

Emergency Obstetric Care-A protocol of a Situational Analysis in the Country Context of Bangladesh

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Abstract

Background: Despite a consistently decreasing trend, maternal and infant mortality rates still remain a challenge in Bangladesh. This shows that there is a need for constant efforts to improve accessibility and quality of maternal and child care and implement what is reflected in recent policy documents, issued by the government, which is reinforced by a number of related surveys and research studies.

Aim: The goal of this analysis is to examine the current situation and needs of emergency obstetric care in Bangladesh by establishing a baseline of the availability, utilization, and quality of maternal health care services.

Study design: Corporate approach will be used for this situational analysis to generate data. Data collection methods will be key informants interviews (KII) and focus group discussions (FGDs). Data will also be collated from secondary sources as for example District hospital, Demographic and Health Survey (DHS), Director General (DG) Health, Non-Governmental Organizations (NGOs) and literature review.

Conclusion: In order to reduce high maternal mortality and morbidity, high utilization of EmONC is necessary. This situational analysis will project an in-depth understanding of the coverage and availability of the emergency obstetric care and also will highlight the factors facilitating and preventing the use of emergency obstetric care services in the district of Sylhet in Bangladesh and it is anticipated that the results from this analysis will contribute to an evidence-based refinement and planning of even more effective strategies for further reducing maternal mortality.

Keywords: EmOC; Maternal mortality; Family planning

Introduction

Despite significant progress having been made, high levels of maternal mortality and morbidity still remain a major challenge in developing countries. There are an estimated 358,000 maternal deaths worldwide each year, in which 87% from Southeast Asia and sub-Saharan Africa [1]. The major causes of maternal mortality and morbidity in most developing countries are direct and indirect obstetrical causes (comprise 85% of maternal death) such as Hypertension with eclampsia and pre-eclampsia, Haemorrhages (antepartum and post-partum), obstructed labor, ruptured uterus, infection, and unsafe abortion. These are directly associated with the accessibility and availability of Essential Obstetric Care (EOC) and Emergency Obstetric And Neonatal Care (EmONC). Since the early 1990s, essential obstetric care and emergency obstetric care have been recommended to tackle high maternal mortality and morbidity [2]. These are two different approaches to obstetric care (often considered both terms are the same). Essential obstetric care was proposed on the basis of the idea, in which obstetric complications can be predicted and prevented by identifying “high risk” in all pregnant women and

conversely, emergency obstetric care emphasizes on the identification, referral, and treatment of women with obstetric complications on the regards of equal risk to all pregnant women [3]. EmONC comprises basic and comprehensive emergency obstetric care. It is recommended that in every 500,000 population should have at least four basic EmONC (BEmONC) and one comprehensive EmONC (CEmONC) facilities at 15% of deliveries should be conducted, the rate of cesarean section should be in between 5% and 15% and case fatality rate should be less than 1% in women with obstetric complications that are getting EmONC facilities [4].

Generally, all pregnant women are vulnerable to develop obstetric complications; some of them may not be anticipated or even cannot be detected through antenatal screening [5]. Every pregnant woman in the world should have access to emergency obstetric care. It would not be possible to reduce maternal mortality or morbidity without adequate management of obstetric complications [5]. In recent years, despite an increase in the utilization of EmONC service in Southeast Asian and sub-Saharan African countries, home delivery without skilled birth attendance still remain a common practice in some settings such as Bhutan, India, Nepal, and Cameroon [6]. This is due to sociocultural barriers and poverty. In many places the standard of emergency obstetric care is unsatisfactory, so it is urgently needed to

identify particular obstacle to reaching enhanced coverage and update the health facilities and develop the capability of health workers within the national health system particularly in the resource-limited settings [7].

Aim

The aim of this situational analysis is to provide an in-depth understanding of the use of emergency obstetric care services in the district of Sylhet, Bangladesh.

Objectives

1. To assess the coverage of emergency obstetric care in Sylhet district in Bangladesh (using secondary data)
2. To assess the availability of the emergency obstetric care in Sylhet district in Bangladesh (using secondary data)
3. To explore the factors facilitating and inhibiting the use of emergency obstetric care services (using primary data) in Sylhet, Bangladesh

Background of the Country and Sample District

Bangladesh is one of the highest populated countries, 8th in the world. Estimated total population is 166.6 million in July 2014 [8], nearly half of them are 15-44 years age group, the female is slightly higher than male in this age group. Approximately, 80% of the populations live in rural areas that are having reasonably improved drinking water and sanitation. Road infrastructures are above minimal standard though rural populations are challenging. The literacy rate is 57.7%, the male is slightly higher than female. Bangladesh is an emerging middle-income country, in which total health expenditures are 3.16% of GDP, in which public health care expenditure as a share of government expenditure on health is 8.03% [9], hospital bed density is 0.6/1000 population and physician density is 0.36/1000 population. The main occupation of the people is farming; others are for example tea planting, fishing, and businesses. The main occupation of the women is housewives (85% of total women). 89.5% of people are Muslim, 9.6% are Hindu and other (such as Christian, Buddhist, and Tribes) 0.9% [8].

The country is divided into seven divisions (Dhaka, Chittagong, Rajshahi, Khulna, Sylhet, Barishal and Rangpur), each division contains several districts that are subdivided into upozilas then subdivided to unions and each union consists of several villages. Every division has at least one major city. There are three types of health facilities in Bangladesh-primary, secondary and tertiary. The primary level consists of the community health clinic and union sub centers, Upozilas and districts hospitals are secondary, Tertiary health facilities are all divisional hospitals and medical college hospitals. Apart from these, private hospitals and clinics and some NGO's have a considerable remit to deliver health care to the population.

At present, there are approximately 4,000 government facilities and 200 NGO clinics, in addition to private sectors offering maternal and obstetric care services in Bangladesh [10]. Nearly 8,000 physicians, 6,500 Family Welfare Visitors (FWVs) and relatively low Skilled Birth Attendants (26.5%) [11] practice maternal care in government facilities. According to the Ministry of Health (MOH) in Bangladesh, at present around 8428 community health care providers, family welfare visitors and female health assistants were trained as Skilled

Birth Attendants (SBAs). Family welfare visitors have at least ten years of formal schooling and receive 18 months of training in family planning and maternal and child health care [12].

A universal approach to antenatal service was accomplished primarily through training and support of family welfare visitors, mainly at primary health care facilities. According to National Institute of Population Research and Training (NIPORT), around one-third of pregnant mother in Bangladesh (37%) receive antenatal care, among them only 28% of rural mothers and 59% of urban mothers receive antenatal care. Lack of antenatal care is directly linked with high maternal mortality [13]. However, Bangladesh has also made progress in increasing access to contraceptives use among reproductive-aged women, by implementing strong Family planning/Reproductive health (FP/RH) programs. Contraceptive prevalence rate 56% in 2007 (48% modern methods) compare to 8% in mid-1970 [10,14].

This study will be conducted in Sylhet city corporation area, which is 10.23/sq. miles in diameter, the total population of this area is 2,675, 346 with population density 45,270/sq. miles [15]. The city is situated on the northeast coast of Bangladesh, one of the highest resourced economic areas of the country. Nearly half of the women are 15-44 years aged (\pm country's average). Literacy rate of this city is 87.6 percent. The city comprises of 27 electoral wards, the road structures and communication are far better developed than any other parts of the country. There are 21 hospitals and 121 clinics including five medical college hospitals. Majority of the population of this city are secured for safe drinking water and sanitation. The city has mixed climate, relatively cooler than another area of the country and also has a monsoon (rainy season followed by dry season).

The Rationale for the Study

Bangladesh is progressing to achieve the millennium development goal (MDG 5) by reducing the Maternal Mortality Rate (MMR) 194/100,000 [16]. According to UN, a further reduction of MMR in 2013 was 170/100,000 [17], with minimal use of skilled birth attendants, a low cesarean section rate and persistent regional variation in the use of maternal health care services. Ministry of Health in Bangladesh is planning to reduce MMR to 63/100,000 live births by 2030 [18]. Despite this progress, obstetric complications remain one of the major challenges in women reproductive health in Bangladesh. According to NIPORT, each year 6848 (4.23% of total deliveries) women in Bangladesh died during childbirth [16]. Out of the total maternal death, 69% are due to direct obstetric causes, 17% due to indirect obstetric causes and 14% due to other causes such as injury and violence [19].

The most common obstetric complications in Bangladesh are antepartum and post-partum hemorrhage, hypertensive diseases including eclampsia and pre-eclampsia, prolonged obstructed labor and sepsis. According to the World Health Organization, approximately 15% of pregnant women need emergency obstetric care that develops obstetric complications during pregnancy and after childbirth [17]. However, many women in Bangladesh do not seek routine antenatal care (63%) as well as care after delivery of their babies. This is due to socioeconomic factors such as poverty and ignorance, transportations, and accessibility of EmONC, particularly in rural populations. Most important barriers of emergency obstetric care are difficult to recognize danger signs in pregnancy and three delays such as delay in deciding to seek emergency obstetric care (contribute one-third of maternal death), delay in reaching the health

facilities and delay in receiving care after arriving at a health facility [20]. In the country context of Bangladesh, there are some other factors need to be considered. These are a shortage of competent and Skilled Birth Attendants (SBAs), FWVs and community health workers, lack of equipment and essential drug supply, lack of operation theater space, inadequate blood transfusion facilities and lack of supervision among the health care professionals. Average delay to get EmONC in a Bangladeshi woman is 2.6 to 15.5 hours. In Bangladesh, more than 90% of childbirth are delivered at home, among them Traditional Birth Attendance (TBAs) perform 64% of birth [21] where SBAs assist 26.5% of childbirth [11]. In urban areas, SBAs assist 33% of birth compared to rural areas only 8% [21]. Although skilled birth attendance rate is relatively low (26.5%), a six-fold rise in cesarean sections from 2001 (2.7%) to 2011 (17%) [11,22] and has observed in Bangladesh. Souza et al. described more than one-third of cesarean sections in Bangladesh were performed without medical indications; therefore it may increase the risk of maternal mortality and morbidity [23].

In Bangladesh, nearly 2.9 million births occur annually, in which only 7.9% of deliveries are conducted in health facilities [21]. Estimated 438,368 pregnant mothers would be in need of emergency obstetric care in Bangladesh.

However, these obstacles could be partially averted through community and family members awareness of making decision to seek emergency obstetric care, reinforcement of the existing health care infrastructure, strengthening of the referral system, proper training of SBAs, FWVs and community health workers to diagnose pregnancy complications and refer to the Emergency obstetric care (EmONC) on time [6].

The reason for selection of Sylhet district is that the use of EmONC is low compared to other districts of the country, despite having far better infrastructures related to other areas of Bangladesh [15].

Study Design and Sampling

The corporate approach will be used for this situational analysis to generate data. Data collection methods will be key informants interviews (KII) and Focus Group Discussions (FGDs). Data will also be collated from secondary sources as for example District hospital, Demographic and Health Survey (DHS), Director General (DG) Health, Non-Governmental Organizations (NGOs) and literature review.

Key informant interviews (KII) will be conducted using a semi-structured interview guide. The participants of the study will be selected through purposeful sampling (this is because of ensuring all risk individuals are included) in Sylhet city corporation area. The reason for the selection of Sylhet as it is one of the lowest performing EmONC districts in Bangladesh. Due to time constraint and social barriers and availability of the participants about 10-12 service users will be selected for interview from the designated area. Initial contact with the participants will be made via health center staff. The inclusion criteria: all women will be aged 18-45 years and married, who have had at least one pregnancy or who are currently pregnant and all unmarried women will be excluded because of the stigma of being pregnant and not married. The study population will be invited from different backgrounds and also be considered economic, educational

and professional circumstances that these make a difference in using services. Service providers including Clinicians, Gynaecologist and obstetricians, Family Planning and Welfare Visitors (FP and WFVs), Midwife, Nurse and Skilled Birth Attendance (SBA) will be invited to attend Focus Group Discussions (FGDs). FGDs will be conducted using topic guides to identify service provision. Purposefully, three health care facilities including-Sylhet medical college hospital, Sylhet district hospital, and one private clinic, where Emergency obstetric care is mostly done, will be selected. Clinicians and other health personnel (8-10 in total) from each facility will be considered for focus group discussions. At least three focus group discussions will be conducted (one from each facility). We also plan to conduct KII of some service providers who need to follow up after FGDs.

For this situational analysis, we will recruit four local research assistants preferably females who will conduct some FGDs and KII.

Data Collection, Management, and Analysis

Data will primarily be collected by key informant interviews and focus group discussions. Secondary data of previous two years (because more depth information will be obtained among the service users and service providers) will be collated from facility registrar, District hospital, DHS, DG Health, NGO's, and literature. Table 1 illustrated summary of data sources. The interviews will be conducted in the participant's native language (Bangla). The purpose, procedure and voluntary nature of the study will be explained and consent will be taken from interviewees. The interview will be held in private and confidentiality will be secured throughout the study. A semi-structured interview guide, which contained open-ended questions including concepts of pregnancy and obstetric care, perceptions and experiences, challenges, partner's and family's view about antenatal and obstetric care. Focus group discussions will be conducted using topic guides among the service providers. Confidentiality and de-identification of their engagement will be assured through given interviewees a number rather than using their names. The topic guides enclosed clinical experience and practice to deal with the obstetric cases. Individuals will be asked as for example to recall specific cases, diagnostics, and management strategies. Each interview will be taken 40-45 minutes; all interviews will be recorded with a pre-tested digital recorder. All data will be stored in a personal computer protected with a secure password, given access only to research associates who are involved in the data processing. The interviews will be transcribed and translated into English and an expert (who has proficiency in English) will re-examine with confidentiality to minimize any translation error. All data will be destroyed after five years.

Data will be analyzed with framework analysis under following procedures: transcription of data from the pre-tested digital recorder, familiarization with the interview and coding of the transcripts with a paper and a pen for reoccurring themes, developing and applying the analytical framework, charting data into the framework matrix and finally interpreting the data. The themes will become out after the analysis. Computer Assisted Qualitative Data Analysis Software (CAQDAS) such as NVIVO will be used for managing and organizing data during the analytic process. The outcomes will be presented using a table, description and some recommendation will be made at the end of the study.

Data sources	Sampling strategy	Methods (Tools)	Where
Women 18-45 years aged, married	Purposive	Key informant interviews (KII)-(semi-structured interview guides)	Sylhet city corporation area
Health professionals (e.g. Clinicians, obstetricians, midwives, nurses, family welfare visitors (FWVs) and skilled birth attendances (SBA).	Purposive	Focus group discussions (FGDs)-(FGD topic guides)	Health facilities in Sylhet city corporation area
Data from District hospital, DHS, NGOs and literature review	Not applicable	Review of published and unpublished materials	District health offices, hospitals and organizations

Table 1: Sources of data.

Time Plan for the Study

This study is organized into three steps-Planning (formulate study objectives, decide data type and identify data collection methods, budget and time table, resources and logistics); Implementation (identify and train local research assistants, pilot and adapt data collection tools, data collection); and Analysis (data analysis and interpretation, report writing and dissemination of finding). Our plan is to conduct the study within the given time frame, which is four weeks. All details are provided in the work plan (Table 2). Interviews (KII) and focus group discussions will be conducted simultaneously within one week of time.

Preparation Identify and train data collectors (four) Pilot and adapt data collection tools	Week 1			
Data collection: Key informant interviews focus group discussions secondary data		Week 2		
Data management and Analysis			Week 3	
Transcribes and translate Storage Framework analysis with theme based charting and Coding NVIVO software for managing and organizing data for analysis				
Report writing and dissemination of Findings				Week 4

Table 2: Work plan-Activity time plan.

Study Limitations

The topic-pregnancy and obstetric care particularly related to women, is a sensitive issue among all cultures and some religion. In Bangladesh, where population experiencing a variety of social stigma and men dominant relationship, women are generally not freely speaking and often need to get permission from their husband, however we will manage to overcome these barriers with the help of female research assistants, who will collect the data are they are familiar with the participants. The outcomes may not be generalizable due to relatively small sample size; however, we will be able to draw a projection of this analysis to a certain level.

Quality Assurance

Quality assurance includes the validity of the tools that are using this situational analysis. This includes pilot testing of the tools such as topic guides for KII and FGD before starting data collection. We will train the interviewers and facilitators for focus group discussions with the topic guides and research principles. We will check the translated interviews properly to prevent lost in translation and we will also check the interview transcripts with the digital recordings in order to ensure that any information is not missing.

Ethical Consideration

This study is related to obtain personalized data and will be involved primarily of women. So, we will consider an application to be sent to the Ethics committee in the National Research Ethics Committee of Bangladesh to get permission to conduct the study. District Civil Surgeon in Sylhet also will be communicated to get permission to conduct the study and to use hospital data. Informed, written consent from every participant of the KII will be obtained through interviewees will be given information sheets and these will be explained to them if they are unable to read it; that they can withdraw from the study at any time, and that they do not have to take part in the study; if they refuse to take part it will not affect the care that they receive.

Conclusion

Obstetric complications can be unpredictable and many women in Bangladesh do not seek to EmONC and even many of them do not have access to EmONC. In order to reduce high maternal mortality and morbidity, high utilization of EmONC is necessary. This situational analysis will project an in-depth understanding of the coverage and availability of the emergency obstetric care and also will highlight the factors facilitating and preventing the use of emergency obstetric care services in the district of Sylhet in Bangladesh.

Declaration

Ethics approval: This study is related to obtain personalized data and will be involved primarily of women. So, we will consider an application to be sent to the Ethics committee in the National Research Ethics Committee of Bangladesh to get permission to conduct the study.

Consent for publication: Not applicable

Competing interest: The authors have no conflict of interest to declare.

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Author's contribution: AR and RB planning and design the study. AR wrote the first draft, all authors reviewed and decided to send for the publication.

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