Saving Lives of Mothers and Babies

An Assessment on Nurse-Midwives´ Knowledge in Bangladesh

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Abstract

Introduction: Two women die every hour due to pregnancy and childbirth related complications in Bangladesh. It is well known that a strong midwifery profession is the key to achieving safer childbirth and it is the right of every woman to have access to a fully trained midwife and to a safe delivery. However this is not the case in Bangladesh. Today, the existing nurse-midwives are not fully utilized for the midwifery services. The profession is mal-distributed, functioning as multi-purpose service provider and are not recognized as a separate cadre of midwives. In relation to develop a six month additional Midwifery training for these nurse-midwives, it was therefore essential to get a better understanding about their current knowledge in the field of midwifery.

Aim: The aim of this study was to assess the knowledge of the nurse-midwives providing midwifery services in twelve different health facilities in Bangladesh.

Methodology: This baseline study was conducted at twelve different health facilities in Bangladesh, using a questionnaire adapted from Johns Hopkins University (JHPIEGO), Maternal Health Programs, Guidelines for Assessment of skilled providers and modified into the context of Bangladesh. It was a total of 38 respondents attending the survey and data was compiled and analyzed manually.

Result: The assessment showed that the respondents had a vast gap in their knowledge of basic midwifery skills. The findings showed that the majority of them had a significantly low score of knowledge related to antenatal care, normal labour, and management of complications, childbirth and immediate newborn care as well as in post partum care.

Discussion: The study demonstrated that the midwifery knowledge of the respondents did not fulfil the International standards based on International Confederation of Midwives (ICM) competencies. However, not only further training is needed, they need to be posted in a maternity unit to maintain their skills so therefore, creations of separate Midwifery posts are crucial

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1 BACKGROUND

1.1 THE GLOBAL MATERNAL SITUATION

Every year, over a half million women die of pregnancy related causes world wide and more then 99% of these occur in the developing world (WHO, 2005). Globally the major direct obstetric complications are related to haemorrhage, eclampsia, obstructed labor, sepsis and unsafe abortion (De Bernis, Sheratt, AbouZahr and Van Lerberghe, 2003). Over 80% of these deaths could be prevented or avoidable through timely interventions proven to be effective and affordable (WHO, 2004). De Bernis, et al. (2003) make the point that these interventions require a person with midwifery competences as well as selected obstetric skills as a midwife, in order to prevent and take timely actions. Improving women's health is the fifth out of eight Millennium Development Goals (MDG) that was adopted by 149 heads of states in September 2000. An internationally agreement was taken to ensure 90% coverage of skilled attendance at all births (Adegoke & van den Broek, 2009). Many of the countries will have to work hard to reach the ambitious target that is to reduce by 2015, maternal mortality by 75% based on the 1990 figure (UNFPA 2006). Historical and epidemiological data provide evidence that most maternal deaths and disabilities could be averted if all births were attended by a skilled health professional with access to a quality referral facility. Also the inverse relationship between maternal mortality and the proportion of deliveries attended by health professionals provides further indications of the importance of skilled attendants. Moreover the MDGs underscore the importance of skilled care at birth as a means to reduce maternal mortality (Family Care International, 2002). Since all maternal deaths are avoidable (Prata et al, 2009), the death of woman during pregnancy or childbirth is a violation of her rights to life and health. A human right based approach to maternal mortality reduction calls on governments to provide universal access to skilled delivery care and emergency obstetric care (WHO, 2005). Countries as Sri Lanka, Cuba, Thailand and China have reduced their maternal mortality ratio with a various effectiveness activities by focusing on maternal health as policy development, improved health system and increased numbers of skilled staff as replacing the traditional birth attendance with certified midwives. Liljestrand (1999) says that by emphasize on a long term plan in strengthening the health care system, supported by a political will, countries as Chile, China, Cuba, Iran and Sri Lanka has all showed a great success in reducing their maternal mortality.

1.2 WHO IS A SKILLED BIRTH ATTENDANT

An increase on the numbers of skilled attendance during deliveries has been acknowledged as an important approach and indicator to reduce maternal mortality and morbidity in developing countries (Hussein et al, 2004). The term "skilled birth attendant" (SBA) has been defined by WHO in collaboration with the International Confederation of Midwives (ICM) and The International Federation of Obstetrics and Gynaecology (FIGO) and has been endorsed by UNFPA, The World Bank and International Council of Nurses in 2004 (WHO, 2004) (*Figure 1*). The joint statement set the minimal requirement for a skilled birth and came up with a list of competencies.

The 2004 definition states that a skilled birth attendant SBA is:
" accredited health professional – such as midwife, doctor or nurse- who has been educated and trained to proficiency in the skills need to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns"

Making Pregnancy Safer; the critical role of skilled birth attendant. A joint statement by WHO ICM FIGO. World Health Organization, Geneva, 2004

Figure 1: The 2004 definition of a SBA, A joint statement

In this statement, it was recognized that the skills and competencies expected of a SBA can be provided by a diverse range of health professional and is not a single cadre or professional group. It is clear that a SBA is however someone with midwifery skills. This can be a part of their role and responsibilities, or as a specialist midwifery provider – a midwife- or as a specialist medical provider: an obstetrician/gynaecologist or medical doctor with midwifery/obstetric skills. Therefore in this document the terms SBA and others with Midwifery skills will be used interchangeably. Moreover, it is for each country to agree the specific competencies that those to be counted (in terms of reporting on the MDG indicator for Goal 5) as a skilled birth attendant (WHO, 2004).

Adegoke & van den Broek (2009) describe that the term SBA refer to the process that indicates that a woman has been provided with adequate care during antenatal, labour and the post partum period. But not only that, it requires further more also a skilled personnel to attend the childbirth with an enabling environment which include a sufficient supplies and equipment as well as transport and adequate communication system. More over they refer to the enabling environment as a part of the policy system that involve factors such as education and training of skilled attendants at both pre and in service levels followed by a functioning supervision mechanism and deployment.

1.3 WHY FOCUS ON MIDWIVES AND OTHER WITH MIDWIFERY SKILLS

According to the WHO, a skilled attendance at birth is one of the most effective "interventions" to reduce maternal mortality. A long term plan must be developed to ensure this human recourse development to educate health care staff with midwifery skills. Effective reduction of maternal mortality requires long term efforts not only by training midwives but it requires also a strengthening of the health care system (Liljestrand, 1999). To achieve the MDG sub target of 90% skilled attendance at birth, Buttiens, Marchal & De Brouwere (2004) stress the need of upgrading the skills and knowledge provided by health workers. Therefore, by focusing on training professional providers in managing obstetric complications, could play a substantial role in the reduction of maternal and perinatal mortality. To increase the supply of professional skilled birthing care, strategic decisions must be made in three areas: training,

deployment and retentions for health workers (Koblinsky, et al. 2006). Further more Koblinsky, et al. (2006) argue based on their findings, teams of midwives and midwife assistance working in facilities could increase coverage of maternity care by up to 40% by 2015. The major causes of maternal deaths like haemorrhage, infections and eclampsia require medical interventions, while caesarean section to resolve obstructed labour and safe blood transfusion require more fully equipped hospital facilities. The midwives´ duty is to recognize these complications and perform timely referral. All these arguments support and emphasis on the imperative of having skilled midwifery attendance. Yanagisawa, Oum & Wakai (2006) suggest in their study that especially primiparas in the communities are important to promote and advocate for having skilled attendance at birth. This is based on findings from their study conducted in rural Cambodia, where the researchers found that women where more likely to seek help from birth attendance who had assisted them at their previous delivery.

1.4 MIDWIFERY, A GENDER MATTER

Investing in professional midwives has made a difference in many countries. However for several of reasons, there are a yet numerous countries that have underestimated the importance of building a cadre or professional midwives, if building any midwifery cadre of all. In too many countries midwives lack status and respect. Reasons behind this may be the simple fact that majority of midwives are women, and that midwives suffer from the same gender-related inequalities as other women. The result of this has been a poor investment in midwifery training, deployment and supervision as well as insufficient regulation and policies to support and protect midwifery practice. Lack of investment in midwifery mirrors women's low status and gender inequality in the counties they are serving. Several of countries as Sri Lanka, Malaysia, Tunisia and Thailand have taken actions as policy; advocacy and revision of regulatory system to make midwifery a respectful and attractive profession by professionalize midwifery (Fauveau, et al. 2008 and Liljestarnd & Pathmanathan, 2004). By building a strong professional midwifery cadre can turn help to address gender inequalities. By building the capacity of their workforce, countries therefore need to empower women and address gender inequality (Fauveau, et al. 2008).

1.5 EDUCATION AND TRAINING FOR SKILLED ATTENDANCE

In Mexico a research group reviewed the curricula for three representative schools for the education and clinical preparation of obstetric nurses, professional midwives and general physicians (Cragin, et al. 2007). They measured curricular material against the 214 indicators of knowledge and ability included in the ICM training guidelines for skilled attendance. They found that the midwifery curriculum covered only 83% of the competencies, 93% of basic knowledge and 86% of basic abilities, compared with only 54%, 59% and 64% covered by the obstetric nursing school and 43%, 60% and 36% by the school of medicine. The curriculum for general physicians covered the fewest skills and least knowledge of the three schools. Yet, general physicians attend most of the births in Mexico. In contrast, there are only a handful of professional midwives trained each year and obstetric nurses where not even integrated in the public health system to attend deliveries at all until very recently. These findings suggest the need for reviews

of education and clinical training for maternity care providers as well as professional midwives should formally be integrated into the public health system to attend deliveries.

Ronsmans, et al. (2001) conducted a study in 1997 in three districts in South Kalimantan, Indonesia. The study was an evaluation of a Safe Motherhood programme that aimed to increase the numbers of SBAs in both facility and home settings. The level of education of the service providers before the program was initiated had been questioned, as the capacity of conducting particular complicated deliveries where limited. Therefore a two weeks package of interventions where developed as training in life saving skills (LSS), counselling and communications skills, to improve the knowledge and skills of the service providers to furthermore increase their confidence to conduct maternity care and safe home deliveries. The findings of the study showed that the government strategy resulted in an increase of 21% of skilled attendance at birth in the three districts both at district and village level. Moreover the result showed a successfully improvements in the ability to perform the five life saving skills. By hands on training and continuously supervision the midwives gained not only the needed skills but also confidence to manage obstetric complications (Ronsmans, et al. 2001).

By developing strategies for upgrading skills of various health service providers as training based on fitness-for-purpose curriculum for nurses in midwifery competences, general medical staff in basic obstetric surgery and training for nurses and midwives in anaesthetic skills. Training in these areas would ensure that all women and newborn have access to a skilled attendance at birth. By providing women with appropriate skilled care has a great influence on reducing the incidence of both morbidity and mortality which by the end of the day has the advantages in terms of value for money (De Bernis, et al. 2003). The most common feature in countries as China, Sri Lanka, Cuba, Sweden etc that have reduced their maternal mortality is that they have all focused on ensuring skilled attendance at births (De Bernis, et al. 2003).

Unfortunately there are too many countries that do not have an appropriate curriculum to ensure sufficient time for hand-on practical training to become competent to the level of proficiency to meet the ICM's evidence-based essential midwifery competencies. Very few low-income countries have designed their midwifery training curricula to meet their specific epidemiological and cultural profiles, to ensure the curriculum is fit-for-purpose (De Bernis, et al. 2003, & Fauveau, et al. 2008). Very often, midwifery skills are seen as an additional skill to nursing and far too often it is combined or integrated within the nursing training and therefore there profession is not seen as a specialist autonomous profession (Fauveau, et al. 2008, &UNFPA 2006). Fauveau, et al. (2008) urge the need that both pre-service and in-service education should be based on a competency based model, based on competent midwifery trainers that have undertaken adequate preparation for their role. They also declare the importance of an accreditation system and a professional continuing education programmes linked to re-registration or re-licensing. To function well, midwives need a degree of autonomy to be able to support men and women in their decision making (UNFPA, 2006).

Harvey, et al. (2007) conducted a study where they assessed SBAs competencies in five counties with a high maternal mortality. The competency standards where based on the WHO Integrated Management of pregnancy and childbirth guidelines (IMPAC). Knowledge where evaluated with a written test and skills were assessed with anatomical

models. The overall result was in general poor, particular the skills that showed a lower score compare to the knowledge test. After revising the questionnaire with added material from guidelines from Johns Hopkins University/Centre for communications Programs (JHIPIGO) the knowledge result rose from 56% to 62% and the skills from 48% to 54%. The authors suggested that the solution to solve this lack of knowledge and skills, are to raise the basic competences and proficiency by fulfilling the functions anticipating by WHO, ICM and FIGO, Further more it is imperative that a sufficient supervision mechanism is in place with adequate supply of drugs. In fact only by then, Harvey, et al. (2007) argue that the SBAs will be skilled enough and their competencies and attendance at birth can become an accurate indicator of progress toward reducing the deaths of mothers and reach the MDG 5. By improving the clinical skills and by having committed midwives attending labour and birth would have a positive impact not only on the maternal deaths but also on saving lives of babies. Through antenatal clinics the midwife is able to identify risk factors and take necessary actions to these (Farell, 2007).

1.6 ENABLING ENVIRONMENT, A CRUCIAL NEED

Not only must the skilled birth attendance be well educated but she also needs an enabling environment to practice her skills. By working in an enabling environment does here mean a legislative structure as well a sufficient communication system, referral mechanism and further more supplies to promote and conduct safe deliveries. Supportive supervision is another important factor to ensure retaining of skills. A supportive supervision structure can build up the professional practice and promote safe childbirth (Maclean, 2003). Further more Maclean (2003) stresses the urge of having an enabling environment as this is the backbone to save lives of mother and babies. By providing an environment that enables the providers to function effectively is broadly explored. Fauveau, et al. (2008) highlight the needs of midwives or other with midwifery skills must work in a supportive environment which must include the basic equipment and drugs and furthermore a sufficient communication and transportations system to ensure timely referrals when needed. Moreover the authors refer to evidence that are related to skilled attendance at birth with reduction in the numbers of maternal deaths. A study taken place in Bangladesh demonstrated the efficiency of SBA to reduce the maternal mortality was evaluated in a rural area of Bangladesh (Adegoke & van den Broek (2009). In the intervention area, there were trained midwives who where deployed to conduct safe home deliveries with access to a functional referral system to a hospital nearby, which had the capacity to perform all the signal functions of Basic Obstetric Care. By comparing the maternal morality ratio in the intervention area with the maternal morality ratio in the neighbouring region, findings showed a significant decline of 1.4/1000 live births in the invention area. Further more, Adegoke & van den Broek (2009) found available evidence that showed that by recruitment, education, training and supervision of skilled birth attendance as well as access to an enabling environment are crucial steps for achieving the MDG 5.

1.7 THE CASE OF BANGLADESH

Maternal and newborn health has been a priority in Bangladesh for a long time. In 1997, the Government of Bangladesh launched the Safe Motherhood Initiative highlighting the need to focus on reducing maternal mortality. In 2000, the Government committed itself to the MDGs to reduce maternal and child mortality, and has reiterated this commitment through various policy, strategy and planning documents. The major milestone was the formulation and approval of the National Strategy for Maternal Health in Bangladesh in 2001, which aimed at strengthening provision of essential obstetric care and improving utilization of services. Currently only 17.8% of deliveries are attended by doctors, nurses or midwives (BDHS 2007), 85% of births take place at home and coverage of postnatal care is only 21, 9%. Consequently, the maternal mortality ratio is high (estimated at 320 per 100 000 live births) and the neonatal mortality rate is also high at 36 per 1000 live births (BDHS, 2007). While most pregnancies and births are uneventful, all pregnancies are at risk (BDHS 2007). About 15% of all pregnant women develop a potentially life-threatening complication that calls for skilled care and some will require a major obstetrical intervention to survive (WHO, 2004)

Despite all efforts, the recent Health, Nutrition and Population Sector Programme (HNPSP) Midterm Review carried out in early 2008 reveals that MDG targets seem well on track, but areas of concern relate in particular to maternal and newborn care, where progress is too slow. The critical shortage of midwifery skills in the country is the most critical bottleneck, which retards the increase in skilled attendance (HNPSP Midterm Progress report, 2008).

Ensuring equitable access to skilled care before, during and after childbirth, especially at the time of birth is acknowledged as a universal human right and is critical for saving the lives of mothers and their newborns. Although notable progress in this regard has occurred in some countries, there is urgent need to increase the number of midwives and scale up national midwifery capacity in Bangladesh. Although Government health facilities are available at all levels including the union, 85 percent of births are still conducted at home by traditional birth attendants or relatives, with no access to a skilled birth attendant (NIPORT, 2001). Maternal mortality and morbidity have only marginally declined with the latest available figure of 290 per 100 000 live births, which directly contributes to a high neonatal mortality rate. (Mid Term Progress report 2008). International experience suggests that slow rate of strengthening midwifery in Bangladesh is one of the major obstacle in achieving the targeted MDG 4 and 5. Thus strengthening midwifery services in Bangladesh need to be prioritized (Mid Term Progress report, 2008).

2 RATIONALE FOR STUDY

While fertility and child mortality have fallen, maternal mortality and morbidity have only marginally declined in Bangladesh with contributes to a high neonatal mortality rate. With its vast population of 150 million, Bangladesh needs different approaches to overcome the big gap between the number of available midwives and the number required to ensure all women and newborns have skilled care at birth (BDHS, 2007). Several categories of trained health personnel provide midwifery service like Junior Midwife, Nurse Midwife, Family Welfare Visitors, and Emergency Obstetric Care trained Nurses, Community Skilled Birth Attendants (CSBA) and Traditional Birth Attendants (TBA) but few offer care for home births. Most of these health workers lack essential midwifery skills related to saving lives and it must be noted that even then where the skills are at place, the referral system does not work due to the lack of feasible transportation systems. There are Government health facilities at all levels including union level, but as mentioned earlier, 85% of births are still conducted at home by TBAs or relatives, with no access to a skilled birth attended. These helpers are not trained to recognize or respond to risk factors during pregnancy and delivery (BDHS, 2007)

At present, the Registered nurse-midwives constitutes the major bulk of midwives in the country; however their midwifery education does not full fill the international standards based on ICM competences (Curriculum for Science in Diploma Nursing and Midwifery, 2008). They mainly work in government hospitals as multipurpose nurse-midwife on a rotation basis. Therefore there is little scope for them in developing expertise in midwifery. In addition, there is no defined job description and deployment policy so that they can continue to work as a dedicated workforce in the midwifery services. Besides, there are other multipurpose midwifery trained workers in Bangladesh having short term training in midwifery offered by different Non Government Organisations (NGO) who are working in the community but their training is neither accredited with the government nor they are competent enough in essential life saving care. They do not lead to formal state recognition or confer a legal right to practice midwifery. In spite of all efforts Bangladesh has to go a long way to ensure access to skilled midwifery care. In response to concerns, a proposed strategic direction paper was approved by the Ministry of Health & Family Welfare in February 2009, to enhance the contribution of nurse-midwives. One recommendation was to develop a six month additional Midwifery training for this professional.

Many studies indicate that strengthening midwifery capacity, providing skilled attendance for every birth, is an essential component for reducing maternal mortality and morbidity. To get a greater understanding about the knowledge of the existing nurse-midwives in Bangladesh, it was therefore decided to conduct a baseline survey to provide information for the future curriculum development to fill the current gaps. As a result of the high maternal mortality ratio and the fact that the country has no midwives in true sense, it is therefore important to assess the knowledge of the trained nurse-midwives, providing midwifery service working in different level of health facilities in the country.

3 OBJECTIVE

The aim of this study is to assess the knowledge of nurse-midwives providing midwifery service in twelve different health facilities in Bangladesh.

4 METHODOLOGY

4.1 STUDY DESIGN

This study is a baseline survey to find out the level of midwifery knowledge of nurse-midwives working in five types of maternity facilities from Upazila to tertiary level in Bangladesh. The method was selected to answer the study objective. In this case a quantitative method was used to obtain the empirical data. Quantitative research aims to measure and explain the assessed components Nyberg (2009). The purpose of this study was to find out the knowledge base of trained nurse-midwives within midwifery in Bangladesh to provide information for curriculum development and provide concrete data that can be used to advocate for quality midwifery services. The survey that originally was conducted was a larger study which also assessed the practical skills, working conditions facilities and the supervisors of the selected sites. However in this essay the focus is only related to the objectives; to assess the knowledge of the trained nurse-midwives. The study is building on a multi choice question format and consists of 29 closed-ended questions.

4.2 THE ASSESSMENT TOOLS

The questions of the assessment tools were adapted from the JHPIEGO Maternal Health Programs, Guidelines for Assessment of skilled providers (based on the World Health Organization's international guideline Managing Complications in Pregnancy and Childbirth: A Guide for Midwives and Doctors) and modified to fit into the Bangladesh context *(Annex 1*). This tool was selected as it has been well recognized and proven with success in helping trainers conduct follow up visits to various maternal and neonatal health program, that the tool were further more used in several of different countries to follow up health care providers trained in maternal and newborn health skills (Harvey et al, 2007 and JHPIGEO, 2004). The assessment included knowledge questionnaire for antenatal care, management of complications (mother and baby) Normal labor and child birth care, immediate newborn care as well as Postpartum care for both mother and baby. The tool used for the assessment was related to the same competencies as those trained in the nurse-midwifery diploma course, to allow comparison of retained knowledge to function as a baseline for further training. All questionnaires were in English and were intentionally not translated into Bengali, to avoid a miss interpretation of the questions.

4.3 ASSESSMENT TEAMS

Six teams were formed for conducting the study of the twelve selected sites. For each team three members were included for undertaken the assessment. Each and every one of the research members where all well oriented on the assessment tool and the process of the study. The team members are working closely in development of the midwifery service in the country, and they all felt a great need and importance to conduct the study. The members participated on a voluntarily basis and had received the consensus from their higher authority to participate. One day workshop was conducted for the team members before the actual assessment was commenced. At this workshop all the questionnaires where carefully explained as well as a forum for discussion was held.

4.4 ASSESSMENT SITES

The site selection was done to represent all six divisions in Bangladesh of convenience of travel. A range of twelve facilities; two from each division was selected to cover the geographically area in the country. All the hospitals were classified as EmOc clinics (emergency obstetric care) and were suppose to provide all the signal functions as administer parenteral antibiotics, parenteral oxytocic drugs, administer parenteral anticonvulsants for pre-eclampsia and eclampsia, perform manual removal of placenta and retained products, perform assisted vaginal delivery as well as caesarian sections and further more blood transfusions (WHO 2009). The average numbers of normal deliveries conducted at the different facilities were about 200-300/month.

4.5 RESPONDENTS

In Bangladesh there are no designated midwives who provide the midwifery services. The inclusion criteria for the informants to be included in the study were that they were serving in the maternity unit at the selected facility and held a designation as a Senior Staff Nurse, Nurse/Midwife or as a Family Welfare Visitor (FWV). All those on duty on the days on which the research was conducted were informed of the study and requested to participate. It was a total of 38 respondents attending in the survey.

4.6 DATA COLLECTION

The data collection took place during October 2008. The team members were put in contact with the Director of the Hospital and the Nursing Superintendent at all selected sites before the actual assessment started. The objectives and the assessment tool were explained and discussed with both of them. The Nursing Superintendent then introduced the team to all Senior Staff Nurse, Nurse/Midwife and Family Welfare Visitor (FWV) that was on duty. A quiet room was selected for the participants to be able to sit down; affiliated with the maternity ward to conduct the study. The questionnaires were explained both in Bengali as well as in English. The service providers took turns in answering the questionnaires to make sure that the ward was out of any staff. The

respondents were given the consent form that was written in English and was in addition explained orally in Bengali. It was clear to everyone that the participation was voluntary and could be ended whenever wanted. They were also well informed the all the questionnaires had to be answered individually and not to be discussed with any one during filling out the form. There was no time limit set to answer all the questionnaires although on average the form was completed within 60-90 minutes.

4.7 DATA ANALYSIS

As the data sample size was small, the data was compiled and analyzed by hand. The data was entered in the Excel program to create figures of the findings. The findings where analyzed in terms of knowledge in focus of antenatal, labor and postpartum care. I have chosen to present the findings of the study according to knowledge in antenatal care, knowledge during labor and moreover knowledge related to post partum care. Furthermore, the data that are presented have been selected with relevance to knowledge needed in combating the reduction of maternal and neonatal deaths.

4.8 ETHICAL ISSUES

The questionnaire was approved by Bangladesh Nursing Council before the study was commenced. Before any sites were assessed, a formal letter was sent out written in Bengali to inform all the concerned authorities. Before distributing the questionnaires to any of the individual respondents, a Consent Form (*Annex 2*) was administrated. Any respondent not willing to participate in the assessment were allowed to leave the exercise. All data and information collected have been kept confidentially, and would not to be shared with anybody else. An ethical issue rose when some of the respondents had sometimes been working 24 hours without any sleep, and where therefore not able to concentrate fully on the interview questions.

5 FINDINGS

The questionnaire was answered by 38 nurse-midwives out of three that were Family Welfare Visitors (FWV). All questions where answered by all participants. The 38 respondents were female, having a mean age of 35 years. The age range was between 20-49 years. The respondents had a varied length of clinical experiences ranging from less then five years (38%) to more then ten years (32%). The average length of service was closely to ten years. Majority (86%) of the respondents had been working less then five years at the site of assessment.
Majority of all the participants had received 12 month midwifery training as part of their four years nursing training. This was the normal system for becoming a registered nurse-midwife in the country up to 2008 (Personal communication Begum, Bangladesh Nursing Council 2010). Of the FWVs working under the Directorate of General and Family Planning, all three had received six month long midwifery training additional to their 18 month basic training. After graduation, 62% had not received any refresher training in midwifery.

5.1 KNOWLEDGE IN ANTENATAL CARE

A large proportion of the respondents (79%) had the correct knowledge about the health promotion information as nutrition, danger signs, hygiene, rest and exercise during pregnancy; to be conveyed to the pregnant mothers. About 63% of the respondents could mention correctly what the tests are that are required to be carried for the pregnant women during their ante-natal care visits. Knowledge of disposing used syringes and needles particularly after giving the tetanus toxoid injection was not satisfactory. Half of the respondents could mention the correct response according to the Bangladesh IP guidelines of placing the used syringes and needles in a puncture proof container.

5.2 KNOWLEDGE IN INTRA PARTUM CARE

The knowledge of the respondents regarding controlling eclamptic convulsions was poor. No more than 52.6 % of them could tell that by giving magnesium sulphate is the most effective treatment to control eclamptic convulsions. However, 71.1% of the respondents could mention that the criteria to perform vacuum extraction is that it must be a cephalic presentation. Although 10.5% considerate that vacuum extraction is to be performed when the head is not engaged, and more interesting 5.3% answered to conduct the extraction when cervix was dilated 7cm. Signs and symptoms in a woman with ruptured uterus could be mentioned by 68.4 % of the respondents. More then two thirds of the respondents (78.9 %) had the knowledge about what information that needs to be recorded in a partograph, however less then 50% used the tool. About 82% of the respondents had the knowledge of practicing the Active Management of the Third Stage of Labour (AMTSL). Although the knowledge of the application of practising AMTSL has been found in a significant number of the respondents, however, the sequence of the three steps has been found to be correct in only 44.7 % of the answers.

5.3 KNOWLEDGE IN POST PARTUM CARE

The reasons of immediate postpartum haemorrhage are uterine atony, genital trauma, retained placenta, and sometimes combination of all of the earlier mentioned reasons. As figure 2 show, among the respondents half of them could mention the causes of immediate postpartum haemorrhage. Twenty six percent answered that the only reason of postpartum haemorrhage was retained placenta. About two thirds (65.8%) of the respondents knew the accurate steps required reducing the risk of infection during childbirth. Although 26.3% answered that by performing frequent vaginal examinations would decrease the infection risk.

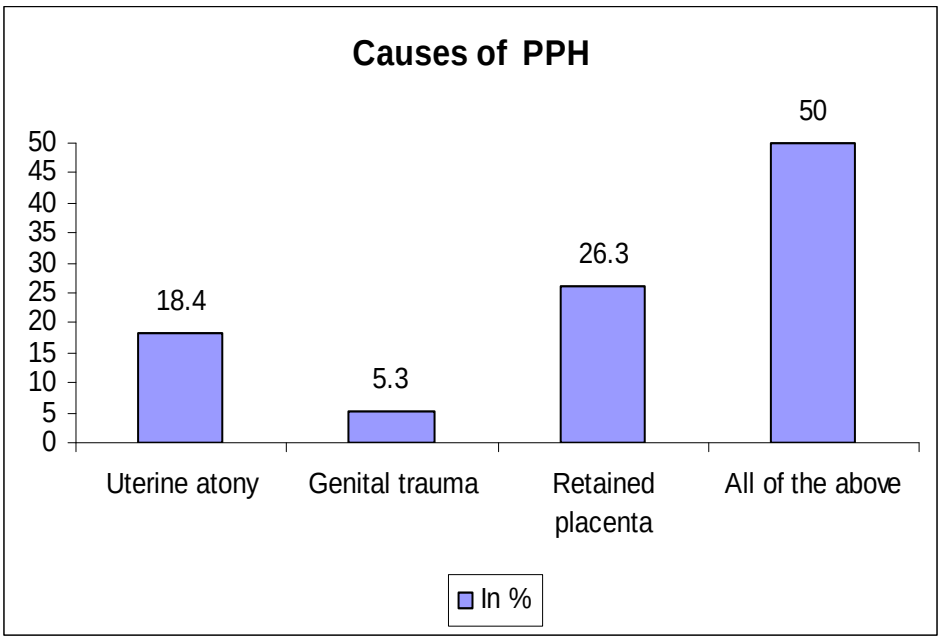

Figure 2. Knowledge of causes of immediate PPH

Very few of the respondents (15.8%) could tell the first step in thermal protection for the newborn, which is drying the baby thoroughly immediately after birth of the baby. The knowledge of the respondents regarding the care of the umbilicus after the birth of the baby could 81.6% of the respondents mention the correct steps. There seems to be confusion regarding the initiation of breastfeeding. No more than 42.1% could mention that breastfeeding should begin within the first hour following birth. Twenty nine percent had the opinion that the baby should first have a bath and after that attach the baby to the breast. Less then 10% of the respondents were of the opinion to wait with breastfeeding until the milk has come in. Majority of the respondents (52.6 %) mentioned correctly to measure the woman's blood pressure and pulse, and check the tone of the uterus every 15 minutes during the first two hours following birth. About 34% answered that vaginal examinations should be performed to remove clots during these two hours. In relation to post partum care, 76.3 % of the respondents knew how often the mother should have postpartum visit. Although 10.5% answered that postpartum visits were only required if the mother had any danger signs. Concerning danger signs, 60.5 % of the respondents could mention the danger signs for which the mother should be given advice during the postpartum visits.

6 DISCUSSION

6.1 METHODOLOGY DISCUSSION

The method used in the study was chosen to answer the objective in the best way. Since the aim was to assess the knowledge of nurse-midwives providing midwifery service in different health facilities in Bangladesh, the questionnaire was build on a multi choice question format, consisting closed-ended questions. This tool was selected as it has been well recognized and proven with success in various maternal and neonatal health programs. It had further more been used in several of different countries to follow up health care providers trained in maternal and newborn health skills (JHPIGEO, 2004). The assessment was in general unproblematic to conduct and the team received a lot of information in short time. However, by selecting this type of method, no elaborative and flexible data was collected though. By selecting a close-ended questionnaire, implicates a quantitative method that is fairly inflexible. The advantage of this inflexibility is that it allows for meaningful comparison of responses across participants and study sites.

The assessment team was familiar with the assessment tool and all members felt well prepared due to the one day pre study workshop where the questionnaire was discussed and adjusted due to suggestions from the team members.

As the questionnaire was in English and was intentionally not translated into Bengali, to avoid a miss interpretation of the questions, the impression was that the language was not a barrier to answer the questions. All curricula in Science of Nursing are written in English so therefore the English language is common known among this group of profession. Nevertheless, the questionnaire was explained briefly in Bangla for the respondents, as well as a forum for asking questions were given. Although, during compilation and analysis of received data; the issue was raised if the findings would have been more positive if the questionnaire had initially been translated into Bangla, compared to the actual data that we received. Some words as increase and decrease seem to may have caused confusion. Moreover several of the multi choice answers where similar to the correct option, which may also reflect the poor result that was received in some of the questions.

The participation was voluntary and could be ended whenever wanted. All Senior Staff Nurses, Nurse-Midwives and Family Welfare Visitors (FWV) that were on duty on the day of the survey, where assigned to participate in the study. Despite shortage of staff at more or less all selected sites no one of the participants ended the questionnaire unless they had fulfilled all the requested questions. The participants were not informed of the time for the study or that the study would take place at all. However, the senior management had received verbal information in advance. Even though the respondents took turns in answering the questionnaire to make sure that the ward was out of any staff, the impression was that the nurses felt stressed as well as no compensation at all was provided. The place for conducting the study can influence the participants. At all selected sites a familiar room affiliated with the maternity department was selected and more over it was ensured that a functioning fan or air condition was in place. No drinks were served during the time for filling out the form, which would nevertheless have been most appropriate due to the hot climate.

The objective was to assess the knowledge of nurse-midwives providing midwifery service in twelve different health facilities in Bangladesh. Regardless, a number of three FWVs were included as at that particular health facility, there are no nurse-midwives employed as this facility is under Directorate of Family Service, and the nurses are employed under Directorate of Health Service.

6.2 RESULT DISCUSSION

This study was aimed to assess the knowledge of the nurse-midwives providing the midwifery services in Bangladesh. The result has just given a snap shot picture of the facts of knowledge that the respondents possessed. There are lots of challenges in this regard. One big challenge is that a single cadre of service providers is not exclusively deployed to deliver this particular service. The assessment shows that the respondents had a vast gap in their knowledge of basic midwifery skills, which they have not been able to practice in the hospital setting.

The result received from this limited study brought up several of important findings related to the respondents' knowledge in maternal and newborn care. According to WHO a skilled attendance at birth is one of the most effective interventions to reduce maternal mortality (Liljestrand, 1999). Yet, the question is if these nurse-midwives full fill the definition of a SBA? As the findings show that majority of the respondents have a significant low score of knowledge related to antenatal care, normal labour, management of complications, child birth, and immediate newborn care as well as post partum care. Koblinski, et al. (2006) argues that the midwives' duties is to recognize complications, however the study shows that this is not the case in Bangladesh. Majority of the respondents (62.2%) had not received any refresher training in midwifery after their graduations. As the literature shows, this may mirror the underprivileged status of women and lack of investment due to the fact the midwifery services in the most cases are provided by women caring for women (Fauveau, et al. 2008 and Liljestarnd & Pathmanathan, 2004). Furthermore the question remains if the existing curriculum for nurse-midwives is fit-for-purpose (De Bernis, et al. 2003) and if this may indicate the poor result of the study. Harvey et al (2007) proposed in their study that the solution for solving the lack of knowledge is to raise the competencies based on competencies developed of WHO, ICM and FIGO in a lead to combat the high maternal mortality. The findings from the study do not comply with the competences of midwives according to ICM (2009) (*Annex 3*). And as Farell (2007) mentioned; for midwives to have a positive impact not only on maternal deaths but also to save babies their clinical skills and knowledge needs to be improved and necessary actions to do so is imperative.

As part of the Safe Motherhood Initiative the World Health Organization has developed and introduced a partograph for use in developing countries (WHO, 2004). Obstructed labor can lead to maternal exhaustion, uterine rupture and vesicle vaginal fistula. Obstructed labor indirectly could also lead to postpartum haemorrhage and sepsis and neonatal infections. It is imperative that all nurse/midwives allocated on labor ward have the knowledge, skills and confidence in accurate recording and interpretation to be

able to conduct timely communication, referral and intervention. Less then half of the respondents (48.6%) used partograph during labor. Partograph is a record of all observation made on a woman in labor. Implementation of partograph implies a functional referral with essential obstetric services in place. Its use improves the efficiency as well as effectiveness of the maternal services. Obstructed labor is a major contributor to maternal mortality figures worldwide, being responsible for deaths of approximately 40 000 women each year (WHO, 2004).

Koblinsky, et al. (2008) found in a study conducted in Bangladesh that only 50% of the assessed hospitals actually practiced AMTSL. This figure is strengthening by the findings in BMMS (2001) where it says that 30% of all maternal deaths in Bangladesh are a result to haemorrhage. The finding in this study seems to follow the trend. 83.8% of the respondents answered that they practiced Active Management of the Third Stage of labor (AMTSL) however; the findings show that only 44.7% actually apprehend the appropriate management steps in AMTSL.

Only 52.6 % of the respondents had the knowledge in the accurate management of the postnatal care during the two first hours following birth. This result shows that the majority of all respondents need further attention in improving their knowledge and skills in management of the post partum care. The 2007 BDHS data show that only 21 % of mothers in Bangladesh received postnatal care from trained skilled service providers. Overall shows the study result a low score on all topics related to post partum care.

The result of this study has contributed to a body of knowledge base of the nurse-midwives, providing the midwifery service in Bangladesh. The findings show clearly that their midwifery knowledge does not full fill the international standards based on ICM competences. And referring to the international definition of a SBA, implicates that these nurse-midwives do not full fill the definition of being a SBA.

6.3 LIMITATIONS

The sample sites for the assessment places where selected of the convenience of travel and data collection. The sample size was small due to shortage of nurse-midwives. As a matter of fact although the questionnaires were distributed and conducted during office hours and there were expected at this time maximum numbers of nurse-midwives to be placed at the maternity department. However, this was not the case; several of nurses were missing for various reasons. Due to the small sample size it was impossible to conduct further statistical analysis to increase the reliability of the findings. Some respondents where exhausted due to heavy workload and long working hours and almost fell asleep during filling out the questionnaire. Moreover, while compiling and analyzing the data, it was revealed that some information related to antenatal care was not available. However, this will most likely not change the overall result and conclusion drastically, since the existing findings do already confirm deprived knowledge on life saving skills among the respondents.

7 CONCLUSION

This study provided us with a first analysis on data obtained through questionnaires on the nurse-midwives knowledge in midwifery in Bangladesh. The findings showed a vast gap in the midwifery skills among the respondents. The study calls for necessitate of the nurse-midwives being posted in the maternity units as antenatal clinic, intra partum and post natal departments, without any rotation between the different areas. The results also show that the present midwifery workforce needs continuing education as well as further curriculum development that are based on ICM competencies. It is not only training and education but also supervision that needs to be improved. A national protocol/guidelines needs to be developed and implemented for the midwives, to have the authority of conducting their scope of work independently as an autonomous professional. The final part is that there has been an insufficient investment in midwifery training and deployment. At this moment there are no professional midwives in real sense. In addition there is no regulation in place. Midwife is a protected title and the profession acts autonomous under a set of regulation that support midwives in their practice. Midwife is a legally licensed profession and needs a registration, fulfilling the ICM, FIGO and WHO definition of a Midwife.

This study shows clearly that the nurse-midwives do not fulfil the International definition of a SBA or the definition of Midwife (*Annex 4*). Competency based standards need to be established for midwifery practice.

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Annexes

1. Knowledge questionnaire

(We are interested in Nurse Midwives' perspective of Midwifery Care. The purpose of this questionnaire is to collect data concerning knowledge and skill of the midwives. Data collected as a result of completing this questionnaire will be summarized and used in developing a revised curriculum. Confidentiality will be maintained after the evaluation process is complete.)

ANTENATAL CARE

Name of Respondent:
Age:
Job title:
Name of institution:
Type of institution:
□ MCWC
□ Upazilla Health Complex
□ District Hospital
□ Medical College Hospital
□ Private Clinic

Name of assessor conducting assessment:

Date of Assessment:
Total score achieved:

Directions:
Read the following questions and write an "X" on the line of the single best answer to each question.

1. The information obtained from the antenatal history can help the provider
a. ____ Plan for childbirth
b. ____Identify existing problems
c. ____ Identify health education and counseling needs
d. ____All of the above

2. Pregnant women should receive educational messages about which of the following?
a. ____ Personal hygiene, rest, and exercise during pregnancy
b. ____Diet and nutrition during pregnancy
c. ____ Danger signs during pregnancy
d. ____All of the above

3. When counseling a pregnant woman about formulating a birth plan, the provider should tell her
a. ____If she has no risk factors, she can give birth at home with a traditional birth attendant
b.____ There are ways of knowing whether she will develop a complication

c.____ It is not recommended that she have a companion during labor and childbirth
d.____ She should put money aside to pay for the expenses of the birth
4. Focused antenatal care means that
a. ____Care provided to every woman during pregnancy is for the purpose of providing support of the normal pregnancy as well as early detection and management of complications
b. ____ A vaginal exam should be performed at every visit
c. ____All women have the same concerns about their pregnancies
d. ____Women don't need information about danger signs in pregnancy

5. Tests that should be performed for every woman during antenatal care include
a. ____Hemoglobin
b. ____Test for syphilis
c. ____Ultrasound of baby
d. ____A and B only

6. After giving a pregnant woman her first dose of tetanus toxoid by intramuscular injection, the used syringe and needle should be

a. ____Decontaminated before placing in puncture-proof containers
b. ____ Capped again before placing in puncture-proof containers
c. ____ Decontaminated before reusing them
d. ____Placed in a puncture-proof container

7. If the woman trusts the provider and feels that s/he cares about the outcome of the pregnancy, she will be more likely to:
a. ____ Return for scheduled antenatal care visits
b. ____ Return immediately if a danger sign appears
c. ____ Comply with recommended treatment
d. ____ All of the above

MANAGEMENT OF COMPLICATIONS (MOTHER & BABY)

1. When there is an obstetric emergency, tell the woman and her family or support person
a. ____ As much as possible about the management of the emergency
b. ____As little as possible about the management of the emergency
c. ____ What the provider thinks she/they should be told
d. ____ Nothing at all

2. Immediate postpartum hemorrhage can be due to
a. ____ Uterine atony
b. ____Genital trauma
c. ____ Retained placenta
d. ____ All of the above

3. The most effective way to immediately control eclamptic convulsions is to
a. ____Give diazepam

b. ____Give magnesium sulfate
c. ____ Deliver the baby as soon as possible
d. ____Give nifedipine
4. When performing newborn resuscitation with Ambu bag and mask, it is important to verify that
a. ____The newborn's head is in neutral position
b. ____The seal between the newborn's mouth, nose, and Ambu bag is adequate
c. ____The baby is not covered
d. ____Cardiac massage is being performed

5. Perform vacuum extraction in the case of
a. ____A cephalic presentation
b. ____ A face presentation
c. ____Cervical dilation of 7 cm
d. ____Fetal head not engaged

6. A woman with a ruptured uterus has which of the following signs and symptoms
a.____ Rapid maternal pulse
b. ____Persistent abdominal pain and suprapubic tenderness
c. ____Fetal distress
d.____ All of the above

NORMAL LABOR AND CHILD BIRTH CARE

1. When performing a vaginal examination, which of the following is recorded on the partograph
a. ____Cervical dilation of 4 centimeters
b. ____Vaginal temperature and wetness
c. ____Position of the presenting part
d.____ Formation of caput

2. Active management of the third stage of labor should be practiced
a. ____For women who have a history of postpartum hemorrhage
b. ____For the primipara
c. ____For the multipara
d. ____For all women in labor

3. The appropriate order of steps in active management of the third stage of labor include
a. ____Controlled cord traction, fundal massage, and oxytocin
b. ____Intravenous oxytocin, cord clamping and cutting, and fundal massage
c. ____ Cord clamping and cutting, controlled cord traction, ergometrine administration, and inspection to be sure the placenta is intact
d.____ Intramuscular injection of oxytocin, controlled cord traction with counter traction to the uterus, and uterine massage

4. If bleeding continues after delivery of the placenta using active management, the first thing the provider should do is call for help and

a.____ Start an IV
b.____ Massage the uterus
c. ____Insert a urinary catheter
d. ____Check the placenta to make sure that it is complete
5. Which of the following will help to decrease the risk of infection during childbirth?
a.____ Performing frequent vaginal examinations
b.____ Rupturing membranes as soon as possible in the first stage of labor
c. ____Routine catheterization of the bladder before childbirth
d. ____Reducing prolonged labor

IMMEDIATE NEWBORN CARE

1. The first step in thermal protection for the newborn includes
a.____ Drying the baby thoroughly immediately after birth
b.____ Drying the baby thoroughly after the cord has been cut
c. ____Covering the baby with a clean, dry cloth immediately after birth
d.____ Covering the baby with a clean, dry cloth after the cord has been cut

2. Immediate care for a normal newborn includes
a. ____Skin-to-skin contact followed by placing the baby in a warming incubator
b.____ Drying the baby, removing the wet cloth, and covering the baby with a clean, dry cloth
c.____ Stimulating the baby by slapping the soles of the baby's feet
d.____ Deep suctioning of the airway to remove mucus

3. Before performing an exam on a baby who is 2 hours old and who has not been bathed, the skilled provider should
a.____ Wash hands with soap and dry with a clean towel, then put on exam gloves
b. ____Wash hands with soap and dry with a clean towel
c. ____Bathe the baby with soap and water
d.____ Put on sterile gloves

4. Care of the umbilicus should include
a. ____Cleansing with alcohol
b. ____Covering with a sterile compress
c. ____Clean and dry with sterile cotton /gauze and leaving uncovered
d. ____Applying antibiotic cream

5. Breastfeeding should begin:
a. ____ After the baby's first bath
b. ____When the baby starts to cry
c. ____Within the first hour following birth
d ____ When the mother's milk comes in

POSTPARTUM CARE (MOTHER AND BABY)

1. During the first 2 hours following birth, the provider should

a. ____Measure blood pressure and pulse once, and insert a catheter to empty her bladder

b.____ Measure the woman's blood pressure and pulse, and check the uterine tone every 15 minutes

c. ____Not disturb the woman if asleep because her rest is more important than her vital signs

d.____ Measure the woman's temperature and pulse, massage the uterus, and perform a vaginal examination to remove clots

2. After childbirth, the mother should have a postpartum visit with a skilled provider

a. ____Once, at 3 weeks postpartum

b.____ Once, at 6 weeks postpartum

c.____ Three times: at 6 hours, 6 days, and 6 weeks postpartum and any time she has danger signs

d.____Only if she has danger signs

3. By the tenth day postpartum, you should be able to palpate the uterus

a. ____Just below the umbilicus

b. ____At the level of the umbilicus

c. ____Just above the symphysis pubis

d. ____Halfway between the symphysis pubis and the umbilicus

4. At each postpartum visit, the mother should be counseled to seek care if she has which of the following danger signs

a. ____Normal lochia, temperature 37° C, or slight breast engorgement

b.____ Edema of hands and face, severe abdominal pain, or sore, cracked nipples

c. ____Severe headache, foul-smelling lochia, or calf tenderness

d. ____B and C

5. When counseling a new mother about breastfeeding in the 6 hours following birth

a. ____ Help her position her baby so that s/he attaches properly to the nipple

b. ____Tell her to give breast milk substitutes so her baby will grow faster

c. ____Advise that she breastfeed her baby 4 times/day

d. ____Tell her that she needs a method of contraception even if she is exclusively breastfeeding

6. Each postpartum examination should include

a. ____Measurement of blood pressure and temperature, and examination of conjunctiva, breasts, abdomen, perineum, and legs

b. ____Observation of breastfeeding

c. ____Information about contraception, safer sex, and counseling and testing for HIV

d. ____All of the above

2. Consent Form

We are the team members representing Bangladesh Nursing Council (BNC) for conducting the Needs assessment of midwifery service delivery in which WHO is providing technical and financial assistance. A committee is formed under BNC in coordination with WHO, UNFPA, Engender Health, BNA and OGSB. We are interested in Medical and Nursing Head of the institute and also Nurse Midwives' perspectives of Midwifery Care delivery. Moreover, the purpose of this assessment is to collect data to measure existing knowledge and skills of the Nurse midwives. Data collected as a result of completing this questionnaire will be summarized and will be used in developing a 6-month curriculum in order to prepare Certified Midwife. There is no possible risk if you agree to participate in sharing your views. Rather it will benefit to improve midwifery services. Your participation is absolutely voluntary. All the information that you provide will be kept strictly confidential. Anonymity will be ensured. After the needs assessment process is completed data will be preserved safely.

Do I have your agreement to participate? Yes / No

Signature of the interviewee:_____

(Thank you for completing the questionnaire.)

3. Competences of midwives according to International Council of Midwifery (2002)

GENERIC KNOWLEDGE, SKILLS AND BEHAVIOURS FROM THE SOCIAL SCIENCES, PUBLIC HEALTH AND THE HEALTH PROFESSIONS

Competency #1: Midwives have the requisite knowledge and skills from the social sciences, public health and ethics that form the basis of high quality, culturally relevant, appropriate care for women, newborn and childbearing families.

Basic Knowledge and Skills:
1. Respect for local culture (customs).
2. Traditional and modern routine health practices (beneficial and harmful).
3. Resources for alarm and transport (emergency care).
4. Direct and indirect causes of maternal and neonatal mortality and morbidity in the local community.
5. Advocacy and empowerment strategies for women.
6. Understanding human rights and their effect on health.
7. Benefits and risks of available birth settings.
8. Strategies for advocating with women for a variety of safe birth settings.
9. Knowledge of the community - its state of health including water supply, housing, environmental hazards, food, common threats to health.
10. Indications and procedures for adult and newborn/infant cardiopulmonary resuscitation.
11. Ability to assemble, use and maintain equipment and supplies appropriate to setting of practice.

Additional Knowledge and Skills
12. Principles of epidemiology, sanitation, community diagnosis and vital statistics or records
13. National and local health infrastructures; how to access needed resources for midwifery care.
14. Principles of community-based primary care using health promotion and disease prevention strategies.
15. National immunisation programs (provision of same or knowledge of how to assist community members to access to immunisation services)

Professional Behaviors - The midwife:
1. Is responsible and accountable for clinical decisions.
2. Maintains knowledge and skills in order to remain current in practice.
3. Uses universal/standard precautions, infection control strategies and clean technique.
4. Uses appropriate consultation and referral during care.
5. Is non-judgmental and culturally respectful.
6. Works in partnership with women and supports them in making informed choices about their health.
7. Uses appropriate communication skills.
8. Works collaboratively with other health workers to improve the delivery of services to women and families.

PRE-PREGNANCY CARE AND FAMILY PLANNING METHODS
Competency #2: Midwives provide high quality, culturally sensitive health education and services to all in the community in order to promote healthy family life, planned pregnancies and positive parenting.

Basic Knowledge of:
1. Growth and development related to sexuality, sexual development and sexual activity.
2. Female and male anatomy and physiology related to conception and reproduction.
3. Cultural norms and practices surrounding sexuality, sexual practices and childbearing.
4. Components of a health history, family history and relevant genetic history.
5. Physical examination content and investigative laboratory studies that evaluate potential for a healthy pregnancy.
6. Health education content targeted to reproductive health, sexually transmitted infections (STIs), HIV/AIDS and child survival.
7. Natural methods for child spacing and other locally available and culturally acceptable methods of family planning.
8. Barrier, steroidal, mechanical, chemical and surgical methods of contraception and indications for use.
9. Counselling methods for women needing to make decisions about methods of family planning.
10. Signs and symptoms of urinary tract infection and common sexually transmitted infections in the area.

Additional Knowledge of:
11. Factors involved in decisions relating to unplanned or unwanted pregnancies.
12. Indicators of common acute and chronic disease conditions specific to a geographic area of the world, and referral process for further testing/ treatment.
13. Indicators of and methods of counselling/referral for dysfunctional interpersonal relationships including sexual problems, domestic violence, emotional abuse and physical neglect.

Basic Skills:
1. Take a comprehensive history.
2. Perform a physical examination focused on the presenting condition of the woman.
3. Order and/or perform and interpret common laboratory studies such as haematocrit, urinalysis or microscopy.
4. Use health education and basic counselling skills appropriately.
5. Provide locally available and culturally acceptable methods of family planning.
6. Record findings, including what was done and what needs follow-up.

Additional Skills:
7. Use the microscope.
8. Provide all available methods of barrier, steroidal, mechanical, and chemical methods of contraception.
9. Take or order cervical cytology smear (Pap test)

CARE AND COUNSELLING DURING PREGNANCY

Competency #3: Midwives provide high quality antenatal care to maximise the health during pregnancy and that includes early detection and treatment or referral of selected complications.

Basic Knowledge of:
1. Anatomy and physiology of the human body.
2. Menstrual cycle and process of conception.
3. Signs and symptoms of pregnancy.
4. How to confirm a pregnancy.
5. Diagnosis of an ectopic pregnancy and multiple fetuses.
6. Dating pregnancy by menstrual history, size of uterus and/or fundal growth patterns.
7. Components of a health history.

8. Components of a focused physical examination for antenatal visits.
9. Normal findings [results] of basic screening laboratory studies defined by need of area of the world; eg. iron levels, urine test for sugar, protein, acetone, bacteria.
10. Normal progression of pregnancy: body changes, common discomforts, expected fundal growth patterns.
11. Normal psychological changes in pregnancy and impact of pregnancy on the family.
12. Safe, locally available herbal/non-pharmacological preparations for the relief of common discomforts of pregnancy.
13. How to determine fetal well-being during pregnancy including fetal heart rate and activity patterns.
14. Nutritional requirements of the pregnant woman and fetus.
15. Basic fetal growth and development.
16. Education needs regarding normal body changes during pregnancy, relief of common discomforts, hygiene, sexuality, nutrition, work inside and outside the home.
17. Preparation for labour, birth and parenting.
18. Preparation of the home/family for the newborn.
19. Indicators of the onset of labour.
20. How to explain and support breastfeeding.
21. Techniques for increasing relaxation and pain relief measures available for labour.
22. Effects of prescribed medications, street drugs, traditional medicines and over-thecounter drugs on pregnancy and the fetus.
23. Effects of smoking, alcohol use and illicit drug use on the pregnant woman and fetus.
24. Signs and symptoms of conditions that are life-threatening to the pregnant woman; eg. pre-eclampsia, vaginal bleeding, premature labour, severe anaemia.

Additional Knowledge of:
25. Signs, symptoms and indications for referral of selected complications and conditions of pregnancy: eg. asthma, HIV infection, diabetes, cardiac conditions, post-dates pregnancy.
26. Effects of above named chronic and acute conditions on pregnancy and the fetus.

Basic Skills:
1. Take an initial and ongoing history each antenatal visit.
2. Perform a physical examination and explain findings to woman.
3. Take and assess maternal vital signs including temperature, blood pressure, pulse.
4. Assess maternal nutrition and its relationship to fetal growth.
5. Perform a complete abdominal assessment including measuring fundal height, position, lie and descent of fetus.
6. Assess fetal growth.
7. Listen to the fetal heart rate and palpate uterus for fetal activity pattern.
8. Perform a pelvic examination, including sizing the uterus and determining the adequacy of the bony structures.
9. Calculate the estimated date of delivery.
10. Educate women and families about danger signs and when/how to contact the midwife.
11. Teach and/or demonstrate measures to decrease common discomforts of pregnancy.
12. Provide guidance and basic preparation for labour, birth and parenting.
13. Identify variations from normal during the course of the pregnancy and institute appropriate interventions for:
a. low and/or inadequate maternal nutrition
b. inadequate fetal growth
c. elevated blood pressure, proteinuria, presence of significant oedema, severe

headaches, visual changes, epigastric pain associated with elevated blood pressure
d. vaginal bleeding
e. multiple gestation, abnormal lie at term
f. intrauterine fetal death
g. rupture of membranes prior to term
14. Perform basic life saving skills competently.
15. Record findings including what was done and what needs follow-up.

Additional Skills:
16. Counsel women about health habits; eg. nutrition, exercise, safety, stopping smoking.
17. Perform clinical pelvimetry [evaluation of bony pelvis].
18. Monitor fetal heart rate with doppler.
19. Identify and refer variations from normal during the course of the pregnancy, such as:
a. small for dates [light]/large for dates [heavy] fetus
b. suspected polyhydramnios, diabetes, fetal anomaly (eg. oliguria)
c. abnormal laboratory results
d. infections such as sexually transmitted infections (STIs), vaginitis, urinary tract, upper respiratory
e. fetal assessment in the post-term pregnancy
20. Treat and/or collaboratively manage above variations from normal based upon local standards and available resources.
21. Perform external version of breech presentation.

CARE DURING LABOUR AND BIRTH

Competency #4: Midwives provide high quality, culturally sensitive care during labour, conduct a clean and safe delivery, and handle selected emergency situations to maximise the health of women and their newborn.

Basic Knowledge of:
1. Physiology of labour.
2. Anatomy of fetal skull, critical diameters and landmarks.
3. Psychological and cultural aspects of labour and birth.
4. Indicators that labour is beginning.
5. Normal progression of labour and how to use the partograph or similar tool.
6. Measures to assess fetal well-being in labour.
7. Measures to assess maternal well-being in labour.
8. Process of fetal passage [descent] through the pelvis during labour and birth.
9. Comfort measures in labour: eg. family presence/assistance, positioning, hydration, emotional support, non-pharmacological methods of pain relief.
10. Transition of newborn to extra-uterine life.
11. Physical care of the newborn - breathing, warmth, feeding.
12. Promotion of skin-to-skin contact of the newborn with mother when appropriate.
13. Ways to support and promote uninterrupted [exclusive] breastfeeding.
14. Physiological management of the 3rd stage of labour.
15. Indications for emergency measures: eg. retained placenta, shoulder dystocia, atonic uterine bleeding, neonatal asphyxia.
16. Indications for operative delivery: eg. fetal distress, cephalo-pelvic disproportion.
17. Indicators of complications in labour: bleeding, labour arrest, malpresentation, eclampsia, maternal distress, fetal distress, infection, prolapsed cord.
18. Principles of active management of 3rd stage of labour.

Basic Skills:
1. Take a specific history and maternal vital signs in labour.
2. Perform a screening physical examination.
3. Do a complete abdominal assessment for fetal position and descent.
4. Time and assess the effectiveness of uterine contractions.
5. Perform a complete and accurate pelvic examination for dilation, descent, presenting part, position, status of membranes, and adequacy of pelvis for baby.
6. Follow progress of labour using the partograph or similar tool for recording.
7. Provide psychological support for woman and family.
8. Provide adequate hydration, nutrition and comfort measures during labour.
9. Provide for bladder care.
10. Promptly identify abnormal labour patterns with appropriate and timely intervention and/or referral.
11. Perform appropriate hand manoeuvres for a vertex delivery.
12. Manage a cord around the baby's neck at delivery.
13. Cut an episiotomy if needed.
14. Repair an episiotomy if needed.
15. Support physiological management of the 3rd stage of labour.
16. Conduct active management of the 3rd stage of labour including:
a. Administration of uterotonic agents
b. Controlled cord traction
c. Uterine massage after delivery of the placenta, as appropriate
17. Guard the uterus from inversion during 3rd stage of labour.
18. Inspect the placenta and membranes for completeness.
19. Estimate maternal blood loss.
20. Inspect the vagina and cervix for lacerations.
21. Repair vaginal/perineal lacerations and episiotomy.
22. Manage postpartum haemorrhage.
23. Provide a safe environment for mother and infant to promote attachment.
24. Initiate breastfeeding as soon as possible after birth and support exclusive breastfeeding.
25. Perform a screening physical examination of the newborn.
26. Record findings including what was done and what needs follow-up.

Additional Skills:
27. Perform appropriate hand manoeuvres for face and breech deliveries.
28. Inject local anaesthesia.
29. Apply vacuum extraction or forceps.
30. Manage malpresentation, shoulder dystocia, fetal distress initially.
31. Identify and manage a prolapsed cord.
32. Perform manual removal of placenta.
33. Identify and repair cervical lacerations.
34. Perform internal bimanual compression of the uterus to control bleeding.
35. Insert intravenous line, draw bloods, perform haematocrit and haemoglobin testing.
36. Prescribe and/or administer pharmacological methods of pain relief when needed.
37. Administer oxytocics appropriately for labour induction or augmentation and treatment of postpartum bleeding.
38. Transfer woman for additional/emergency care in a timely manner.

POSTNATAL CARE OF WOMEN

Competency #5: Midwives provide comprehensive, high quality, culturally sensitive postnatal care for women.

Basic Knowledge of:
1. Normal process of involution and healing following delivery [including after an abortion].
2. Process of lactation and common variations including engorgement, lack of milk supply, etc.
3. Maternal nutrition, rest, activity and physiological needs (eg. bladder).
4. Infant nutritional needs.
5. Parent-infant bonding and attachment; eg. how to promote positive relationships.
6. Indicators of sub-involution eg. persistent uterine bleeding, infection.
7. Indications of breastfeeding problems.
8. Signs and symptoms of life threatening conditions; eg. persistent vaginal bleeding, urinary retention, incontinence of faeces, postpartum pre-eclampsia.

Additional Knowledge of:
9. Indicators of selected complications in the postnatal period: eg. persistent anaemia, haematoma, embolism, mastitis, depression, thrombophlebitis.
10. Care and counselling needs during and after abortion.
11. Signs and symptoms of abortion complications.

Basic Skills:
1. Take a selective history, including details of pregnancy, labour and birth.
2. Perform a focused physical examination of the mother.
3. Assess for uterine involution and healing of lacerations/repairs.
4. Initiate and support uninterrupted [exclusive] breastfeeding.
5. Educate mother on care of self and infant after delivery including rest and nutrition.
6. Identify haematoma and refer for care as appropriate.
7. Identify maternal infection, treat or refer for treatment as appropriate.
8. Record findings including what was done and what needs follow-up.

Additional Skills:
9. Counsel woman/family on sexuality and family planning post delivery.
10. Counsel and support woman who is post-abortion.
11. Evacuate a haematoma.
12. Provide appropriate antibiotic treatment for infection.
13. Refer for selected complications.

NEWBORN CARE (up to 2 months of age)

Competency #6: Midwives provide high quality, comprehensive care for the essentially healthy infant from birth to two months of age.
Basic Knowledge of:
1. Newborn adaptation to extra-uterine life.
2. Basic needs of newborn: airway, warmth, nutrition, bonding.
3. Elements of assessment of the immediate condition of newborn; eg. APGAR scoring system for breathing, heart rate, reflexes, muscle tone and colour.
4. Basic newborn appearance and behaviours.
5. Normal newborn and infant growth and development.
6. Selected variations in the normal newborn; eg. caput, moulding, mongolian spots, haemangiomas, hypoglycaemia, hypothermia, dehydration, infection.
7. Elements of health promotion and prevention of disease in newborn and infants.
8. Immunisation needs, risks and benefits for the infant up to 2 months of age.

Additional Knowledge of:

9. Selected newborn complications, eg. jaundice, haematoma, adverse moulding of the fetal skull, cerebral irritation, non-accidental injuries, causes of sudden infant death.
10. Normal growth and development of the preterm infant up to 2 months of age.

Basic Skills:
1. Clear airway to maintain respirations.
2. Maintain warmth but avoid overheating.
3. Assess the immediate condition of the newborn; eg. APGAR scoring or other assessment method.
4. Perform a screening physical examination of the newborn for conditions incompatible with life.
5. Position the infant for breastfeeding.
6. Educate parents about danger signs and when to bring the infant for care.
7. Begin emergency measures for respiratory distress (newborn resuscitation), hypothermia, hypoglycaemia, cardiac arrest.
8. Transfer newborn to emergency care facility when available.
9. Record findings, including what was done and what needs follow-up.

Additional Skills:
10. Perform a gestational age assessment
11. Educate parents about normal growth and development, child care.
12. Assist parents to access community resources available to the family.
13. Support parents during grieving process for congenital birth defects, loss of pregnancy,
or neonatal death.
14. Support parents during transport/transfer of newborn.
15. Support parents with multiple births. (ICM 2002)

4. Definition of the Midwife

A midwife is a person who, having been regularly admitted to a midwifery educational programme, duly recognised in the country in which it is located, has successfully completed the prescribed course of studies in midwifery and has acquired the requisite qualifications to be registered and/or legally licensed to practise midwifery.
The midwife is recognised as a responsible and accountable professional who works in partnership with women to give the necessary support, care and advice during pregnancy, labour and the postpartum period, to conduct births on the midwife's own responsibility and to provide care for the newborn and the infant. This care includes preventative measures, the promotion of normal birth, the detection of complications in mother and child, the accessing of medical care or other appropriate assistance and the carrying out of emergency measures.
The midwife has an important task in health counselling and education, not only for the woman, but also within the family and the community. This work should involve antenatal education and preparation for parenthood and may extend to women's health, sexual or reproductive health and child care.
A midwife may practise in any setting including the home, community, hospitals, clinics or health units.

Adopted by the International Confederation of Midwives Council meeting, 19th July, 2005, Brisbane, Australia
Supersedes the ICM "Definition of the Midwife" 1972 and its amendments of 1990

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