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Midwives and Traditional Birth Attendants (TBAs) Partnership Program in Indonesia: A Proposed for National Guidelines

Rudi Hermawan

ABSTRACT

MIDWIVES AND TRADITIONAL BIRTH ATTENDANTS (TBAs) PARTNERSHIP PROGRAM IN INDONESIA: A PROPOSED FOR NATIONAL GUIDELINES

By
RUDI HERMAWAN

JULY 21, 2016

Indonesia as the second most populous country in Asia and the fourth largest in the world is still facing serious problems in qualified health workers' availability. This phenomenon causes the Maternal Mortality Rate (MMR) and the Neonatal Mortality Rate (NMR) remained to be high. The MMR in Indonesia is 359 per 100,000 live births, and the NMR is 19 per 1000 live births. One of the reasons why the MMR and the NMR are still high is related to the lack of maternity facility, especially in rural areas, and the lack of health workers who will help the delivery.

One type of health worker in the rural areas in Indonesia is a Traditional Birth Attendants (TBAs). The TBA refers to a person who assists the mother during childbirth and who initially acquired her skills by delivering babies herself or through an apprenticeship to other TBAs. TBAs are usually older women, learning the skills through their seniors, and appreciated in society for their knowledge and experience.

Women's reproductive health, maternal mortality, and neonatal mortality are several health problems associated with TBAs. To address the problems, the Indonesian government established a program called Midwives and TBAs Partnership Program in Indonesia. Under this program, midwives are required to educate TBAs in order to support the roles of village midwife. Even though Midwives and TBAs Partnership Program has been established more than seven years, the Government of Indonesia does not have national guidelines for this program. For that reason, the purpose of this capstone is to develop national guidelines for midwives to conduct TBAs' training. By having a national guideline, the midwives across the country have standard operating procedure to conduct the training. The training guidelines will be organized into three parts: preparations and needs assessment; interventions; and evaluations.

Keywords: Midwives, Traditional Birth Attendants, training, Indonesia, guidelines

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Author's Statement Page

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CHAPTER I

INTRODUCTION

According to the World Health Organization (WHO), most developing countries still experience varying degrees of shortages in qualified health workers. A qualified health worker refers to highly skilled workers, in professions that usually require extensive knowledge including university-level study leading to the award of a first degree or higher qualification (WHO, 2010). This includes physicians, physician assistants, dentists, midwives, radiographers, registered nurses, pharmacists, physiotherapists, optometrists, operating department practitioners, and others. Current estimates suggest there are 7.2 million health workers worldwide (WHO, 2013).

On the other hand, there are unqualified health workers in 36 countries around the globe (WHO, 2014). WHO defines unqualified health workers as people who work in health care but lack these competencies: skills, knowledge, and behavior of the health worker as assessed according to professional norms. Many countries -especially in developing countries- still have unqualified health workers to perform and deliver primary health care services. Therefore, unqualified health workers can affect the health status and conditions for those countries, such as maternal and neonatal mortality rate.

The United Nations and the World Bank Group reported that maternal deaths around the world dropped from approximately 532,000 in 1990 to an estimated 303,000 in 2015 (WHO, 2015). Additionally, a WHO report published in 2013, approximated that 90 percent of all maternal deaths and 80 percent of all still births occur in 58 countries, largely because those countries lack trained midwives (WHO, 2013). In their research,

Fauveau *et al.* (2008) revealed that only 40 percent of births in low-income countries are assisted by properly skilled birth attendants (SBA). A SBA refers to an accredited health professional — such as a midwife, doctor or nurse — who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns (WHO, 2004a). In developing countries, such as Indonesia there are too few SBA to deliver health care services specifically to the poorest and most vulnerable communities in rural and remote areas. Reducing maternal mortality and neonatal mortality should be addressed by improving access to skilled birth attendants. Therefore, one solution to addressing maternal and neonatal mortality is through educating untrained birth attendants.

Consisting of more than 17,000 islands spread over 1.9 million square kilometers and home to some 240 million people, Indonesia is the second most populous country in Asia and the fourth largest in the world. Due to demographic and geographic challenges, some regions in Indonesia have a shortage of qualified health workers (WHO-SEARO, 2014). The lack of SBA in Indonesia causes the Maternal Mortality Rate (MMR) and the Neonatal Mortality Rate (NMR) to be high (National Academies Press, 2013). According to the Ministry of Health (MoH), the MMR in Indonesia is 359 per 100,000 live births, and the NMR is 19 per 1000 live births (MoH, 2014). These numbers are higher than other South East Asian countries like Singapore, Malaysia, and Thailand.

One type of health worker in rural areas of Indonesia is a Traditional Birth Attendant (TBA). TBA refers to a person who assists the mother during childbirth and who initially acquired her skills by delivering babies herself or through an apprenticeship

with other TBAs (WHO, 1992). TBAs are usually older women who learned their skills from their seniors, and are appreciated in the society for their knowledge and experience (Sibley *et al*. 2007).

TBAs are different from village midwives in regards to their education attainment, ages, and preferred method of payment. Most of the TBAs are older woman with low educational attainment or even illiterate. They got the skill to help mother to deliver their babies merely from the previous traditional birth attendant in their family lines. In addition, the payment method for the TBAs was more flexible when being compared to method of payment for village midwives. Clients (i.e pregnant mothers and family) can make and installment plan for the payment. Clients can also substitute the use of money with crop produces (e.g rice, corn, cassava) to pay the service provided by TBAs.

On the contrary, village midwives tend to be younger and have higher educational attainment compared to TBAs. They have substantial knowledge and practical skills in helping mothers to deliver a baby since they have to enroll in a vocational school – called "Midwifery Academy" – after graduating from high school. Generally, this vocational school requires three years of training by professional midwives or obstetricians. Students of this vocational school will be equipped with sufficient information about maternal health and its complications. Payment for using village midwives' services is not as flexible when compared to TBAs. Moreover, the village midwives' salary is paid by government.

In Indonesia, TBAs have a significant role in helping the communities in the rural areas because of the local traditions passed down. Indeed, the promotion of their services

through word of mouth has effectively attracted customers. Some people go to TBAs because the cost is cheaper than going to village midwife (Titaley *et al*. 2010). The other issue is access to health care facilities. Physical distance and the lack of infrastructure such as roads cause many pregnant mothers who are living far away from health facilities to choose TBAs instead of midwives for delivery (Scott *et al.* 2010). Therefore, all these factors effect women's reproductive health, maternal mortality rate, and neonatal mortality rate.

According to the WHO (2004), direct obstetric deaths are those resulting from obstetric complications of the pregnant state (i.e. pregnancy, labour and the puerperium); from interventions, omissions or incorrect treatment; or from a chain of events resulting from any of the above. On the other hand, indirect obstetric deaths are those resulting from a previously existing disease or a disease that developed during pregnancy and which was not due to direct obstetric causes but which was aggravated by the physiological effects of pregnancy (WHO, 2004).

In Indonesia, maternal mortality can be explained by direct obstetric causes or unsafe delivery practices which accounts for 77% and indirect obstetric which accounts for 23% (National Academies Press, 2013). The most common cause for direct obstetric death in Indonesia due to pregnancy with abortive outcome, edema (i.e accumulated body fluids in lower extremities), proteinuria (i.e a condition in which urine contains an abnormal amount of protein [National Institute of Diabetes and Digestive and Kidney Diseases, 2014]), hypertensive disorder, placenta previa (i.e condition in which placenta grows in the lowest part of the womb (uterus) and covers all or part of the opening to the cervix [U.S National Library of Medicine, 2014]), premature separation of placenta, and

antepartum hemorrhage (i.e bleeding from or in to genital tract, occurring from 24 weeks of pregnancy and prior to delivery). Other factors that may causes direct obstetric deaths are problems related to fetus and amniotic cavity and possible delivery problems, obstructed labor (i.e baby is unable to exit the pelvis though uterus is contracting normally [WHO, 2008]), postpartum hemorrhage (i.e excessive bleeding following the delivery [Children's Hospital of Wisconsin, 2016]). On the other hand, most of indirect obstetric deaths are due to puerperium complications (Research and Development Agency, Ministry of Health, 2012)

A follow-up study of the 2010 population census demonstrated that 62 % of maternal deaths occurred during postpartum time; 25 % during pregnancy; and 13 % at delivery. In addition, the majority of deaths occurred among young women, aged 20-35 (65%); married women (96%); women who had 1-2 children (55%); those with low levels of education (61%); and those who lived in rural areas (64%). Also, most women died in hospitals, as opposed to homes (Statistics Indonesia, MoH, National Population and Family Planning Board, & ICF International, 2013).

An increase in the quality of maternal and neonatal health services can prevent a large proportion of deaths. In Indonesia, the neonatal mortality rate amongst children whose mothers received antenatal care and delivery assistance by a medical professional was one-fifth of that amongst children whose mothers did not receive these services (UNICEF, 2012). Furthermore, there are large disparities in outcomes between facility-based delivery in rural and urban areas. National Academic Press reported that childbirth deaths in rural area is less likely to happen in hospital setting (48 %) compared to urban area (74 %) (National Academies Press, 2013). Approximately 29% of maternal deaths in

rural area occur at home (National Academies Press, 2013). The proportion of facility-based deliveries such as hospitals in urban areas is 113 per cent higher than in rural areas (MoH, 2011).

Reducing maternal deaths in Indonesia became a national aspiration in 1988 when the country committed to participate in the United Nations program called Safe Motherhood Initiative (Alisjahbana *et al.* 1995). As a consequence, in 1989 the government of Indonesia initiated the Village Midwife Program to provide access to midwives. Through this program, a midwife has been assigned in each village (Hull, Rusman, & Hayes, 1998). By placing the midwife closer to the community, as well as the pregnant mothers, most of the problems related to health deliveries were assumed to be addressed. In reality, however, many midwives, particularly in remote areas, have responsibility for more than one village. Consequently, midwives cannot attend adequately to the needs of patients.

Under the Village Midwife Program, an additional year of training was given to the existing trained nurses to develop skills to become midwives. The goals of the nurse trainings are improving skills and the quality and quantity of antenatal, obstetric, postnatal, and contraceptive services in the villages, thereby reducing the morbidity and mortality rates for mothers and infants (Hull, Rusman, & Hayes, 1998). The midwives who worked in the public sector were contracted by central, provincial, or district governments, or directly by health facilities such as hospitals, health centers, and village birth centers. Midwives could also offer services in a home or in a structure that is the property of or was built by the village government for the specific purpose of serving as a birth center (Rokx *et al.* 2010). Although midwives were expected to use the village birth

centers to provide services, many of these centers were poorly constructed, substandard structures that were poorly equipped (Hull, Rusman, & Hayes, 1998).

To maximize the results of Village Midwife Program, in 2008 the government of Indonesia through the Ministry of Health established a program called *Midwives and TBAs Partnership Program in Indonesia*. The main purpose of the *Midwives and TBAs Partnership Program* is to minimize maternal death rate risk factor. Under this program, midwives are required to educate TBAs in order to support the roles of health workers in every village, especially in rural areas (UNICEF, 2008). Since 2008, 108,195 TBAs in Indonesia have been registered and nearly 76 % of them were involved in a partnership with midwives (MoH, 2014).

Even though *Midwives and TBAs Partnership Program in Indonesia* has been established for more than seven years, the government of Indonesia does not have national guidelines to conduct training. For that reason, the purpose of this capstone is to develop national guidelines for midwives to conduct TBAs' training in order to reduce maternal mortality rate and neonatal mortality rate.

CHAPTER II

REVIEW OF THE LITERATURE

The role of TBAs remains significantly important at the community level as well as to pregnant mothers. Several qualitative studies in developing countries suggest that for many women, TBAs are the preferred community-based provider to consult with and to help them during delivery. This phenomenon might stem from either the role of TBAs in helping pregnant mothers during delivery; supporting services for household chores in the week after delivery; or the elderly perception that the majority of birth outcomes are positive after getting help from TBAs. Additionally, the spiritual role of TBAs in appealing for the blessing of the spiritual ancestors of the community and family is also thought to be important.

To reduce the maternal and neonatal mortality rate caused by TBAs practices, several developing countries conducted TBAs' training (Ray & Salihu, 2004). This training has been directed either by governments often through the Ministry of Health or Non-governmental Organizations (NGOs). The scope of the TBAs' training includes preparing them to recognize maternity health issues; taking care of newborns babies; conducting a safe home birth for low-risk women; and referring women considered to be at risk or to have recognized obstetric complications to health facilities (Kruske & Barclay, 2004; Verderese & Turnbull, 1975).

In 1992, WHO, the United Nations Children's Fund (UNICEF), and the United Nations Population Fund (UNFP) made a joint statement to make sure all women and children to get access to acceptable, professional, and modern health care service. One of

the goals of the joint statement is to promote TBAs training in order to reduce maternal and neonatal mortality rate across the globe. Several steps have been established as the global recommendation to achieve effective TBAs training program. These include involving community as a whole (opinion leaders and the women); performing local needs assessment and resources; developing a specific plan to set in all the necessary elements of infrastructure; developing methods of evaluation, curriculum and training materials; conducting training of trainers and supervisors; establishing education program for community, and implementing regular evaluation (WHO, 1992). The WHO's new guidelines for the practice of TBAs suggest that providing companionship and support during pregnancy and birth in addition to health promotion are the roles best suited to TBAs skills (WHO, 2002). In short, the training of TBAs has been widely promoted as an essential strategy to improve reproductive health in some developing countries.

In this review, maternal mortality interventions that focus on the training content of TBAs are examined in order to better understand the program components contributing to intervention successes and shortcomings. Specifically, trainings conducted in low and middle income countries will be surveyed. The following are some key topics that needs to be highlighted in the training:

1. **Hygiene Practices During Delivery**

   Unhygienic practices during delivery are one of the leading causes of maternity health problems and neonatal deaths. As a part of maternal personal hygiene, sepsis can also be caused by vaginal examination with unclean hands. The TBAs practices that cause sepsis among infants include using unclean, unwashed hands to deliver babies, and using local unhygienic material to cut; and tie the cord. Hand hygiene is

known to be the most important component of infection control, and can be achieved by standard hand washing with soap and water (Hussein and Fortney, 2004; Putne & Smith, 1989; Goodburn *et al.*, 2000)

2. Delivery Kits

To maximize the training's impact, delivery kits are provided to promote hygiene delivery in many TBA trainings in developing countries. Delivery kits are pre-packaged, single use, disposable kits that contain essential items for conducting a clean delivery (Jokhio *et al.*, 2005; Putne & Smith, 1989; Ebrahim, 2008; Quaiyum, Hossain, & Steatfield, 2006; Gill *et al.*, 2012; Smith *et al.*, 2000). These kits often included gloves, a plastic apron, a plastic sheet, soap, clamps, a new razor, string, and cotton balls. A study in Tanzania evaluating the clean delivery kit intervention found that it was strongly and significantly associated with a lower incidence of cord infection among newborn babies and puerperal sepsis among women (Winani *et al.*, 2005).

3. Postpartum Care

The postpartum period is the most dangerous period because if the TBAs cannot recognize signs of complication, it could be fatal to the mothers and babies. Postpartum hemorrhage is the one of the leading causes of maternal deaths in Indonesia, accounting for 20.3 % of women who die during delivery (MoH, 2012). Hemorrhaging can happen when the placenta, a pouch the shape of a mushroom that holds the fetus, is detached from the uterus too early, or when parts of the placenta do not detach after the baby is delivered, or when the uterus ruptures (UNICEF 2004). Medical research instructs those assisting the birth to pull very gently

downward on the cord for 30 to 40 seconds with the strong uterine contraction to deliver the placenta (Lalonde *et al.*, 2006, Pfitzer and Sanghvi, 2004). The TBAs were taught in training how to manage mothers and babies during the postpartum period (Alisjahbana *et al.*, 1995; Dehne *et al.*, 1995; Jokhio *et al.*, 2005; Putne & Smith, 1989; Goodburn *et al.*, 2000; Rowen *et al.*, 2011; Satishchandra *et al.*, 2013)

4. Maternal Complications

There are several other potentially complicated situations that can lead to emergencies such as, fever (due to infections), prolonged unproductive labour, retained placenta, shock (convulsions or fits) and the womb turning inside out. It is important that TBAs be prepared and vigilant to prevent some of these complications, recognize the signs and be equipped with knowledge of simple methods to handle them until the woman can reach formal health care services (Dehne *et al.*, 1995; Rowen *et al.*, 2011; Goodburn *et al.*, 2000; Gill *et al.*, 2012; Jokhio *et al.*, 2005)

5. Complications for the baby

There are several other complications among babies that require attention such as prematurity, premature rupture of membranes, meconium staining in the amniotic fluid, cord prolapse, shoulder dystocia, umbilical cord around the baby's neck, poor coloring of the baby, jaundice, dehydration, lack of weight gain, infection, and birth defects. TBAs can deal with some of these problems with simple techniques, such as avoiding superstitions and by seeking help from health centers (Jokhio *et al.*, 2005; Bailey *et al.*, 2002; Pyone *et al.*, 2014; Rowen *et al*, 2011). Simple and practical care can prevent the onset of certain health problems in babies (Smith 2004).

6. Referral to Healthcare Facilities

Getting helps from village midwives and healthcare facilities during delivery is vital to keep mothers and babies safe. However, many people prefer to go to TBA instead of village midwife due to economic and flexibility reasons. People in rural area prefer to have TBAs assisting the delivery process regardless the higher risk of post-partum infection because they are afraid of invasive health intervention such as caesarian section. People simply forget that TBAs are not trained to diagnose and handle complications during pregnancy. Training for TBAs must emphasize on how to identify complications during pregnancy. The training should also encourage TBAs to help mothers with no complication and refer to village midwives those mothers with complications. It is important to explain the health consequences to the relatives and to TBAs when they should refer women to the emergency obstetrical care and when they should refer newborn babies (Alisjahbana *et al.*, 1995; Jokhio *et al.*, 2005; Ebrahim, 2008; Pyone *et al.*, 2014; Bailey *et al.*, 2002; Putne & Smith, 1989).

7. Techniques of the training

Due to the literacy rate in some developing countries, trainers usually use innovative techniques to deliver topics and materials to TBAs. The common techniques or methods which have been used to teach TBAs are cards containing pieces of advice cards, videos, role-plays, participatory learning games, simple lectures, interactive lectures, focused group discussions, demonstrations, open discussion, self-reflection or personal experiences, and skills practice using infant manikins during the sessions

(Gill *et al.*, 2011; Jokhio *et al.*, 2005; Putne & Smith, 1989; Pyone *et al.*, 2014; Rowen *et al.*, 2011).

8. Understanding the importance of cultural/traditional beliefs

Although there is a greater risk of getting post-birth infection, there are several reasons why people choose to go to TBAs to give birth to their children. Pregnant mothers will feel secure when TBAs are assisting their delivery because they have shared the same culture and they grew up knowing this person (Titaley *et al.*, 2010). Many women prefer to consult TBAs for their pregnancy needs because they use methods that are acceptable and familiar to the community, and they have their roots in the culture (Kyomuhendo, 2003). For example, TBAs are flexible about where they help a woman deliver, either delivering from her own home or travelling to the home of the pregnant mothers. Another example is that the community believes in the efficacy of their local herbs, prayers and other concoctions given to them by the TBAs, despite the high risk associated with it (which they ignorantly refused to give attention to). This suggests that there are cultural reasons as well as structural factors that explain women's choice of TBAs. Titaley *et al.* (2010) suggested that it is more practical to just go to or call TBAs which live nearby instead of go to village midwife. Because TBAs live closer to the community, they have developed the feeling of trust among those living in the community. Being part of the community, speaking the local language, living in the community and sharing the same culture are several reasons why pregnant mothers used TBAs to help them during delivery (Muntambirwa, 1989; Sparks, 1990; Smith *et al.*, 2000; Imogie, Agwubike, & Aluko, 2002; Titaley *et al.*, 2010; Inyang & Anucha, 2015).

CHAPTER III

PARTNERSHIP PROGRAM AMONG MIDWIVES AND TRADITIONAL BIRTH ATTENDANTS (TBAs) IN INDONESIA

Description

The partnership program among midwives and TBAs is an Indonesian national program that requires village midwives, in addition to their responsibilities in helping with deliveries, to also teach TBAs and work together with them in their village. Under this partnership program, the midwives should explain to TBAs how to conduct safe and clean delivery, how to know the danger signs and symptoms of pregnancy, how to refer patients to health care facilities, and how to provide post-delivery care services, such as herbal drinks.

In this partnership program, the midwives also engage in cooperation with local leaders and religious leaders. In several places, village and religious leaders have significant roles in encouraging the community including women to use maternal and child health care services instead of using TBAs for helping delivery.

To support this partnership program, the government pays the midwives' salaries, so that they do not charge the patient. Moreover, the TBAs also receives cash money as an incentive if they refer and encourage every patient to see midwives.

Goals

The main goal of the partnership program among the midwives and the TBAs is to ensure a safe pregnancy and delivery for all pregnant mothers. Consequently, the

numbers of Indonesian's MMR and NMR could diminish. Additionally, the long-term goal is TBAs not only primarily help with delivery but also to be a partner with midwives. These included referring pregnant mothers to midwives, identify the danger symptoms of pregnant mothers, and provide post-delivery care services.

Objectives

The objective of the partnership program among the midwives and the TBAs is to make sure that all TBAs in Indonesia receive a course of training to help delivering the baby. This partnership program will also aim to establish a clear referral mechanism from TBAs to village midwives to help pregnant mothers with pregnancy complications. Additionally, in the long run, we hope that all pregnant mothers in Indonesia will be able to deliver their children in a safe, clean and hygiene environment to reduce national NMR and MMR.

Coverage

As an Indonesian national program, this partnership program was implemented around the country. To date, 81,809 TBAs in Indonesia were partnered with health workers (MoH, 2013).

CHAPTER IV

GUIDELINES FOR MIDWIVES

Even though the partnership program between the midwives and the TBAs has been established since 2008, the government of Indonesia doesn't have national guidelines to conduct the training yet. For that reason, I am proposing a draft of national guidelines for the partnership program among midwives and TBAs in Indonesia. The purpose of the national guidelines is to create a standard operating procedure to conduct TBAs' training. The training itself will be run by the village midwives. This draft proposal will be discussed with several stakeholders in Indonesia when I return home. These include the Ministry of Health, Indonesian Doctors Association, Indonesian Nurses Association, Indonesian Midwives Association, and Non-governmental Organization who specialized in maternal health services.

The training guidelines will be organized into three parts: preparations and needs assessment; interventions; and evaluations.

Part 1: Preparations and Needs Assessment

The government of Indonesia through the Ministry of Health has established a policy called "one village, one midwife" (Hull, Rusman, & Hayes, 1998). Through this policy, the midwives, especially who fresh graduated from midwifery school, will be assigned to work in one village close to their hometown. Therefore, at the beginning of the partnership program, the midwives should conduct a needs assessment. The Ministry of Health will train the village midwives to conduct needs assessment through national

meeting. The needs assessment will include a count of how many TBAs are in that area; who are the local leaders and the religious leaders; what resources are needed in the village; and what resources are already available in the villages. The needs assessment is important because it will be used to understand the variety of the existing conditions in the community; to incorporate ethnic, social, and cultural issues in the training; and to assess the TBAs knowledge, attitudes and existing practices by interviewing the TBAs.

Based on the identified risk factors and literature reviews, the needs assessment will be based on:

1. Predisposing factors
    - The knowledge of pregnant mothers about pregnancy health outcomes
    - Perceptions of the elderly, village leaders, and religious leaders.
    - Previous experience from family members or relatives
2. Enabling factors
    - Cost of delivery
    - Poverty/Income
    - Access to the midwives for birth delivery
    - Access to health care facilities
3. Reinforcing factors
    - Family influences
    - Cultural influences or traditional values

The Theory of Planned Behavior (TPB) will be used to guide the needs assessment. This theory assumed that the attitude toward behavior, subjective norms, and

perceived behavioral control, together shape an individual's behavioral intentions and behaviors. In the case of using the TBAs to help delivery process, there are many factors to engage the behaviors of pregnant mothers. Facilitating factors, inhibiting factors, and perceived power are some of the examples.

The first construct of TPB is the attitude. Pregnant mothers' attitude can be predicted by individual evaluation of behavior. Attitudes can be measured by personal beliefs about the consequences of performing the behavior that will result in a specific outcome (e.g. pregnant mothers do not want to come to midwife usually because they feel healthy and there is no complication with the pregnancy). Pregnant mothers also assumed that TBAs are more patient and careful compared to village midwives (Titaley *et al.* 2011). The attitude weighted by outcome evaluations of the desirability of those consequences, such as go to TBAs is a good or bad thing.

The second construct of TPB is subjective norms, which refers to how society or environment contributes to behavior. Significant references will be used to predict subjective norms. Pregnant mothers told by other family members such as older sisters, parents, or husbands to use the TBAs services would approve of one performing the behavior in question. Subjective norms are weighted by one's motivation to comply—to behave in a manner that would meet each referent's approval. Another study from Titaley *et al.* (2010) pointed out that family members and relatives who have previous experiences with TBAs will refer to pregnant mothers to use their services.

The third construct of TPB is perceived behavioral control, referring to the extent to which the pregnant mothers believe could control their behavior. Generally, TBAs have minimum and traditional set of equipment, while midwives have a set of modern

equipment complete with professional skills acquired during their training in the midwifery school. Another factor to engage pregnant mothers to use midwives is their services such as physical examination, as well as counseling about breastfeeding and infant health care (Titaley *et al*. 2010).

The needs assessment process is crucial because it will guide the process of publicizing the partnership between the midwives and the TBAs program to the local community. It will also provide guidance on how to disseminate health risks information to TBAs based on local culture, and how to communicate with local leaders, religious leader and the elderly in their community.

In addition, this step also determines in advance all the logistic and technical content, as well as aids or resources to be used during the training to ensure fidelity and consistency in administrating the partnership program. Midwives will also be able to decide what is the best time to conduct training. For more details, please see appendix 1.

Part 2: Interventions

The guidelines will be available online and the printed version will be distributed to the local health department and midwives across the country. Upon the completion of the training at national level, midwives are expected to comprehend the materials and basic skills covered in the guideline to train the TBAs. The training consists of several topics including hand washing kits, teaching strategies, identifying pregnancy complications, and referring mothers to seek healthcare facilities (Appendix 2). Ministry of Health will also work with certified health education and communication specialists

and support group facilitators to ensure that midwives are prepared to facilitate education classes and support groups, respectively, prior to program implementation.

Part 3: Evaluations

The TBAs' experiences in each session should be explored and discussed and sharing should be encouraged during each workshop. Meanwhile, the midwives should be constantly evaluating the level of assimilation of the topics covered at least every three months. The evaluation questions will be provided to the midwives to assess the TBAs' knowledge (Appendix 3, table 3.1). Since many TBAs in rural areas have lower literacy rate, the evaluation should be recorded in order to avoid bias recall and will develop pictorial cards and oral tests. Furthermore, the structures of the evaluation forms should be open-ended question. A final and comprehensive evaluation will be conducted at the end of the training to review the activities and to ascertain the degree to which knowledge and methods have been taught. At the end of training, TBAs will receive certificate of acknowledgment from the Ministry of Health.

In addition, the midwives should be evaluated by Ministry of Health on an annual basis. The evaluation of the midwives is important to ensure the fidelity and to improve the training materials in the future (Appendix 3, table 3.2). The data for this evaluation will be gathered nationally at the end of the program as part of Directorate General of Health Services program. This evaluation will be reevaluated and adjusted accordingly in order to reduce MMR and NMR. Also, the program planner and Ministry of Health will work with other organizations with similar interests, such as non-governmental organization to add resources for program modification and reimplementation.

After conducting a needs assessment and an evaluation, the data and information will be saved in the village leaders. Therefore, each village has information that can be accessed in the future. This information will also be sent to local health department to be forwarded to the Ministry of Health for the nationwide data collection. In addition, Ministry of Health will conduct spot checks to interview TBAs, pregnant mothers, local leaders, and religious leaders in some areas. Both quantity and quality are important aspects of the information gathered.

In this paper, there are several differences with other TBAs' training from the literature review. These included focused on the training content and conducted in low and middle income countries; the scope of this draft is national level compared to only specific region or ethnic tribes; the duration of training is five days compared to only one or two days training. More importantly, this guideline could be implemented in anywhere else with low resources setting.

CHAPTER V

POLICY IMPLICATIONS, LIMITATIONS, AND CONCLUSION

Policy Implication

Indonesia has a very high rate of Neonatal Mortality Rate (NMR) and Maternal Mortality Rate (MMR). To address the NMR and MMR, one of the solutions that has already been implemented by the Indonesian Government are the training of traditional birth attendants (TBAs) by village midwives. Therefore, after the training TBAs will have some knowledge in terms of helping delivery, making referrals to midwives, and accompanying pregnant mothers to healthcare facilities. To change the community behavior to use the midwives instead of TBAs, the following are example guidelines can be used.

1. Improvement in the quality of health care workers and facilities remains a priority in both urban and rural areas. Public health policy should take into account the disparities between urban and rural settings.
2. Recommends giving money to TBAs as an incentive to maximaze the impact of the partnership program. If TBAs receive money as an incentive, they will be engaged in certain basic health care activities like disease prevention and health promotion. Even though the main funding is from the health national budget, the local government could provide additional financial resources regarding supporting the partnership program. Since Indonesia had implemented fiscal decentralization system, therefore, the local government has responsibility to fund this program too. By calculating how many TBAs are in an area and

assuming the disbursement, it can help to predict the overall budget. Also, one possibility to provide financial resources is from the private sector such as pharmaceutical companies. These companies could donate some money, thereby selling their products as compensation.

3. Educating the community members is necessary to create awareness about maternity health risks. In some part of Indonesia, village and religious leader plays a very important in the cultural health system. A village and religious leader can be the key person that can pass the health messages as they have more influence to the society. The women usually follow what village and religious leaders say or suggest. A conservative leader will not allow any modernization to come and invade their society. They will uphold their tradition and beliefs that giving birth to a child must go through its natural passage since it is one of the natures of being a woman, and refuse any medical intervention during the delivery process. Technically, the midwives should meet with village and religious leaders by visiting them to their house. By having an open discussion and conversation, midwives are able to explain health risk outcomes and behaviors in that community. Therefore, stakeholders' participatory communication is effective way to attract women to use the midwives in delivery.
4. Understanding the determinants of maternal mortality as well as pregnancy outcomes is necessary for the midwives. Therefore, the midwives should know the traditional beliefs of the women for whom they provide care. By knowing traditional beliefs, the midwives have a more comprehensive understanding of

the women's worldview, and they can provide appropriate decision-making advice and education. Better promotion of improving women's health will be an effective route to safe motherhood. Involving the local community members through women's group meetings and encouraging women to use maternal and child health services will also be important to supportive interventions. Health promotion programs to increase community awareness about safe delivery services will benefit the community.

5. By having the national guidelines, the midwives can avoid spreading misconceptions and have greater consistency about how to conduct TBAs training. The midwives across the country will have standard operating procedures.

Limitations

However, the national guideline that I have proposed is a draft. This draft still needs to be discussed with several stakeholders such as the Ministry of Health, Indonesian Doctors Association, Indonesian Nurses Association, Indonesian Midwives Association, and Non-Governmental Organization who specialized in maternal health services. These guidelines are practice guidelines; therefore, they need adoption based on cultural diversity in Indonesia. They also need to be adapted to the specific needs of a local area.

One of the limitations of these guidelines are the need of flexibility to use culturally relevant resources and techniques when midwives conducting the training. Since Indonesia consists of more than 6,000 ethnic tribes, and each tribe needs a different

approach, the national guideline might not be able to be implemented exactly the same in every context. Therefore, it needs to be able to be adapted and adjusted, especially for communities who live on remote islands.

Another limitation is geographic challenges. The spread of midwives is not the same between one region or one island and the other. The number of midwives in rural area might be limited and not possible to train all TBAs in one area.

Conclusions

To conclude, in regards to reducing NMR and MMR in Indonesia, TBA training does not act alone. TBA training is a part of a multiple intervention approach that involves collaborating with several stakeholders to ensure the access to emergency obstetric care in the case of life-threatening complications that cannot be managed efficiently by TBAs. This approach is more likely to sustain MMR and NMR prevention efforts over time than any single intervention.

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Appendices

Appendix 1
Step 1: Preparations and Needs Assessment

Conducting a rapid needs assessment is important to collect baseline information in a specific area. The midwives should prepare information by completing a needs assessment in their area. The following are several questions that can be used to collect information from community.

Table 1.1: Needs Assessment Questions (Draft)

No	Topic and Questions	Comments
1.	Demographics	
	○ How many pregnant mothers are in the area?	
	○ How many are TBAs are in the area?	
	○ Who is a local leader in the area?	
	○ Who are the religious leaders in the area?	
	○ How far is the health care facility from the area?	
	○ What is the age range of pregnant mothers in the area?	
2.	Social and cultural factors	
	○ What are the local beliefs, customs, and habits in that society that can affect health conditions?	
	○ What are major traditional medicines and forms of healing? Who helps to heal?	
	○ How do pregnant mothers contact TBAs to help them?	
	○ What tools do TBAs have for their work in helping deliveries?	
	○ Are TBAs familiar with teaching techniques such as using animation techniques, audio-video visual, role-playing, drawing or storytelling?	
	○ Besides helping delivery, what is the main job of TBAs?	
	○ When is the best time to do training?	
	○ What level of education do TBAs have?	
3.	Local community needs and resources	
	○ What are the community health problems and their causes?	
	○ What natural resources are in that area, i.e. land, crops, sources of food, and sources of water?	
	○ What compensation is given to TBAs after helping delivery?	

Based on the needs assessment, the midwives have to prepare materials to conduct training. Logistics and equipment should be prepared in advance in order to achieve the goals of this program. The main equipment should be provided by Ministry of Health through the local government.

Appendix 2
Step 2: Interventions

A literature review of TBA training programs showed that lectures, demonstrations, role plays, practical experience in antenatal and postnatal care, and explanations of safe delivery techniques are the range of methods used for training TBAs (Kamal, 1998). The following table is the guideline for midwife to train the TBAs.

Table 2.1: Training Intervention (Draft)

Day/Time	Objectives	Topics	Contents	Techniques	Materials & Equipment
Day 1: 9am – 10am	Create classroom atmosphere among TBAs and midwife	Introduction	• Opening sessions • Participant introductions	• Oral presentation • Brainstorming	• Video • Flipcharts • Markers and pencils • Notebooks • Attendants list • Name tags • Program handout
10am-12pm	• Identify the health problem in maternal mortality • Identify obstetrical problems	Topic 1: • Causes of maternal deaths • Seek for healthcare emergencies	• Most common causes of maternal deaths • Most common types of emergency • Steps in case of emergency • Emergency preparedness	• Lecture • Discussion • Case studies • Group work • Role play	Question cards ✓ Why do women die and what else can happen during childbirth? ✓ What types of emergencies occur during pregnancy, delivery, and postpartum? ✓ What should be done in case of an obstetrical emergency? ✓ How can TBAs be prepared for an emergency?
12pm-1pm	Lunch				
1pm-3.00pm	• Apply first aid and obstetrical emergency management principles • Provide first aid and timely referral in obstetrical emergencies	Topic 2: First aid principles	• Definition of obstetrical emergency • First aid procedures • The advantages of emergency management and first aid • Steps for emergency referrals • Inform the family • Arrange transportation	• Video • Role play • Songs • Poetry • Reflection and analysis of the obstetrical emergency and the provision of first aid • Demonstration	• Mannequins • Masking tape • Flip chart with exploratory questions: ✓ What steps should we follow in evaluating an obstetrical emergency ✓ Reference forms/Checklists

			• Obtain treatment for mother	• Cases discussion	
Day/Time	**Objectives**	**Topics**	**Contents**	**Techniques**	**Materials & Equipment**
Day 2: 9am-10am	Review from previous day	Reinforcement of the preceding from previous day	• First aid principles • Most common causes of maternal deaths	Brainstorming	Flipcharts for exploratory questions
10am-12pm	Identify danger signs and apply first aid during pregnancy	Topic 3: Danger signs in pregnancy	• The danger signs during pregnancy • The causes of each danger signs during pregnancy	• Lecture • Video • Group work • Demonstration • Role play • Discussion	Pregnancy flow chart
12pm-1pm	Lunch				
1pm-2.30pm		Continuing topic 3	• Symptoms observed in the pregnant woman for each danger sign • The first aid were given by TBAs upon observing any of the danger signs during pregnancy		
2.30pm-3.30pm	Identify danger signs and apply first aid during childbirth	Topic 4: Danger signs during childbirth	• The danger signs during childbirth • The causes of each danger sign during childbirth • The first aid to be given by the TBA upon observing any of the danger signs during childbirth	• Video • Lecture • Group work • Demonstration • Role play • Brainstorming	• Childbirth flow chart • Red dye • Water • Transparent containers • Uterus made of red fabric • White sheets

			• Calculating the amount of blood loss		
Day/Time	**Objectives**	**Topics**	**Contents**	**Techniques**	**Materials & Equipment**
Day 3: 9am – 10am	Review from previous day	Reinforcement of the preceding from previous day	The danger signs in pregnancy and child birth	• Demonstration Role play	• Pregnancy flowchart Childbirth flowchart
10am-12pm	Assist a clean delivery, provide immediate care to the newborn babies, and provide follow-up during the postpartum period	Topic 5: • Infection • Clean delivery • Hand washing	Preventing infections during delivery: • Causes of infection • Preventing infections • Practicing good hygiene • Practicing a clean delivery	• Lecture • Video • Demonstration • Role play	Flipcharts for exploratory questions ✓ How to prevent infections in the mother during childbirth? ✓ How to prepare for assisting childbirth? ✓ What hygiene methods should be used during delivery? ✓ Why do women get infections during delivery?
12pm-1pm	Lunch				
1pm-1.30pm		Continuing topic 5	• Hand washing • Explain the difference between clean and dirty hands	• Video • Lecture • Individual practice	Basin, pitchers, water, brush, nails clippers, nail stick, nail file, soap or antiseptic
1.30pm-2.30pm			• Decontamination of delivery equipment • Decontamination cleaning	• Demonstration • Individual practice • Group work	2 medium-sized basins, plastic pitcher, brush, nail clipper, nail stick, nail file, soap powder, plastic apron, chlorine, water, 2 umbilical cord clamps, clamps, scissors, gloves, gauze
2.30pm-3pm			Review the topic of infection, clean delivery, and hand washing	• Self reflection	Evaluation questions: ✓ How to prevent infections? What is the correct hand washing procedure?

Day/Time	Objectives	Topics	Contents	Techniques	Materials & Equipment
Day 4: 9am – 10am	Review from previous day	Reinforcement of the preceding from previous day	• Infection • Clean delivery • Hand washing	• Demonstration • Role play • Individual practice	Flip charts for evaluation questions
10am-12pm	Develop skills in the immediate care of the normal newborn, provision of first aid, and timely referral of a newborn experiencing difficulties	Topic 6: • Newborn babies care • Postpartum care	• Care of newborn babies. • Steps in caring of normal newborn: dry, cover, position, aspirate, stimulate	• Lecture • Video • Exploration • Demonstration • Role play • Individual practice	Baby dolls, hat, baby clothes for the dolls, 2 newborn blankets per doll, towel, gauze package, gloves in a glove holder, uterus, pelvis
12pm-1pm	Lunch				
1pm-2.30pm		Continuing topic 6	• Resuscitating the newborn. Steps for resuscitate: airways, respiration, heart function, prevent shock • Resuscitation procedures • Danger signs in the newborn	• Lecture • Exploration • Demonstration • Individual practice • Reinforcement • Discussions	• Gloves, baby sheets, towels, doll, hat, gauze • Evaluation questions: ✓ Are you receiving prenatal care? ✓ When did the contractions start? ✓ How do you feel? ✓ When was your last bowel movement? ✓ Have you experienced bleeding? ✓ Have you had any (liquid) discharge?
2.30pm-4pm	Develop skills to conduct clean delivery	Topic 7: Stages of childbirth	First stages • Necessary material and equipment • Questions for the	• Lecture • Participatory • Role play	• Evaluation guide for assisting a clean birth • Activity for evaluating normal signs and danger signs

			patient • Signs of imminent delivery (normal signs vs. danger signs)		
			Second stages • Prepare the essentials equipment • Signs during this stage • Procedures for assisting the birth • Use of sterile materials and equipment	• Lecture • Group work • Role play • Individual practice	• Pelvis, placenta, • Equipment used earlier for handwashing, decontamination, cleaning, disinfection and sterilization
			Third stages • Normal signs during delivery of the placenta in mother and her baby • Danger signs In the mother In the baby • What to do during the third stage of childbirth	• Lecture • Exploration • Discussion	Placenta
Day/Time	**Objectives**	**Topics**	**Contents**	**Techniques**	**Materials & Equipment**
Day 5: 9am – 10am	Review from previous day	Reinforcement of the preceding from previous day	• Newborn babies care • Stages of childbirth	• Discussions • Role play	Flip charts for evaluation questions
10am-12pm	After covering the topic, the TBA will be able to detect danger signs and give first aid should a problem occur in the postpartum period	Topic 8: Danger signs following childbirth	• Postpartum danger signs • Causes of postpartum danger signs • First aid to be given by the TBA in case any	• Lecture • Video • Group work • Demonstration • Role play	• Postpartum flow chart • A mixture of red dye and water in a pitcher, three transparent containers

			postpartum danger sign is present		
12pm-1pm	Lunch				
1pm-2.30pm	After covering the topic, the TBA will be able to identify the danger signs and give first aid should they occur in the newborn	Topic 9: Danger signs in the newborn	• Danger signs in the newborn • Causes of each danger sign in a newborn • First aid to be given by the TBA in case any danger sign is observed in the newborn	• Lecture • Group work • Demonstration • Role play	• Newborn flow chart • Dolls, baby clothes, sheets, gauze, towel, or cloths.
2.30pm-3.30pm	Evaluate the degree to which participants have assimilated theoretical and practical knowledge	Evaluation	• Direct questions and practice of the topics covered during the workshop	• Self reflection • Individual practice	The questions posed during each topic
3.30pm-3.50pm	Provide the basic, essential equipment so that each TBA can offer adequate assistance during childbirth	Distribute materials and equipment to each TBA	Distribution of materials and equipment		Equipment for the TBA: • 1 backpack containing • 1 plastic bag • 1 apron • 1 medium-sized basin • Plastic pitcher, brush, nail clippers, nail stick, nail file, soap, apron, chlorine, • 2 umbilical cord clamps, clamps, scissors, gloves, gauze • 1 medium sized aluminum pot • 1 large aluminum pot
3.50pm-4pm		Closing session	Closing session program		

Appendix 3
Step 3: Evaluation Questions

It is necessary to have evaluation questions to measure the success of outcomes of the training program as intended to reduce MMR and NMR in Indonesia. This will be used to evaluate impact and to measure the outcomes in terms of knowledge and attitude changes in midwives practice. Answers to the evaluation questions leads to a wide understanding about progress of the training. Furthermore, it also will help to identify the extent to which the program is being implemented and then make necessary adjustments.

Since many TBAs in rural areas have lower literacy rate, a written evaluation should be avoided. Instead, an oral evaluation is suggested and the program manager can develop pictorial cards and oral tests. Self-evaluation is also necessary in order to measure the TBAs knowledge. In addition, the structures of the evaluation forms should be open-ended question. The following table and criteria might be adapted to different needs.

Table 3.1: Evaluation Questions for the TBAs (Draft)

No	Questions for TBAs
1	Do you wash your hands anytime during or after delivery?
	o Yes
	o No
2	When do you wash your hands?
	o Before start working
	o Before cutting cord
	o After finishing the delivery
	o Any other time (specify)
3	How do you wash your hands?
	o With water only
	o Water and soap
4	On what material is the mother made to deliver?
	o Mattress
	o Cloth
	o Jute
	o Sand
	o Bricks

	o Rubber sheet
5	What kind of clothes does the woman wear for the delivery?
	o Clean old rags
	o Unclean old rags
	o Normal household clothes
	o Any other (specify)
6	What material is used to cut the cord?
	o Clean razor
	o Unclean old razor
	o Any other materials (specify)
7	Is the weight of the baby checked immediately after birth?
	o Yes
	o No
8	Do you bathe the baby immediately after birth?
	o Yes
	o No
9	What is the method used for cleaning?
	o Warm water
	o Cold water
	o Wipe with cloth/cotton
	o Any other (specify)
10	Do you keep the baby warm after birth?
	o Yes
	o No
11	What is the method used for keeping baby warm?
	o With cloth
	o With blanket
	o Any other (specify)
12	Do you accompany patients in case of referrals?
	o Yes
	o No
13	In what problems you have to seek the midwives and health care facilities?
	o Failure to dilate
	o Transverse lie
	o Breech baby
	o Cord prolapsed
	o Placenta prolapsed
	o Bleeding
	o Retained placenta
	o Any other (specify)

Table 3.2: Evaluation Questions for the Midwives (Draft)

No	Questions	Good	Average	Bad	N/A	Comments
1	Technical Contents					
	o Did the lectures and materials are easy to understand by the TBAs?					
	o Did midwife explain the technical content appropriately?					
	o Were TBAs effectively used the materials provided?					
2	Methods/Techniques					
	o Did midwife stimulated discussions?					
	o Were the TBAs guided towards active learning?					
	o Did TBAs have self-confidence to practice what she learnt?					
	o Did everyone feel free to participate?					
3	Utilization of Time					
	o Did the midwife use the time wisely?					
	o Were all topics covered in the allocated time?					
	o Were the TBAs given enough time to ask questions?					
4	Topics					
	o Did the midwife explore the topic at the beginning of the class from previous lecturer?					
	o Is the topic discussed enough detail and comprehensive?					
	o Were the information limited to those points the TBAs really need to learn?					
	o What other topics would like to cover during this training?					

Some of the pictorial examples

Figure 1: Hand Washing

Figure 2: Taking care Mothers and Babies

Figure 3: Mannequins