternal care guidelines, trained village maternity care volunteers, and the adoption of a standard continuum of culturally-sensitive care. The culturally-based care model was implemented in harmony with religious practices, meeting cultural needs in order to improve maternal and child health in the rural community.

Keywords

Culturally-based care model; Muslim mothers; rural community; southern Thailand

Introduction

The three southernmost provinces of Thailand, home to a Muslim minority, have relatively lower health status than the rest of the country as measured by several socioeconomic and health indicators. These include higher fertility rates (Bureau of Health Policy and Strategy, MOPH, 2013; Health Promotion Center Region 12, 2013) and lower contraceptive use (Knodel, Gray, Sriwatcharin & Peracca, 1999; Muhoza, Broekhuis & Hooimeijer, 2015). Among several significant health problems, maternal and child health (MCH) status has stood out as a major health concern. The maternal mortality ratio (MMR) in the area is very high (59.4 per 100,000 live births) (Health Promotion Center Region 12, 2013) when compared to the national figure of 17.6 per 100,000 live births (Bureau of Health Policy and Strategy, MOPH, 2013). The infant mortality rate (IMR) in the three southernmost provinces is 10.8, while the national IMR is 6.8 per 1,000 live births. A significant cause of the high MMR in the three southernmost provinces is postpartum hemorrhage (PPH) from uterine atony which results in uterine inertia, often from prolonged labor (Fraser & Cooper, 2009; Health Promotion Center Region 12, 2013).

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While Thai Muslims are a minority group in Thailand (5% of the total population), they represent the majority of residents in the three southernmost provinces (82.0% in Narathiwat, 80.7% in Pattani, 68.9% in Yala) (National Statistical Office, 2009). Thai Muslims are different from the Thai Buddhist majority, demographically, socio-culturally and economically. They hold different sets of cultural beliefs that stem from adhering to Islam as well as local traditions and norms. Thai Muslims in this sub-region also speak the Melayu language unlike the Thai Buddhist majority, who generally speak Thai.

The high MMR and IMR in the southernmost provinces of Thailand can be attributed to the underutilization of maternal care services (Sasiwongsaroj, 2010). In Pattani Province, only 70.2% of pregnant women utilize antenatal care (ANC) services (Health Promotion Center Region 12, 2013). That proportion is much lower than the national figure of 98.1% ANC utilization (UNICEF, 2012). Among Muslim mothers who received ANC at primary health centers and delivery at secondary care centers, most come for treatment of complications during pregnancy rather than for routine checkups. In order to decrease the number of maternal and child deaths, Thailand needs to increase maternal care utilization which will require overcoming barriers in healthcare access.

Past research shows that cultural aspects play an important role in women's utilization of maternal healthcare services. Cultural beliefs resulting in certain perspectives and behavior related to gender, modesty, as well as language barriers can limit accessibility to health services (Sutheravut, Rodklai, Wiriayapongsukit & Hasuwannakit, 2007; Teeraworn, 2002). The underutilization of maternal care services and delays in accessing services in the southernmost provinces are related to traditional beliefs and valued customs, restrictions on women's freedom to travel and decision-making, religious orientation and exposure to violence (Teeraworn, 2002).

For example, while evidence shows that infant mortality is higher among women who deliver with a traditional birth attendant (TBA) at home, TBAs are still favored in the southernmost provinces (Teeraworn, 2002). This is because Muslim women feel comfortable with TBAs who typically are female and speak the local language (Teeraworn, 2002). Muslim women prefer female providers who respect their need to not expose their bodies in public (Salee, 2008). Preference to have female healthcare providers and the language barrier make utilization of primary health care more difficult and encourages home delivery (Suwannarat, 2005). In government health outlets, preferences of local women in this sub-region are often overlooked or not accommodated, partly due to a lack of female staff.

The language barrier, in particular, not only obstructs mothers' access to health care, but also limits the ability of healthcare providers (HCPs) to work effectively (United Nations Population Fund, 2010). Research shows that a low level of health service utilization is evident among Thai Muslims who cannot speak Thai. Muslim women who can speak Thai are more likely to utilize ANC, to deliver at a health facility and to be attended at birth by a trained health worker than those who cannot speak Thai (Teeraworn, 2002).

The underutilization of maternal healthcare services by women in this sub-region is largely attributable to a lack of maternal care that adequately responds in a culturally sensitive way to Muslim mothers. Thus, this underutilization can be considered a culturally-constrained health problem. Importantly, maternal health services are fragmented and are "top-down"—directed from the highest levels of authority in the health service system rather than in response to the health and needs of pregnant women (Panthong et al., 2014). The delay in deciding to seek, reach or receive obstetric care and the delay in referral to an

appropriate birth center—both of which potentially lead to maternal death—need to be further analyzed to find ways to reduce maternal mortality in this area (Liabsuetrakul, Promvijit, Pattanapisalsak, Silalai & Ampawa, 2007; Milliez, 2009).

To ensure culturally-sensitive care, more knowledge about Islam is needed among HCPs, particularly knowledge related to religious sensitivity in maternal healthcare. Although 47% of healthcare personnel in this area are Muslim, not all clearly understand how religious and cultural concepts have been utilized in the healthcare system (Southern Health System Research Institutes of PSU, 2009). Thus, HCPs need to improve their cultural competence to establish in-depth understanding of Islamic culture, as well as strengthen the links between social support and health systems, and improve their interactions with women, men, families and communities (Foster et al., 2010).

There is also a lack of community participation in taking care of mothers, as it is often viewed as the responsibility of HCPs (Health Promotion Center Region 12, 2013). Maternal care should involve participation of the community and all local resources, including networks, in a commitment to save the lives of mothers and children.

In Thailand, healthcare policy aims for universal coverage, but this is not feasible for groups with distinct cultures and belief systems such as Muslims who need the tailor-made attention of HCPs. To achieve the Sustainable Development Goals (SDGs) for improving maternal health and maternal care in the southernmost provinces, specific strategies and strong healthcare services are needed. WHO (2014) concluded that the majority of maternal deaths could be avoided by basic maternal care. Therefore, increased access to maternity services should result in a significant reduction in maternal deaths. It is crucial to develop a culturally-appropriate maternal care model in order to respond to culturally-constrained problems and meet the needs of Muslim mothers.

This study develops a culturally-based care model for Muslim mothers. Critical social theory (CST) and the cultural care concept guided a community-based participatory research (CBPR) approach. CBPR is appropriate for a rural community where there are cultural and linguistic gaps between the researcher, healthcare providers and the community. CST is considered to frame the study as one that involves social justice and societal change. The cultural care concept was used to increase culturally-appropriate and culturally-based care in the model. The ultimate goal of the model is to increase early access to maternity services, which will lead to decreased complications in pregnancy and delivery, and improved maternal health and safety. Strengthening the capacity of the community to participate more actively is a crucial strategy for establishing an appropriate culturally-based care model for Muslim mothers in the southernmost provinces of Thailand. The model can be applied to other settings in which cultural sensitivity is a concern of health providers and patients.

Data and Methodology

Study design

Community-based participatory research (CBPR) was used to develop a culturally-based care model for Muslim mothers in one rural community setting. CBPR is an approach that combines research methods with community capacity-building strategies (Israel, Eng, Schulz & Parker, 2005). An understanding of the Muslim community regarding the cultural

concerns and needs for maternal care contributes to independence and empowerment among women, with the goal of improving maternal health through community action and critical reflection. It can bridge the gap between knowledge produced through research and what is practiced in the community to improve health.

Research setting

This study was conducted in a rural sub-district of a border province in the southernmost part of Thailand from May 2013 until June 2014. After consulting with one provincial health office (PHO), this sub-district was chosen for three reasons: (1) its high incidence of MMR among predominantly Muslim women; (2) all of the people in this community are Muslim; and (3) all of the HCPs in the local sub-district health promotion hospital (SHPH) were committed to solving maternal health problems. This sub-district is composed of eight villages and the local population uses the Melayu language in their daily life.

Participants of the study

There were three types of participants in this study: Muslim mothers (26) and their husbands (17), community leaders and community religious leaders (14), and HCPs (14) who live in the selected community. They were purposely selected according to two general criteria of inclusion: 1) ability to communicate in Thai or Melayu language; and 2) willingness to participate in the study. More details for each type of participant are as follows:

- 1) Muslim mothers and their husbands: Muslim mothers who met the inclusion criteria had at least one child under age three and were living in the sub-district. They ranged in age from 17 to 44. Ten mothers were invited for in-depth interviews and 16 for two focus groups. Data were collected from husbands of Muslim mothers in two focus groups. Each group consisted of eight to nine husbands, ranging in age from 18 to 59.
- 2) Community leaders/villagers: This group included five assistant village headmen, three religious leaders (an *imam* or the Islamic leader of community, a *baboe* or Islamic scholar, and an *ustaz* or religious teacher) and six villagers. They were encouraged to participate in the focus groups and group meetings. All of the participants were men, ages 29-63.
- 3) HCPs: The providers were divided into three groups: a) three primary HCPs (two female nurses and one male who is the director of the SHPH, ranging in age from 38 to 58 years), who participated in in-depth interviews; b) eight village health volunteers (VHVs), or one from every village in the community (three male and five female participants, ranging in age from 21 to 56), who were encouraged to participate in the group meetings for maternal care committees and the model development process; and c) three traditional birth attendants (TBAs), ranging in age from 65 to 87, who were invited to participate in in-depth interviews.

Research instruments

Research instruments were developed based on the researcher's understanding, field notes and hospital records.

1. The researcher brought essential knowledge and skills on qualitative methods in nursing research regarding health, culture and CBPR.
2. Interview guides were developed by the researcher's team (two HCPs and one VHV) and were pilot-tested with Thai and Melayu-speaking individuals. The interview guides were composed of open-ended questions and were used for focus group discussions and for in-depth interviews.
3. Field notes were used as observation guides.

Data collection

Qualitative data were collected through in-depth interviews, focus group discussions and participatory observation. In-depth interviews are designed to produce insights about individual experience and opinion. Focus group discussions gather people from similar backgrounds or experiences to discuss a specific topic of interest.

This study was reviewed and approved by the Human Subjects Review Board of Chiang Mai University. Informed consent was received from all participants. Participants were informed that they were volunteers and had the right to withdraw from the study at any time. The data collection procedures were designed to cover all aspects of protection of human subjects.

Research procedures

Model development was comprised of three steps:

Step 1: Planning and developing a culturally-based care model

The goal of this step was to set up a provisional community maternal care plan as a basis for developing a model of service. The goal was also to develop research instruments for evaluating the processes and outcomes of the model as follows:

- 1) The core working group consisted of eight VHVs, two working-age women and two men from the general population, two religious leaders, two youth, two *ustaz* (religious teachers), two community leaders, one TBA, two older adults and two HCPs. The research team consisted of three co-researchers (two HCPs and one VHV) as part of the core working group. The group created a provisional community maternal care plan and organized a meeting to solicit opinions and establish the final elements of the model. The provisional community maternal care plan identifies partnership organizations, financial resources and support networks in the community.
- 2) Developing the model: The core working group, together with the research team, developed a model through regular group meetings and small group workshops. The model was reviewed and validated by leaders of the MCH board in the local district hospital, staff

from the provincial administration and an Islamic scholar from Fatoni University in Pattani Province.

Step 2: Implementing the culturally-based care model

To implement the culturally-based care model in collaboration with the community, a period of transition took place while the model was finalized and tested. The core working group organized regular group meetings and group workshops. Co-researchers took notes and wrote reflective diaries in order to assist in the collaboration. Before implementation, the core working group members were asked to define their vision, mission, objectives and strategies, including creating a list of activities, a timeline (Gantt chart) to reflect what they wanted to achieve and standards to measure the effectiveness of their model.

During the implementation period, researchers observed utilization of ANC by the pregnant Muslim mothers in the community (in the sub-district health promotion hospital, or SHPH). Monthly meetings were established on the first Friday of every month for the entire core working group to reflect and discuss the strengths and obstacles in implementing the model in the community.

Step 3: Sharing and integrating findings into the community

The core working group and research team reported the findings to the community. A community process was organized to transform and sustain the model and to encourage primary care policymakers to adopt the model as local policy. An executive summary of the findings was disseminated to the network and stakeholders.

Data analysis

The qualitative data were analyzed using content analysis (Krippendorff, 2013). The process began by reading the transcript of each interview line by line and searching for the critical cultural elements of maternal care. This was achieved by categorizing and coding the content of the transcripts, again line by line. A given code represents the same concept found throughout the transcripts.

Results

The results of the study are presented in four parts: 1) community contexts; 2) Muslim maternal care situation in the community; 3) development and implementation of a culturally-based care model for Muslim mothers; and 4) evaluation of the process and outcomes of implementing a culturally-based care model for Muslim mothers.

1. Community contexts

The study location is a rural Muslim Thai-Melayu community, a sub-district in one of the southernmost provinces. The Thai-Melayu are perceived to be oriented more to Malaysia than to Thailand and to view themselves more as ethnically Malay than Thai. Most of their traditional activities are religious ceremonies related to Islam. The total population is 7,198, consisting of 3,424 males (47.57%) and 3,774 females (52.43%). Generally, the community is united, living in harmony and peace, though interrupted by periodic unrest. This area has

experienced violence since 2001, originating as an ethnic and religious insurrection in the historical Malay Pattani Region.

At the time of the study, the following local resources and organizations were located in the community: the sub-district administration organization (SAO), the SHPH, an early childhood development center, a primary school, a police station, an information center, nine mosques and three *pondok* (center of Islamic learning schools). Moreover, the council of *shura* (Islamic committees) includes groups related to career, funding, health, youth and older people, as well as independent organizations gathered in the community. The community members have skills in manufacturing the *kapiyoh* hat (local Muslim prayer cap for men) and *hijabs* (headscarf for women), which has promoted jobs and generated income for community members.

The most common health problems are MCH problems, communicable diseases and chronic diseases. These are related to economic constraints, drug addiction and low levels of education, which contribute to social problems and community conflict in the southernmost provinces of Thailand. Periodic unrest contributes to the notable health problems found in the community.

2. Muslim maternal care situation in the community

According to the SHPH report on MCH status during 2008 to 2013, there were no reports of maternal deaths in 2008-2009 and 2011-2013. In 2010-2011, two cases of maternal deaths (both Muslims) occurred (or 28 per 100,000 live births). Although this is below the MOPH goal set for the three southern border provinces – to not exceed 36 per 100,000 live births – it is higher than the MDG target of no more than 18 maternal deaths per 100,000 live births (Bureau of Health Policy and Strategy, MOPH, 2013). The sub-district also lags behind based on other MCH indicators. Coverage indicator targets include 60% for ANC before 12 weeks gestational age and not more than 8% of women with anemia in pregnancy. From 2009 to 2013, data for the sub-district show that ANC coverage before 12 weeks gestational age was 76%, 59%, 45%, 65% and 51%, and anemia in pregnancy was 30%, 38%, 51%, 21% and 21%.

Muslim mothers in the sub-district setting give birth with TBAs. The percentage of TBA-assisted births from 2009 to 2013 was 10%, 11%, 6%, 3% and 2% respectively (Health Promotion Center Region 12, 2013). The MOPH target for birth with a TBA is less than 8% (Bureau of Health Policy and Strategy, MOPH, 2013). Meanwhile, the percentage giving birth in a health facility rose significantly – 76%, 86%, 92%, 96% and 97% – in the same period. During the research period, four Muslim mothers gave birth at home assisted by TBAs.

At the time of the study, there were three TBAs in the eight villages of the sub-district. All three TBAs were older than 60, the definition of old age in Thailand. At the time of the fieldwork, the oldest TBA was 87 and the youngest was 65. Generally, over time, TBAs tend to deliver children less frequently because of aging. According to government policy, TBAs are not allowed to deliver babies though, in practice, pregnant women still request their service.

Muslim mothers in this community developed anemia during pregnancy at the high rate of 51.4% (Sadawa SHPH, 2014). This is much higher than the goal of below 8% (Bureau of Health Policy and Strategy, MOPH, 2013). There are several factors that cause anemia. One

factor is not taking prescribed supplements/vitamins, the leading cause of anemia and PPH (postpartum hemorrhage) which, in turn, is the primary cause of MMR in this area. One Muslim mother expressed her experiences with anemia and PPH as follows:

...I was anemic during my pregnancy but I couldn't take vitamins or iron supplements because they caused nausea and vomiting when I tried to take them. After giving birth I had such heavy bleeding that the nurse had to give me three units of blood.

(Muslim mother, in-depth interview)

At the district and provincial levels, maternal and child care has been improved by establishing the MCH board to work toward the goal of quality maternal care. For example, the goal was achieved to reduce the percentage to below 8% of women under age 20 having a child. Part of the success is due to the staff of the MCH board at the provincial level, as well as the visit of the health officer from the district level. However, there are no MCH care volunteers at the community level. The VHV's are responsible for general care, including maternal and child care.

In the organizational context, the SAO does not prioritize MCH. The only service to support and engage community members is a pre-marital training project for engaged couples. Even though the executive director of the SAO is a woman (who should be in support of women's health) the SAO plans have little content related to caring for mothers and children.

3. Development and implementation of a culturally-based care model for Muslim mothers

This culturally-based care model for Muslim mothers (based on the CBPR approach) is deeply rooted in the cultural needs of participants. The model is designed for maternal care in the rural, primary care setting. The objective of this model is to meet the cultural needs of Muslim mothers in order to increase the utilization of MCH services which, in turn, should help reduce maternal and child morbidity and mortality.

The culturally-based care model needs to meet cultural desires, defined as "a natural inclination to engage in the cultural competence process that is characterized by passion, commitment, and caring" (Campinha-Bacote, 2002, p. 182). In order for the model to succeed, the stakeholders need to be motivated to care for mothers and their children as a foundation of a healthy community. The heart of this culturally-based maternal care model focuses on culturally-sensitive care that is appropriate for Muslim mothers and does not go against Islamic doctrine. The model aims to respond to cultural needs in order to protect the health of mothers and children in a rural community setting.

The resulting general structure of the culturally-based care model for Muslim mothers consists of five critical elements, defined and accepted through community participation. These critical elements are: 1) community partnerships and networks; 2) cultural competence among HCPs; 3) culturally-sensitive maternal care guidelines; 4) trained Village Maternity Care Volunteers (VMCVs); and 5) continuum of culturally-sensitive care (as illustrated in Figure 1).

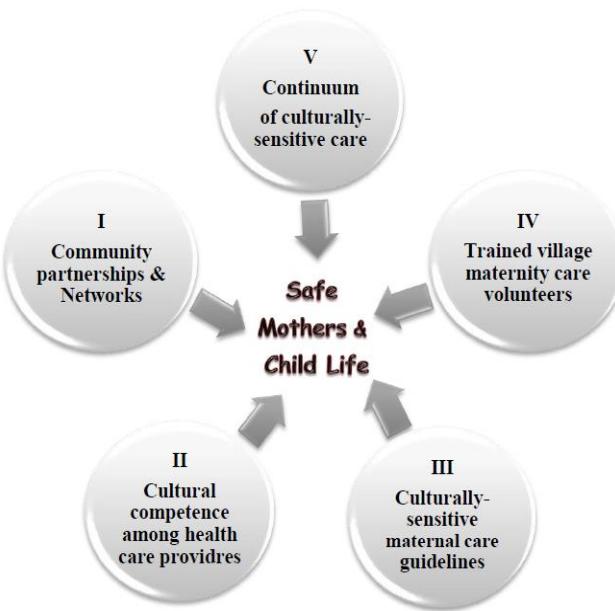


Figure 1: A culturally-based care model for Muslim mothers

As a continuum of care, all five elements of this model can contribute to saving the lives of mothers and children. Community partnerships and networks, as a team, provide resources and support to HCPs to achieve cultural competency when delivering maternity care services. They promote and monitor the continuum of culturally-sensitive care for Muslim mothers. Cultural competence among HCPs should be the standard together with the use of culturally-sensitive maternal care guidelines to meet the needs of Muslim mothers. Culturally-sensitive maternal care guidelines were designed for newly trained VMCVs and HCPs. Trained VMCVs, as the first point of contact, even before primary HCPs, were educated on cultural knowledge and maternal care skills. The aim of cultural knowledge and skills among trained VMCVs and HCPs is to achieve continuum of culturally-sensitive care on maternity services for Muslim mothers, a central component of this care model. The goal of maternity services among HCP teams is to provide care in a culturally-sensitive manner to Muslim mothers.

I. Community partnerships and networks. This involves working together as a partnership and seeking support from various networks for improving maternal health in the community. Thus, cultural desire plays a vital role in driving the stakeholders to achieve the goal. The primary responsibility of this component includes community partnerships and networks among the primary service outlet, the SAO, local religious organizations and the public sector. The culturally-based care model was initiated with the collaboration of community partnerships and networks, both in and outside the community, as it should be a community-driven model. The model is meaningful only if every stakeholder passionately and voluntarily collaborates with the clear, pure intention to improve the health of mothers and children.

The community partnerships reinforced cultural competency through good collaboration with the community (residents, community leaders and religious leaders), HCPs, VHV, the research team, other academics and community organizations. Community partnerships and networks need to have mutual goals and create a clear mission, defined roles and responsibility for everyone involved in maternal care in order to promote MCH.

Community partnerships and networks motivated and facilitated HCPs to assess and use their own cultural competency in maternal care. Moreover, they promoted the continuum of culturally-sensitive care as the goal of maternal care for Muslim mothers in a rural setting.

We have to work together. Not only both the religious and the community leaders but also all community members. We want our ummah (nation) and our next generation to be secure. It is our duty from God for everyone in our community and outside the community to work together to care and protect mothers and children in our community. Do not leave this duty to the HCPs alone. In the future, our community has to form a confederation for Salamat ibu, Salamat anakmu, Salamat kampung (save mothers, save children and save community).

(Deputy Director of the SAO, community forum).

II. Cultural competence among HCPs. The objective of this element was to raise awareness and to achieve cultural competency among healthcare workers providing maternal care. In order to create a healthy community, HCPs should be encouraged to take care of mothers and children based on their unique cultural needs. Culturally-competent care should include awareness, knowledge and skills for people providing maternal care, particularly newly-trained VMCVs and HCPs. New cultural awareness, knowledge and skills can help VMCVs and HCPs provide appropriate care in order for Muslim mothers to experience cultural safety in the community.

Cultural competence among HCPs should be practiced together with maternal care guidelines. More specifically, elements of cultural competency must be discussed and understood first in order to establish the maternal care guidelines. This concept seemed to further shape the real-world understanding of VMCVs and HCPs working within the local context. HCPs assessed their own cultural competency levels and used their assessments to provide maternal care to achieve a continuum of culturally-sensitive care. Addressing cultural competence among VMCVs and HCPs can meet the cultural needs of maternal care and improve Muslim mothers' health outcomes in the rural community.

To provide good maternal care, HCPs, VHV and especially the VMCVs have to know and understand the cultural needs of the mothers in our community. They should have a performance-oriented mindset. The volunteers have to know, understand and have the ability to do their culturally-related care tasks for the Muslim mothers in our community. Sometimes, we treat the pregnant women clinically, but we are not sure how to treat them culturally. There should be a seminar to train other volunteers and make sure they really understand maternal care from a cultural perspective.

(HCP, in-depth interview)

III. Culturally-sensitive maternal care guidelines. This element provides a clear guide for newly-trained VMCVs and HCPs. The goal was to create a widely-available handbook explaining how to achieve a continuum of culturally-sensitive care for Muslim mothers. A shared definition and understanding of what culture means for maternal care is an important first step to establishing successful, culturally-sensitive maternal care guidelines. The guidelines were used for training and educating the newly-trained VMCVs

and HCPs. Local language was used in the guidelines as sensitive communication to promote professional trust. This resource contained information about culturally-sensitive care in all the periods of maternal care including antenatal, intrapartum and postpartum stages which are based on religious knowledge and practices. It focused on cultural knowledge and Islamic practice, and attended more to the mothers' needs. Sample topics in the guidelines include: 1) fasting safely during pregnancy in the *Ramadan* month (month of fasting in Islam); and 2) *halal* and *tayyip* food (what is allowed to be consumed and the advantages of these foods) during pregnancy.

Guidelines were implemented by working collaboratively with partnerships and networks within and outside the community to generate funding and knowledge. To be effective, the collaboration requires maintenance of strong community partnerships—working together and sharing risks, responsibilities, and rewards—and outside networks, especially with religious leaders and religious scholars.

It's uncomfortable sometimes. It's something we do not know about. Some of us are not sure about Islamic maternal care. The religious scholars have to issue a fatwa (judgment) of what should be done... and it would be good to produce a manual which provides guidelines on maternal care based on the culture. That way, HCPs could follow the same guidelines and conform to Islamic principles, without having conflicts on how to treat later.

(HCP, in-depth interview)

IV. Trained VMCVs. This component enhances culturally-sensitive maternal care provided by the existing VHV. HCPs and VHV needed to enhance their knowledge and skills based on religious practices. The VHV were trained to become VMCVs who could work with HCPs and community members as a relative, friend and neighbor, thereby establishing a bridge to healthcare services. VMCVs were trained on culturally-sensitive maternal care in order to enhance the cultural capacity of HCPs. Hence, using culturally-sensitive maternity guidelines made VMCVs and HCPs more confident in order to create a continuum of culturally-sensitive care.

Every village already has VHV. Basically, their duties include giving care to pregnant women. We (VHVs) have to take care of all in need, including children, adults and the elderly. We have to get to know everyone in the village that we are responsible for. It is this group (VHVs) that should be trained to learn about culturally-sensitive care for in-depth understanding. It would help us to provide better maternal care in accordance with cultural beliefs.

(VHV, focus group discussion)

Continuum of culturally-sensitive care. This component merges maternal care with culturally-sensitive care in all stages of maternal care from ANC in primary care service, to intrapartum care at secondary or tertiary levels, and to postpartum care back in primary care. It teaches respect for Muslim mothers, knowledge of the local language, warm communication and touch, and close proximity to the mothers. It also focuses on the gender of HCPs, who should be female according to Islamic law, which prohibits unrelated men and women from touching each other. This element was the crux of this particular culturally-based care model. HCPs, VMHVs, VHV and nurse-midwives in maternal care

service should respect Muslim women's culture and needs, which includes offering services in a culturally-sensitive manner during all stages of maternal care. This strategy should be integrated into policies regarding healthcare services at all levels. The continuum of culturally-sensitive care is reinforced by collaboration of community partnerships and networks, cultural competence among HCPs, culturally-sensitive maternal care guidelines and trained VMCVs. It is the responsibility of the maternal care team to regularly control and monitor the quality of maternal care. The goal is for mothers in the community to receive a continuum of culturally-sensitive care.

Culturally-sensitive care for Muslims mothers is very important. Many of us want a home birth with a female Toa be-dae (traditional birth attendant) that speaks the Melayu dialect. It begins with ANC at the SHPH. We need some respect from the HCPs. After that, we may go to give birth at the district hospital. However, some Muslim women fear being attended by a male doctor. I want ANC from a female midwife like a Toa be-dae who speaks Melayu to me. It makes me feel calm. If we have to go to the SHPH for ANC, then we might have to be delivered by a male stranger at the district hospital. Beautiful harmony can be created, if there is maternal care that follows the principles of religion and culture everywhere I go. I think the two would merge well.

(Muslim mother, focus group discussion)

Discussion

Previous studies in others countries reveal that cultural beliefs influence practices among Muslim women (McFadden, Refrew & Atkin, 2012; Racher & Annis, 2007), as well as among Thai Muslim women in southern Thailand (Sangchan, 2006) and among Thai Muslim mothers in the southernmost region of Thailand (Salee, 2008; Teeraworn, 2002). Thus, Thai Muslim women's beliefs, characteristics and living patterns were considered in order to create the elements of this new model.

The model fulfilled its mission to collaboratively promote maternal health and systematic change in the formal and informal healthcare system. During implementation, the theme of maternal care in the community, as established by the community members in an early forum, was to set one's heart on "Salamat ibu, Salamat anakmu, Salamat kampung" (save mothers, save children and save community).

The participants in the study community are quite devout, and community members would not act against Islamic principles. Therefore, Islamic beliefs on maternal care would impact all elements of the model. The culturally-sensitive care needs for Muslim mothers produced five critical elements, as identified by the participants: 1) community partnerships and networks; 2) cultural competence among HCPs; 3) culturally-sensitive maternal care guidelines; 4) trained VMCVs; and 5) a continuum of culturally-sensitive care.

In line with previous literature (Foster et al., 2010; Panthong et al., 2014; Sandoval et al., 2011), partnerships and networks play a significant role in this model. Creating and maintaining research partnerships and networks was a challenge. Teamwork for improving maternal health required an effective, collaborative partnership with the community in a spirit of mutual trust. There was a shared sense of responsibility of everyone in the

community. Sharing the same faith was the most important component in connecting participants in this study, where all community partners were Muslim.

The need of mothers to receive harmonizing, culturally-sensitive care from TBAs and the obstacles for accessing healthcare services highlight the need for a continuum of culturally-sensitive care. Care should be connected in all periods of maternal care, from ANC at the primary care level, to intrapartum care in secondary or tertiary care, and circle back to postpartum care in the original primary care setting. This research found that Muslim mothers appreciate the care of both TBAs and skilled birth attendants, similar to the findings of Salee (2008), which revealed that women utilized prenatal care with TBAs and gave birth with trained midwives. Muslim women seem to value the TBAs' practices and implementation of a cultural model, which is based more on culturally-sensitive care than on a modern medical model. TBAs perform their duties while respecting Muslim mothers based on who they are. Throughout all periods of maternal care, HCPs should act in a culturally-sensitive manner to maintain a continuum of culturally-sensitive maternal care, as established in the guidelines created in this study. This model should be promoted for all culturally-sensitive maternal care services.

The significance of continuity of care has been the focus in a number of studies (Homer, Brodie & Leap, 2008; McLand et al., 2012; Panthong et al., 2014). In the secondary care setting, HCPs and pregnant women often do not know each other personally. Pregnant women need to feel comfortable and familiar with the practitioner, in the same way they do with TBAs. Muslim mothers voiced a desire for HCPs to be non-judgmental, and be able to understand and speak Melayu. Respecting a woman's cultural differences has been highlighted in other studies of pregnant women and, specifically, expectant Muslim mothers (Panthong et al., 2014; Salee, 2008; Sandhu, 2010). Similar to a previous study, this study illustrates the benefits of a woman being treated with respect (McCourt, 2006). A workshop on culturally-competent care would be beneficial for HCPs who provide culturally-sensitive care in order to achieve quality maternal care (Sandhu, 2010). Additionally, the accessibility of maternal care is an important factor for women's access to quality midwifery care. Pregnant women must feel comfortable in order to access maternal care, underscoring the importance of a welcoming environment (Panthong et al., 2014).

This model addressed cultural competence among HCPs, VMCVs and a rural maternal care team. It addressed awareness, knowledge and skills regarding culturally-sensitive maternal care. It also guided newly-trained VMCVs and HCPs to care for mothers by using culturally-sensitive maternal care guidelines. This approach could meet the real needs of maternal care in the Muslim community.

The study found that the newly-trained VMCVs worked closely with HCPs in the community. These VMCVs were representatives of the villagers themselves, who were trained in maternal care. They were proud of the process, and gained confidence from it. Culturally-sensitive maternal care guidelines helped clarify how to do the VMCV job. However, in practice, VMCVs still had to perform tasks related to their previous role as VHV. Thus, from time to time, they need to be reminded of their role as a VMCV by re-training every year.

Regular collaboration between core workers and community networks produces more powerful research outcomes, as suggested in an earlier study (Plumb, Collins, Cordeiro & Kavanaugh-Lynch, 2008). Such collaboration should ensure that, although the researcher leaves the project, the project still remains in the community. To be successful, there must be

an in-depth sense of community ownership over the project by encouraging broader involvement of community members in the process using CBPR principles (Israel et al., 2005). Full community involvement is an ideal, even though it takes more time. A strong sense of belonging to the project is needed in order to maintain team partnerships (Israel et al., 2005). However, the activity involved formal documentation, and participants were not familiar with this. They perceived data analysis as the researcher's job, a similar finding to another study (Plumb et al., 2008).

Community partnerships and networks in this study were inspirational. This research process benefits the academic researcher and the community by enhancing trusting relationships and creating bridges between academia and community, allowing both to gain more knowledge and experience (Ma, Toubbeh, Su & Edwards, 2004; Viswanathan et al., 2004). This process extended research and interventions beyond the research project itself (O'Fallon & Dearry, 2002).

Improving the quality of maternal care services at primary care centers needs ongoing and specific education for personnel, including refresher training for VHV (Sandhu, 2010). This is especially important for VHV who provide maternal care in their villages. Newly-trained VMCVs and HCPs were encouraged to collaborate by sharing and monitoring routine maternal health information, preserving a referral system and providing supportive supervisory visits. As part of the maternal care, VMHVs educated the community on their Muslim culture and beliefs about healthy diets, hygienic practices, exclusive breastfeeding, vaccination, vitamin supplements, attending antenatal checks during pregnancy and scheduling postpartum visits. By enhancing their new role with cultural competence, VMCVs experienced increased confidence in doing their tasks (Panthong et al., 2014).

Part of culturally-sensitive maternal care for Muslims is related to the provider's gender, which is a major concern for clients. This is related to Islamic culture, which prohibits unrelated men and women from touching each other. This study suggests that, in order to respect this principle, VMCVs should be women. Women are appropriate for administering close care and supporting pregnant Muslim women, especially when their husbands are not there. Participants expressed satisfaction with female VHV.

In this study's community setting, MCH care is mostly provided by non-professional VHV, as in other areas of Thailand. This study shows that the cultural competence of trained VMCVs with the culturally-sensitive care guidelines was an advantage when providing maternal care as it meets the needs of Muslim mothers in the community. Maternal care guidelines, consistent with religious knowledge and practice, are very important for a culturally-based care model for managing maternal care. Muslim women in many countries have been influenced by their cultural context, which may view care as a religious responsibility (Lawrence & Rozmus, 2001; Miller & Petro-Nustas, 2002). There were no specific tools, however, to show HCPs how to implement care in a culturally-sensitive way. It is important to have a practical guide for HCPs in maternal care services, such as one that includes information about *halal* and *tayyip* food during pregnancy.

The Islamic faith offers a holistic direction for a "way of life" which promotes health of the mind, body and soul. Muslims adhere to rich traditions deeply-rooted in the teachings of the Prophet Muhammad (peace be upon him) and his companions, and inspired by the faith, which encourages the pursuit of truth and knowledge.

Islamic teaching inspired the Muslim community members to change in order to improve maternal care in this area. A chapter from the holy Quran of Surah Ar-Rad 13: Ayaah 11 encourages the community members to realize the value of creating change by themselves: "Remember, Allah doesn't change the condition of a person until they change what is in themselves."

Initially, participants in this study perceived birth as a natural process (and, thus, not requiring outside care). This has changed into a concern for MCH in the community. The maternal health issue was prioritized through community collaboration: it is not only the responsibility of mothers, family members and HCPs, but also the responsibility of the entire community, with all of its resources. Through teamwork, the community felt "mutual responsibility to save their mothers, save their children and save their community," as said by the deputy director of SAO. The participants expressed a sense of ownership in addressing maternal health problems, which encouraged action in a sustainable way to improve maternal care in the community.

These results indicate that the culturally-based care model responded to the cultural needs of Muslim women, their families and HCPs in a rural community. Muslim mothers achieved continuity of culturally-sensitive care through all stages of maternal care—antepartum to postpartum care—by means of community collaboration and participation through expressing their cultural concerns. Culturally-sensitive care, once abstract in practice, has become acceptable, feasible and practical as a strategy to improve maternal health.

The model was strengthened through the collaboration of partnerships and networks of actively involved participants. Empowering participants such as VHWs can result in more effective care, challenging the hierarchical structure in the decision-making related to healthcare delivery. The model could improve maternal care through VMCVs and lead to sustainable change.

This model was implemented in a community where 100% of the population is Muslim and, therefore, Islam is the dominant culture. This differs from the rest of Thailand. Thus, this model should be considered uniquely tailored to this type of community. Careful consideration should be taken when applying the model to other communities. Implementation of the culturally-based care model has proven to be critical to the success of culturally-sensitive maternal care for Muslim mothers, and may be used as a guide for HCPs to effectively enhance the quality of maternal care in other rural Muslim communities.

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