NORTHERN UGANDAN NURSE PERCEPTIONS AND EXPERIENCES OF THE HELPING BABIES BREATHE PROGRAM

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ABSTRACT

**Purpose and Background:** The Helping Babies Breathe (HBB) Program was created to improve teaching and implementation of neonatal resuscitation skills and techniques, particularly in low-resource countries. This study was an extension of a previous study conducted in northern Uganda in 2013 that explored perspectives of northern Ugandan health providers about the effect of cultural beliefs and practices on birth outcomes. The current study explored perceptions of northern Ugandan nurses and nursing students on their experiences of completing HBB training, potential barriers and challenges to implementing HBB training and resuscitation practices in healthcare settings, and their ability to integrate HBB training while respecting cultural beliefs and traditional healthcare practices of northern Uganda.

**Methods:** A qualitative descriptive study was conducted using naturalistic inquiry. The 42 participants in the study included midwifery nursing students as well as practicing Ugandan nurses returning to school to further their degree. Data collection occurred in northern Uganda in 2014 and included focus groups, individual interviews, observations with in-depth field notes, and interaction with key informants. Inductive qualitative analysis was conducted to identify patterns in the data to develop the overarching themes of the study.

**Findings:** Three themes were identified, including Experiences of Learning and Teaching HBB, Integration of HBB in Uganda, and Realities of Pregnancy and Childbirth in Uganda.

**Conclusions:** HBB has been acknowledged as a valuable set of practices and techniques that are accepted by Ugandan nurses. Their acceptance and modeling of these techniques will support women and families’ positive reception of HBB. There continues to be issues with ensuring initial HBB education, continued training, and supplies. Use of Leininger’s Theory of Culture Care Diversity and Universality can support both the challenges faced with widespread implementation and sustainability of the program.

INTRODUCTION

Though there have been a number of great advances made in the realms of global health, asphyxia is a problem that still affects far too many neonates. Each year, 6 million babies need assistance breathing immediately following birth (Bang et. al, 2014). Furthermore, 98% of neonatal deaths occur in underdeveloped countries (Steele, 2013). The Helping Babies Breathe (HBB) program is unique because it instructs timely, yet basic resuscitative skills and is intended for use in low-resource countries and rural areas (Me Arabi et al., 2016). In 2015, the country of Uganda had one of the highest crude birthrates in the world, in addition to a high neonatal mortality rate (World Bank, 2016). In 2011, only 53% of births in rural areas in Uganda were attended by skilled health staff, versus 90% in urban areas (The Republic of Uganda, 2013).

PURPOSE AND PROBLEM

This study was an extension of a previous study that looked at cultural beliefs and practices on birth outcomes (Baird, Smith, & DeBacco, 2015), whereas this study looks specifically at the implementation of the HBB training program and its influence on cultural beliefs and practices. The current study’s purpose was to gain an understanding of northern Ugandan nurses’ and nursing students’ perceptions and experiences of the HBB training program. Though the courses have been taught at multiple sites throughout Uganda, this study seeks to identify the efficacy of the implementation of HBB in northern Uganda, while also identifying strategies for decreasing the infant mortality rate in low-resource countries. This knowledge will support a greater understanding of how cultural beliefs and traditional healthcare practices influence the successful integration of the HBB program within the communities of northern Uganda. It will also provide a foundation for further research in understanding the implications of cultural values, beliefs and practices on implementing HBB or similar programs to decrease infant mortality in low-resource countries.

RESEARCH QUESTIONS

This study on the perspectives of northern Ugandan nurses and nursing students was guided by three primary research questions. The questions were as follows: (1) What are the perceptions and experiences of the HBB training and resuscitation practices for northern Ugandan nurses and nursing students?; (2) What are the perceived challenges of implementing HBB training and resuscitation practices within healthcare settings of northern Uganda?; (3) How will current cultural beliefs and traditional healthcare practices influence the integration of the HBB training and resuscitation practices within northern Uganda communities?

REVIEW OF LITERATURE

**Infant Mortality**

According to Callister (2016), about half of the three million neonatal deaths that occur globally each year happen during the birthing process and up to 24 hours thereafter. From dismal statistics such as this came Millennium Development Goal (MDG) number four, one of the series of goals created by the United Nations General Assembly that were aimed at reducing poverty worldwide (United Nations, 2000). Now called Sustainable Development Goals, these objectives are still in place today. MDG 4 sought to diminish mortality for children under the age of five (Niermeyer, 2015), and now falls under the category of Sustainable Development Goal 3: Ensure healthy lives and promote well-being for all at all ages (United Nations, 2016). The HBB Program, now part of Helping Babies Survive, was one approach that was enacted to move forward with this goal (American Academy of Pediatrics [AAP], 2017). The positive effects of neonatal resuscitation techniques in reducing intrapartum injury and death were known, but were not commonly practiced in low-resource areas and countries (Wall et al., 2009).

**Helping Babies Breathe**

An initiative of the American Academy of Pediatrics (AAP), World Health Organization (WHO), and the US Agency for International Development (USAID) and other partners, HBB was created to improve the teaching and implementation of neonatal resuscitation skills and techniques (AAP, 2015). The overarching goal is to have one birth attendant who is skilled in neonatal resuscitation present at every birth (AAP, 2015). A key concept of HBB is that of the Golden Minute. If interventions (that include drying, warmth, stimulation to breathe, and, if necessary, bag and mask ventilation) are initiated within one minute, “most babies who are not breathing at birth can be saved” (Bang et al., 2014, p. 3).

HBB operates on the premise that newborn resuscitation education can be self-sustaining, using a method referred to as “training the trainer.” This idea goes hand-in-hand with the fact that most births occurring in low-resource countries are attended only by a traditional birth attendant (TBA) or midwives, who often have little to no formal health care training (Steele, 2013). If these birth attendants can be trained in the HBB course, they can subsequently be trained to educate other birth attendants or health care workers, and the process continues. However, this remains a controversial topic in Uganda, as many healthcare providers doubt the ability of TBAs to adequately and safely assist in childbirth (Baird et al., 2015).

One strength of the train-the-trainer method used in HBB is the accessibility to different education levels and professions (Seto et al., 2015). Hoban et. al (2013) found that lack of formal education is “not a prohibitive factor in resuscitation knowledge acquisition” (p. 185). The HBB course content consists of evidence-based information, hands-on collaborative learning, and reflective assessments on one’s own knowledge and skills (Singhal et al., 2012). In one study in Sudan, the majority of the women who participated in the HBB course were functionally illiterate, but due to the course’s picture-based learning strategies, were able to learn and retain essential skills for at least 12 months (Me Arabi et al., 2016). However, the AAP does have universal recommendations for teaching HBB courses, with a ratio of one trainer to six learners, allowing for more individualized instruction (Singhal et al., 2012).

Beginning in 2009, pilot tests of HBB were conducted in India, Pakistan, Kenya, Tanzania, and Bangladesh (Bang et al., 2014). Following these pilot studies, a worldwide implementation of HBB began in 2010. According to Niermeyer (2015), the program was expanded to 73 countries after just five years, “including most of the priority regions for MDG 4” (p. 305). Today, HBB (as part of Helping Babies Survive) has reached 80 countries and has been taught in 25 languages (AAP, 2017). An Article in *Pediatrics* in 2016 states that the outcomes of HBB in many low-resource clinical settings have been positive, with decreased rates of intrapartum still births and first-day neonatal mortality (KC et. al, 2016). In Tanzania, the HBB techniques were shown to reduce neonatal mortality by 47% (Msemo et al., 2013). The program has not only improved skills and helped to reduce neonatal mortality, but participants in the course have expressed satisfaction, high self-efficacy and gains in knowledge after completion (Singhal et al., 2012). In fact, “ninety-five per cent of participants felt the mix of flip chart teaching, discussion and hands-on practice was appropriate” (Hoban et al., 2013, p. 182). Niermeyer (2015), however, notes that several studies have reported the need for follow-up training as a necessity to maintain competency in the resuscitation techniques due to decline in performing skills over time. As Goudar et al., (2013) states, “refresher training and monitoring practice are advised to ensure knowledge and skills retention and timely performance” (p. 350). Seto et al. (2015) suggests that this training may need to be tailored to level of experience and type of profession.

**Birth Outcomes in Uganda**

Traditional birth attendants and village midwives have long been a trusted part of the birthing processes for women in northern Uganda. Though some Ugandan hospitals provide incentives for women to deliver in the hospital, delivering with a TBA is the only form of childbirth village women may be familiar with (Baird et al., 2015). The Ugandan Minsitry of Health (MOH) issued a policy that restricted the training and use of TBAs, in hopes to increase the percentage of hospital and health center deliveries. When the MOH institutionalized the HBB program (USAID, 2012), the government opted not to train traditional birth attendants in HBB, and discouraged their use in childbirth. However, despite this policy, TBAs “assisted in nearly one-third of births amongst families in the poorest wealth quintile” (Mbonye et al., 2012, p. 108).

This research regarding HBB is essential, because as illustrated in Uganda, many of the countries that rely on traditional healers and practices lack access to formal healthcare. Though many underdeveloped countries show high stillbirth rates, literature suggests that some of these stillbirths may actually not be stillbirths at all, but rather neonates that would respond to skilled resuscitative care (Little, Keenan, Niermeyer, Singhal, & Lawn, 2011). The outlook of the HBB program in Uganda is promising. The program was endorsed by the Ugandan MOH in 2012, and in November 2013, the MOH issued a strategic, evidence-based plan for improving reproductive, maternal, newborn, and child health (The Republic of Uganda, 2013). One of the multiple initiatives was incorporating HBB as a component of newborn care, and Uganda is now one of seven countries to increase use of HBB in over 40% of facilities where births occur. (AAP, 2015). In addition, Uganda held a nationwide maternal-newborn health conference in 2015, the first of its kind for the country, in conjunction with the MOH, the Makerere School of Public Health, and the Save the Children foundation. The focus of the conference was to distinguish evidence-based interventions that can help Uganda achieve their goals regarding maternal and newborn health (The Center of Excellence for Maternal and Newborn Health Research at the Makerere University School of Public Health, 2015).

**Health and Culture in Northern Uganda**

One area that needs further research and explanation is the complexity of teaching HBB courses in countries and regions that have strong cultural and traditional health beliefs. Baird, Smith, and DeBacco (2015) stress the importance of considering culture when introducing a new health concept. To understand implications for the implementation of HBB, it is important to examine Ugandan culture, Ugandan healthcare, and where these two entities intersect. Uganda is located in East sub-Saharan Africa, and is a low-income country with a population of 39 million (World Bank Group, 2016). From 1986 to 2006, northern Uganda experienced a civil war in which an estimated two million people were internally displaced, tens of thousands of people (largely children and adolescents) were abducted to serve in the Lord’s Resistance Army, and countless deaths occurred (Annan, Blattman, Mazurana, & Carlson, 2011; Chi, Bulage, Urdal, & Sundby, 2015). Since the war has ended, this region has especially felt the repercussions of this violence and destruction. Poverty rates are persistently higher in the northern area, creating disparity between the north and south regions. A struggling economy, poor infrastructure, and lacking public health measures, including increased communicable diseases and inadequate access to healthcare, are a few of the problems the war-torn regions have faced. (Wendo, 2003; World Bank Group, 2016).

While progress has been made in regards to community health outreach, there still remains a lack of access to health care (Baird et al., 2015). Consequently, many cultural beliefs and practices about women’s health and pregnancy have remained in the northern half of the country, including food restrictions and seeking a traditional healer for health concerns. While researchers seek to preserve culture, it has been suggested that some of these beliefs and practices may be harmful to pregnant women. For example, because northern Ugandan women are expected to carry out their everyday activities throughout pregnancy, births in hospitals and clinics are frowned upon, as this time in the hands of healthcare providers may detract from their responsibilities. Women are also held accountable for the outcomes of their pregnancies, and even for neonatal deaths (Baird et al., 2015).

THEORETICAL FRAMEWORK

Leininger’s Theory of Culture Care Diversity and Universality can be seen as a way to support the integration of the HBB program in northern Uganda since “culturally-based care factors are recognized as influences on human care expression, beliefs, and practices related to health, illness, and wellbeing…” (McFarland & Wehbe-Alamah, 2014, p. 4). The purpose of this theory is to better understand the relationship between care and culture, since health is constructed through cultural beliefs, values and practices of individuals and populations. Leininger suggests that nurses must discover the differences and similarities between cultures, as well as the way cultures know, convey, and practice health care and health beliefs. The aim is to “provide culture-specific and/or generic care that would be culturally congruent, safe, and beneficial to people of diverse or similar cultures...” (McFarland & Wehbe-Alamah, 2014, p. 6). In order to do so, Leininger predicted three culture care modes to guide nurses’ actions: culture care preservation or maintenance, culture care accommodation or negotiation, or culture care repatterning or restructuring.

The present study looked at the integration of HBB within the health practices and beliefs of northern Uganda and how a greater acceptance of these techniques could decrease infant mortality. As nurses working with individuals, families, or communities from different cultures, consideration of each of these modes along with individual or population input should be used to make decisions or take action regarding health such as implementation of new techniques and procedures (McFarland & Wehbe-Alamah, 2014).

METHODS

**Research Design**

A qualitative descriptive study was conducted using a naturalistic inquiry approach. This method was chosen in order to best preserve the perceptions, experiences, and sensitivities of the participants within their own natural setting throughout the data collection, analysis, and interpretation of the study. (Sandelowski, 2000; Sandelowski 2010).

**Sample and Setting**

The 42 participants in the study included students from St. Mary’s Hospital Lacor Nurse Training School in Gulu, in northern Uganda, and one registered nurse working at a Lacor community clinic. A purposive sample included 20 nursing students, 21 registered nurses who were returning to school to pursue a nursing diploma degree after working in the field, and one registered nurse working for two years in a community clinic caring for pregnant women in labor and delivery facilities. Participants included 35 females and 7 males, with an average age of 25 years and an age range of 20-45. Returning registered nurses had worked in multiple health settings listed as hospitals and community health centers.

All participants had been involved in supporting women in labor and delivery and were introduced to, or had received some training in, the HBB program prior to a two day HBB certificate training program. This training occurred onsite at the St. Mary’s Lacor nursing school two weeks prior to the focus group interviews. The individual interviewee had completed a HBB certificate training two years prior to being interviewed.

**Data Collection and Analysis**

Data collection occurred in Uganda in 2014 over a three-week period of time. This included four focus groups and an individual interview that were completed in English and digitally recorded. Also completed were observations of the onsite HBB training program, labor, delivery, and mother-baby care at both hospital and community clinics, and informal interviews and interactions with key informants, such as health professionals, faculty, and administrators at the St. Mary’s Hospital Lacor Nurse Training School, and community outpatient clinics.

Qualitative inductive content analysis was used to identify the underlying meanings of the text. Graneheim and Lundman (2004) identify that the goal of this type of analysis seeks to move from what is the visible or obvious components of the text to the text’s true significance. After validation of the transcripts was completed, focus group and individual interview transcripts were read and reread to obtain a sense of the whole. Hand coding was then completed to identify meaning units, condensed meaning units and codes (Graneheim & Lundman, 2004). Codes were then grouped into categories, from which the final development of themes emerged. Field notes and observations were integrated throughout analysis.

**Trustworthiness**

To ensure credibility of the study (Lincoln & Guba, 1985), use of triangulation of the data was incorporated with the initial data collection in northern Uganda in 2014. This included formal and informal interviews, focus group interviews, in-depth field notes, and multiple observations over a three-week period of immersion into the culture. The initial transcripts of interview tapes were reviewed for accuracy by the primary investigator of the study. To increase accuracy and to support understanding of words or phrases with local dialect, a University of Kansas graduate nursing student originally from Uganda also reviewed the digital recordings against the transcripts. The honors student’s involvement was with the analysis and write-up of the study. To prepare for the analysis and interpretation phases of the study, the honors nursing student completed extensive reading to obtain a historical perspective of northern Uganda, reviewed Ugandan MOH documents, and met with a midwifery nurse faculty from northern Uganda involved in a University scholar’s mentorship and preceptor training program. Additionally, the honors student participated in a condensed HBB course through an international medicine conference. Multiple debriefing sessions with the primary investigator occurred throughout the data analysis, interpretation and final write-up of the manuscript (Lincoln & Guba, 1985). To support dependability and confirmability of the study, an audit trail was in place as the coding, analysis, and interpretation occurred to ensure that decisions were based on a constructivist framework that reflected the realities of northern Uganda (Patton, 2015).

**Human Subjects Protection**

This study was approved by the KUMC Institutional Review Board with exempt status as an extension of Baird et al.’s (2015) study. It was also approved by St. Mary’s Hospital Lacor in Gulu, Uganda. The study was reviewed with all participants prior to obtaining the verbal consent. Participants were also informed that they could leave or withdraw from the focus groups and individual interview at any point in the study, and were assured of confidentiality. Any identifying information was removed from the transcripts to protect the identity of the participants.

FINDINGS

Three themes were identified in furthering the understanding of northern Ugandan nurses’ and nursing students’ perceptions and experiences of the HBB training. These themes included Experiences of Learning and Teaching HBB, Integration of HBB in Uganda, and Realities of Pregnancy and Childbirth in Uganda.

**Experiences of Learning and Teaching HBB**

The first theme consisted of three categories:

**Personal and professional experiences with HBB.** Participants reported positive experiences with the HBB course and feelings of confidence in utilizing their new knowledge and skills in the hospital. Aside from a fun and educational experience, a nurse who had used HBB described feeling professional pride by using his acquired HBB skill set in a rural health center clinic. Professional experiences with HBB included that the course had relevant applications to their everyday work as one participant shared, “The program was so good because it has given us the knowledge we can use theoretically as well as practically on the patients, on the babies.”

Nurses and nursing students stated that they had little knowledge of resuscitation prior to HBB courses, and required assistance when conducting deliveries. Others explained that the HBB course acted as a supplement to their existing knowledge, and taught them the “right way” to resuscitate. One nurse had resuscitated three babies since being taught HBB. Additionally, as HBB becomes more common, “old” resuscitation practices (including holding babies upside down to stimulate breathing) are recognized as harmful and are less widely used.

**Skills necessary for HBB.** The nurses and nursing students expressed the importance of being prepared, due to the unpredictable nature of childbirth. They learned about recognizing the need for HBB intervention, such as identifying fetal heart tones that may indicate an asphyxiated baby. They also mentioned the value of assessing the respiratory rate and heart rate to determine what skills are necessary to achieve breathing. The participants highlighted the significance of the golden minute, or the amount of time in which HBB interventions should take place to improve chances of a positive outcome. They mentioned the benefits of HBB interventions like skin-to-skin contact, which keeps the baby warm, and stimulation, which helps the baby to adjust to the external environment.

Several nursing students said they had seen HBB techniques being used in labor and delivery environments. One nurse mentioned that HBB is currently more prevalent than traditional resuscitation skills. On the other hand, it was noted that integrating HBB requires a change from traditional resuscitation practices, and nurses using these previously role modeled resuscitation techniques may or may not accept and use HBB skills.

**Continued training of self and others.** Participants described feeling disorganized during the first few times using HBB and needing to call for more experienced nurses or providers to help with resuscitation. However, they remarked that HBB skills continue to improve with practice over time. One participant shared, “You have to be very quick in order to save this baby’s life. So at first it was not easy, but as time went on we found we could manage it.” Though some of the nursing students did not feel they would have difficulty remembering steps after having just been trained, reviewing steps and information was regarded among other focus groups as a way to improve skills.

When learning the HBB course, the participants also learned how to teach birth attendants and mothers about resuscitation. Many expressed a desire to train others, and were confident in their ability to teach their colleagues HBB. One suggested that HBB could be made a Continuing Medical Education (CME) course. The local hospital where many nurses worked held HBB training sessions to promote all staff being trained in HBB. One nurse working in a rural clinic setting requested HBB teaching models for educational and practice purposes, explaining that he wanted to teach his colleagues so that HBB could be used in his absence.

**Integration of HBB in Uganda.**

The second theme consisted of three categories:

**Who should be taught HBB?** To fit in Ugandan culture, participants stated that nurses must modify the government’s recommendations by including TBAs in use of HBB. A shortage of healthcare workers in northern region of Uganda resulted in TBAs previously being trained in HBB. This conversation generated a variety of opinions and perceptions. Many nurses believe that training TBAs would be helpful in some ways, like reducing the overall infant mortality rate. TBAs can help with resuscitation because they are a presence in the villages, and are a good resource for educating mothers. Others agreed, stating that TBAs should be taught HBB because they know mothers personally and are regarded as trustworthy figures.

 *It is also good for us when we go back to teach these people, traditional birth attendants, because there are some mothers there in the village, they know these people they have been delivering and they know the people that went through their hands. And instead they trust these people more than they do the health workers.*

Though some nurses did not originally think TBAs should be included in HBB training, they later realized that TBAs can also use the HBB skills, specifically the steps of drying and stimulation.

TBAs can also help with mothers who do not have access to health facilities or with those who fail to make it to the hospital or health facility for delivery. However, a few participants identified the risks in training TBAs, saying they should not be taught because they lack educational experience. They reasoned that people learning HBB skills must meet requirements, and TBAs would not meet the criteria to learn HBB. Others argued that educating traditional birth attendants is not the issue--educating mothers so they will opt for a health care monitored delivery is the main goal.

**Ministry of Health support of HBB integration into newborn care.** The Ugandan MOH institutionalized HBB as part of the government’s essential newborn care plan. Participants acknowledged that Uganda is focusing on achieving the MDGs, and stated that the government’s addition of HBB into essential newborn care guidelines will help to achieve acceptance of the program from nurses who had been using traditional resuscitation techniques. However, they also expressed the need of further political influence to emphasize HBB and encourage hospital and health center deliveries.

Several of the nurses and nursing students stated that they think HBB will integrate well into current newborn care in Uganda. They suggested that those who teach HBB to their colleagues be knowledgeable on the history and background of HBB to best communicate the success and intentions of the program. Several participants expressed that HBB should be a nationalized program, spreading to all parts of Uganda and even to neighboring countries, so that more people can learn the techniques and skills.

**Necessity of resources and supplies for HBB.**

Even though the MOH has included HBB as part of essential newborn care, a common sentiment was that there is a lack of HBB resources for health care facilities in northern Uganda. There is a general shortage of resuscitation kits, which participants explained would cause a problem if two or more babies require resuscitation equipment at the same time. This is frustrating for the participants, who explained that HBB knowledge is only beneficial when resuscitation supplies are present.

*So even this is the time I can even say also our government, together, with our Minister of Health should also come in and equip us, the nurses and the midwives, so that our services are extended deep in those communities so that we can help the mothers.*

There remains uncertainty on who can provide the necessary HBB materials. Some nurses and nursing students asked for support from the United States in securing the equipment, such as ambu bags and suctioning materials. They expressed that traditional resuscitation methods, which can be harmful to babies, will be used until the proper equipment is present.

**Realities of Pregnancy and Childbirth in Uganda.**

The third theme consisted of three major categories:

**Agreement with cultural beliefs and values.** Agreement of HBB with northern Ugandan cultural beliefs and values supported multiple conversations and opinions. Many participants believed that HBB does not interfere with local cultural beliefs because most families will agree to use of the resuscitation skills after they are explained or discussed. Consequently, the nurses and nursing students stated that TBAs will accept and use the HBB program if taught the skills. However, another area of conversation revolved around mothers who choose to deliver at home. Changing traditional community health beliefs is a challenge, and nurses struggle to influence the attitudes of village women to deliver in a hospital, health center, or with a trained health professional.

*The problem is we have to change the attitudes of our community towards health issues. Especially deliveries from home, you know, they have been used to these traditional birth attendant deliveries. And now it’s our task as health care workers to at least change their attitudes so that they know that delivery in the hospital or health centers to a trained person is better.*

Ugandan women want to return to daily life as quickly as possible after delivery, and may not agree with the practice of staying in the hospital or health facility before delivery as well as in the postpartum period. Additionally, it was expressed that some mothers may not want resuscitation for their baby or may not accept HBB interventions due to cultural beliefs. Some mothers think that resuscitation causes more harm to a baby, which raised the importance of explaining skills to mothers, especially in layperson’s terms. Nurses must educate both the mother and father of the baby on what they can expect regarding the labor and delivery process and the possible interventions that may follow. Participants stated that if the mother is educated, she will accept resuscitation. Furthermore, mothers have endured the pain and discomforts of their pregnancy and delivery, and will want their baby to survive. Therefore, mothers will consent to and be receptive to resuscitation when necessary.

**Realities of birthing in northern Ugandan communities.** Traditional newborn care beliefs remain, and traditional methods of resuscitation are still used. For example, one traditional practice involves submerging the baby in cold water to stimulate the baby to cry. Use of cold water was regarded as a “bad practice” among the nurses involved in the focus groups. Similarly, the old suctioning technique used before HBB was taught was recognized as irritating to the baby. Another bad practice is beating the lower extremities of baby while holding them upside down, in hopes that this will stimulate breathing. The reality is that most women in villages seek out traditional birth attendants for delivery, even though this is not encouraged. Nurses expressed concern that TBAs do not maintain sterile environment, and use other unclean techniques.

*They [TBAs] use their bare hands to deliver the baby… sometimes they pull the grass on the road side and they just tie the cord until it is cut. So I don’t agree with traditional birth attendants. That was the old system and the world is changing to another place.*

Another reality is that the preference of nurses working in towns over villages creates a scarcity of health professionals to care for women who live in the rural areas of the country. One nurse explained many women are far from health facilities, and that nurses often travel ten kilometers to meet them for treatment. Because of this shortage of care, nurses and midwives feel called to extend services to rural communities.

They explained that each parish should have a community health center, but this is not the case. Accordingly, referral from a village to the hospital becomes difficult when mother is in labor. Transporting patients to a health facility is costly, with some unable to afford it. There is also a misconception among women that delivering in a health facility costs money, when in fact delivery and the hospital stay is free of cost. This does not include transportation to and from the hospital, and time away from child-rearing and work responsibilities.

Participants mentioned that health facilities currently incentivize mothers to choose to deliver there, and that similar incentives have been successful in past. Still, some mothers will always opt for home delivery, with a greater percentage of women delivering at home. Nurses may be called to help with these home deliveries and must be ready to assist at any time.

**Outcomes for baby and mom from HBB.** Because of the MOH’s support of implementing HBB among other essential newborn care interventions, childbirth outcomes have improved. Participants noted that the infant mortality rate has decreased, and that the numbers of babies who die from asphyxia are improving, though this number is still too high. They also stated that changing from traditional resuscitation practice to use of HBB has reduced accidents and infections. Both nurses and nursing students shared personal stories of babies showing response to HBB treatment, some more timely than others. They explained that the goal—of both the nurse and the mother—is infant survival. It was expressed that without HBB, many babies would have died due to lack of knowledge and skills. As one participant stated, “And that’s how I learned [HBB]. Otherwise, sincerely, many would have died in my arms because I would not know what to do and how to start.”

DISCUSSION AND CONCLUSION

The purpose of this study was to identify the efficacy of the implementation of HBB in northern Uganda, and was led by three primary research questions. The first research question concerning perceptions and experiences of the HBB training and practices was addressed primarily in the first theme that identified positive feelings towards the program, as well as the skills the participants felt were necessary to successfully resuscitate, and the need for continued training. The second research question was to identify perceived challenges of implementing HBB training and resuscitation practices within healthcare settings of northern Uganda. This question was addressed by theme two, which concentrated on MOH involvement in HBB integration, the controversy surrounding TBAs and HBB, and lack of resources and supplies needed for HBB. The third research question, which asked how cultural beliefs and traditional healthcare practices influence the integration of the HBB training, was addressed in the third theme. This theme highlighted agreement with the current beliefs and practices, outcomes of HBB, and realities of birthing in Uganda.

Findings are consistent with Leininger’s Culture Care Diversity and Universality theory that recognizes the integration of cultural health care beliefs and practices as a way of implementing change. Using this theory, HBB implementation can be adapted to northern Ugandan culture, resulting in tailored, realistic guidelines for local health care providers and development of trust with the local people. This can be done by preserving the positive cultural traditions, and negotiating or adapting the ones that could potentially be harmful to the mother or baby, as identified in the initial study of Baird et al. (2015). Making HBB more culturally appropriate could lead to more widespread acceptance, and thus better outcomes. Because pregnancy and childbirth traditions are so strong in northern Uganda, the nurses expressed that HBB is an important program because it can integrate with cultural beliefs and practices, but has potential to improve upon some of the practices that were previously used. Thus, repatterning could come about with those trained in HBB as a way from moving from traditional resuscitation practices to practices linked to greater infant survival outcomes. Use of the Theory of Culture Care Diversity and Universality can support both the challenges faced with widespread implementation and sustainability of the program. (McFarland & Wehbe-Alamah, 2014).

 Many findings were consistent with the review of literature. The importance of the Golden Minute interventions and their timeliness was stated several times throughout the interviews, as well as the concept of “training the trainer” (Steele, 2013). Participants expressed self-efficacy and gains in knowledge after completing the training program, but the need for follow-up training was highlighted (Goudar et al., 2013). The prevalence of TBAs was discussed at length, as mentioned in Mbonye et al (2012).

Literature has shown decreased infant mortality rates as a result of HBB implementation (KC et. al, 2016; Msemo et al., 2013). Participants shared that Uganda, with HBB as part of the essential newborn care protocol, is no exception. Furthermore, as part of reaching the Sustainable Development Goals, nurses and other health care providers incentivize women to deliver in health care facilities, though this is not always feasible. Another prominent finding that related to previous knowledge was the lack of necessary resources, especially after the war. This is correlated with lack of access to health care (Baird et al., 2015).

HBB has been acknowledged as a valuable set of practices and techniques that are accepted by Ugandan nurses. Their acceptance and modeling of these techniques will support women and families’ positive reception of HBB. There continues to be issues with ensuring initial HBB education, continued training, and supplies. Due to the shortage of resources, nurses have faced challenges with widespread HBB implementation. Despite these challenges, HBB has proven to be a successful program in northern Ugandan maternal and newborn health outcomes. The MOH essential newborn care, including HBB and other measures, has decreased the infant mortality rate from 45 per 1,000 live births in 2012 to 38 in 2015 (UNICEF, 2013).

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