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What's Need for Maternal and Neonatal Health Service Delivery in the Marginalized Tea Garden Community of Bangladesh? – A Qualitative Study

Biswas A[1], Abdullah AS[1], Ferdoush J[1], Doraisyami S[2] and Halim MA[1]

[1]Centre for Injury Prevention and Research (CIPRB), Dhaka, Bangladesh

[2]United Nations Population Fund (UNFPA), Bangladesh

[*]**Corresponding author:** Biswas A, Centre for Injury Prevention and Research (CIPRB), Dhaka, Bangladesh, Tel: +88-02-58814988; E-mail: ani72001@gmail.com

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Abstract

Background: Maternal, newborn and child health (MNCH) status in tea garden communities of Bangladesh is neglected and poor compared to many other areas in Bangladesh. Community health need assessments of maternal and neonatal health (MNH) services are important to identify the necessary interventions to improve MNH services in a community. Identifying and prioritizing health needs are two of the most essential community-centric activities where each community can set their own priorities and areas of focus.

Objectives: The current need assessment is designed to identify all needs and gaps along with assessing program effort in increasing the quality, coverage, and utilization of MNH services as well as insuring there is a critical support system placed at each of the referral levels.

Methods: A qualitative study was conducted in the Moulvibazar district of Bangladesh. 20 in-depth interviews (IDIs) were conducted among different groups of people including civil surgeons, the Deputy Commissioner of Moulvibazar, the General Secretary of the Bangladesh Tea Labour Union of Sreemangal, the Finance Secretary of the Bangladesh Tea Estate Staff Association of Sreemangal, the Coordinator of the Bangladesh Tea Board of Sreemangal, community leaders, pregnant mothers, Panchayat committee members, traditional birth attendants and health care providers of the selected tea gardens.

Results: Tea garden communities have lack knowledge and awareness of MNCH issues as well as a gap in utilizing related services. Reasons for not seeking proper health care services were lower socio-economic status, traditional myth and superstitions, dependency on traditional birth attendants and negligence on seeking appropriate MNH services. Policy makers need to place more emphasis on MNH related interventions in marginalized communities, specifically in tea garden areas.

Keywords: Maternal and neonatal health; Service delivery; Tea garden community

Introduction

Bangladesh has made significant progress in reducing maternal and neonatal deaths in the last two decades as a push towards achieving the millennium developmental goal 4 and 5 target. However, a number of challenges still persist in reaching new sustainable development goal. One major challenge is the maternal and reproductive health coverage of marginalized communities in remote areas [1]. Major reduction of maternal, neonatal and child mortality and universal access to reproductive health services by 2030 are key points in achieving the sustainable development goals [2].

Globally, 99% of maternal deaths and 98% of neonatal deaths occur in developing countries [3]. One in six women die during delivery in these countries, where one in thirty thousand do in developed countries. This inspired a challenge to achieve the fifth MDG: reducing maternal mortality by 75% between 1990 and 2015 [4,5]. Based on maternal mortality ratio (MMR) estimates for the year 2015, the Sustainable Development Goal is to have less than 70 maternal deaths per 100,000 live births by 2030. Therefore, the country needs to reduce their MMR by at least 7.5% annually [5].

In Bangladesh, MMR fell from 322 deaths per 100,000 live births from 1998-2001 to 194 from 2007-2010, an annual decrease. of 5.6% due to improved access to quality health care services from health care facilities and decreased rate of fertility [6]. Approximately 85% of maternal deaths occur from obstetric complications annually in Bangladesh [7]. Quality antenatal care and social practices including awareness, influence the outcome of pregnancy [8,9].

Tea garden people are mostly tribal, poor and backward Hindu by caste and colonial attitude and policy of the rich man made them marginalized class which is isolated from the main stream of the society [10]. Poor health and social outcomes are more common among the indigenous people than non-indigenous in relation to maternal and child mortality [11]. Research shows that pregnant mothers lack knowledge and usually do not receive treatment for obstretric complications in tea garden areas of Moulvibazar [12].

Local Health Bulletin revealed in 2014 that 120 maternal deaths occurred in Moulvibazar, 47 (39.1%) of which were from tea gardens [13]. These findings suggest that the progress regarding the strengthening of the maternal and neonatal health system and the quality of service delivery has been disproportionate in tea gardens compared to other areas. Achieving effective coverage on maternal and neonatal health depends on life saving technologies, clinical approaches using evidence-based interventions [14] and research that focuses on implementing these processes [15,16].

The most vulnerable areas (i.e., rural, poor) require special interventions to achieve these goals [4]. It is also essential to improve Comprehensive Emergency Obstetric Care, strengthen the services of family planning and increase female education resulting in social development and women empowerment [17]. This study is designed to assess MNH service delivery in tea gardens through need assessment. In this way, needs or gaps between the current and expected progress of MNH care can be determined and addressed.

Methodology

A qualitative study was conducted in two purposively selected sub-districts (Upazila) of Moulvibazar district in February 2017. Six tea gardens in the Moulvibazar district were randomly chosen out of a possible 92. Five of the selected areas were from Sreemangal, Upazila (sub-district) and one from Kamalganj, Upazila. 20 IDIs were conducted among different groups of people including civil surgeons, the Deputy Commissioner of Moulvibazar, the General Secretary of the Bangladesh Tea Labour Union of Sreemangal, the Finance Secretary of the Bangladesh Tea Estate Staff Association of Sreemangal, the Coordinator of the Bangladesh Tea Board of Sreemangal, community leaders, pregnant mothers, Panchayat committee members, traditional birth attendants and health care providers of the selected tea gardens (**Table 1**).

Table 1 IDI Participant Information.

Name of Area	Participant	
	Number of IDIs conducted	Type
Moulvibazar	2	Civil Surgeon, Deputy Commissioner
Bangladesh Tea Labour Union, Sreemangal	1	General Secretary
Bangladesh Tea Estate Staff Association, Sreemangal	1	Finance Secretary
Bangladesh Tea Board, Sreemangal	1	Coordinator
Mirtinga Tea Garden, Kamalganj	3	Community Leader, Pregnant Mother, Health Care Provider (Midwife)
Amrailchara tea garden, Sreemangal	2	Community Leader, Health Care Provider (Midwife)
Varaora Tea Garden, Sreemangal	3	Health Care Provider (Midwife), Dresser, Health Supervisor
Khejurichara tea garden, Sreemangal	2	General Secretary, Panchayat Committee Member, Panchayat Committee
Rajghat tea garden, Sreemangal	2	President of the Rajghat Panchayat Committee, General Secretary of the Rajghat Panchayat Committee
Phulchara tea garden, Sreemangal	3	Pregnant Mother, Traditional Birth Attendant, Member of Panchayat Committee

A standard guideline was developed and used to conduct all IDIs, covering issues such as finding the deficiencies or gaps of existing MNH services, level of knowledge and awareness, negligence, traditional beliefs and practices, accessibility to health care services, disharmony in coordination and challenges to improve MNH care services in a tea garden (**Table 2**).

Twenty IDIs were performed with stakeholders, service providers, community leaders and others to explore the community's view and assess the need of maternal and neonatal health care services in tea garden communities. All IDIs were conducted following the standard guidelines of a face-to-face interview.

Table 2 Prompt used for pre-assessment.

Point	Prompt
Deficiency/Gap	What are the deficiencies of maternal health care services in tea gardens? Do you think programs to strengthen maternal health care services are necessary for tea garden women? Why or why not? What problems do the pregnant mothers face while working at tea gardens?
Awareness	What do you think about maternal health care? Do tea garden communities think ensuring maternal health care is a necessity? If so, why?
Coordination	How and with whom do tea garden communities coordinate with for maternal health care? How should this coordination be improved?
Negligence	Do tea garden communities feel it necessary and important to receive MNH care? Is there a difference between receiving health care from a registered facility vs non-registered for pregnant women. Why or why not?
Myth	What do community people believe about maternal health care and its complications? What are the myths and superstitions in tea garden communities regarding MNH care?
Referral	How are pregnant mothers referred from the community to facilities? Where are they referred to? What other problems do they face in the referral process?
Knowledge Gap	What knowledge gaps for proper maternal health care exist and how can this be improved?
Traditional Practices	What are the common practices of community people for maternal and neonatal complications? Who assists in the delivery in a tea garden community? Where does the delivery take place?
Accessibility to Health Care Services	What health facilities are available to pregnant mothers in a tea garden? Are all health services accessible to all tea garden communities? How can this situation be improved?
Challenges and Immediate Needs	What challenges need to be addressed to ensure proper maternal health care? What else can be done to improve of maternal health care services?

Pretesting of all IDI guidelines and field data collection were done by two well-trained research officers. During IDI conduction, one research officer was the interviewer, the other was the note taker. The research objectives were clearly communicated to the interviewee. Both written and verbal consent were recorded before starting the IDI. Probing was used to gather all possible information. By using both tape recordings, with prior permission of the respondents, and note taking, research officers were able to prepare transcripts for all the IDIs in their native Bengali language. All transcripts were then translated into English. The principal researcher randomly selected a few transcripts and reviewed the quality of these translations. First, initial open coding was done, then selective coding was done using the open coding data. Peer debriefing was also done at each level of coding to ensure the quality of the data.

Qualitative content analysis was used according to Graneheim and Lundman's proposed instructions [18]. Following this format, there is little flexibility in interpretation of the text due to its insurance of preserving coherence with the actual meaning. The participant's actual words were analyzed as the actual content, whereas interpretation and judgment of the participant's responses were analyzed as latent content [19]. Data analysis kept consistent with back and forth looking into the written transcriptions and listening to the audio recordings with identifying each as meaning unit [18].

Results

Results for this study were prepared on basis of different issues concerning MNH care services in tea gardens. Again, these themes were: deficiencies or gaps, awareness, coordination, negligence, myths and superstitions, referrals, knowledge gaps, traditional practices, accessibility of health care, and challenges to and immediate need for MNH services. The community leaders from the tea gardens wanted for a programme or intervention targeting the pregnant mothers and babies in the tea gardens, they shown their interest to get involve if such will plan in future. Health care providers of expect community mobilization to receive proper antenatal, postnatal and Delivery care. All respondents mentioned similar MNH care service facilities for both registered and unregistered workers. Participants also emphasized the need for delivery kit supplies in tea garden hospitals to ensure safe delivery practices. The worker pregnant mothers expect extension of maternity leave from four months to six months. They also expect availability of skilled birth attendant for safe delivery. The respondents also said about the availability of sufficient drugs include iron and calcium tablets for pregnant mothers in the tea garden hospitals.

Deficiencies/Gaps

The majority of the respondents mentioned the poor utilization of maternal health care services, such as antenatal care, safe delivery and postnatal care, by tea garden mothers.

Low socio-economic status and lack of knowledge of pregnant women and their husband are associated with this low utilization of maternal health care services. Some respondents also cited factors such as financial constraints, family traditions and previous bad experiences as barriers.

"Registered workers are given priority in providing maternal health care than casual workers in the garden facility. These are very important for both the casual and registered mothers. Such program is essential and will helpful to provide all supports for every pregnant mother." – P3, General Secretary, Bangladesh Tea Labour Union.

"Our pregnant working mothers do not receive proper care during pregnancy, delivery and post-delivery. The barriers in not receiving maternal health care need to be identified for the betterment of the tea garden communities." –P17, General Secretary, Rajghat Panchayat committee.

"We deprived of proper maternal care in tea garden areas as there is no available supply of iron folic acid (IFA) and calcium tablets for the pregnant mothers. Even we do not find the skilled birth attendance during delivery. After delivery, we never get any postnatal care as well. All these things should need to be ensured with the supply of delivery kit at tea garden hospitals for the assurance of safe delivery." –P18, Pregnant mother, Phulchara tea garden.

Awareness

According to the respondents, tea garden communities are not aware of appropriate maternal health care practices. Women have a tendency to hide their pregnancies, some are not even aware that their pregnant. There is also a tendency to work at tea garden right up until delivery, since these women never know how far along they are in their pregnancy.

"Such type of program is essential for deprived pregnant mothers in the tea gardens as they are not aware about the maternal and neonatal care. Moreover, poverty is a barrier for them to receive proper care from a facility. It is very important to involve community leaders of the tea garden as they are very much familiar and influential to the tea garden communities." –P2, Deputy Commissioner, Moulvibazar.

"The tea garden mothers are not aware about maternal health care during pregnancy. They have tendency to hide pregnancy. They even work at the date of delivery. We will support this program for the welfare of pregnant mothers in our tea gardens. It is necessary to arrange some awareness meetings among us for knowing more about the care of pregnant mothers in tea garden." –P20, Member, Panchayat Committee, Phulchara tea garden.

Coordination

Community people in tea gardens do not know with whom or where to coordinate maternal and neonatal health care needs or related complications. Rather, they believe that fate deals with their complications and thus do nothing to change the situation.

"To achieve the objective of the project both tea estate staff association and tea garden owner's association have needed to be involved in this program. To save the lives of mothers in tea garden the existing referral system need to be strengthened." – P1, Civil Surgeon, Moulvibazar.

"We always welcome such programs for the welfare of socially disadvantaged community of tea gardens. The programs should confirm at least four antenatal care among the pregnant mothers especially for casual mothers as they are not treated as like as registered mothers. Additionally, every delivery needs to be ensured with the presence of a skilled birth attendant in the tea garden." –P5, Coordinator, Bangladesh Tea Board.

"Every concern should come forward to help the tea garden workers because they are the much marginalized and under privileged community in our country. It needs to be ensured safe delivery of mothers working in the tea garden either through the support of tea garden facilities or by skilled birth attendant." – P4, Finance Secretary, Bangladesh Tea Labor Union.

Negligence

Non-registered pregnant mothers working in tea gardens are deprived of both earnings and receiving health services. Ignorance is one of the major reasons behind this poor utilization of maternal health care services during pregnancy and childbirth.

"We have a massive shortage of medicines especially iron folic acid (IFA) tablets and vitamin supplementation for pregnant mothers. There is ignorance in taking special initiatives for supporting the pregnant mothers during their pregnancy as well as delivery periods" –P12, Dresser, Varaoora tea hospital.

"I am now at more than seven months' pregnancy and this is my first pregnancy. Yesterday when I was working in garden I felt pain in the abdomen and knocked down at the ground. One of my colleagues took me to the hospital from there. Midwife gave me four Napa and five Calcium tablets after checking and advised to take rest at hospital for that day. I needed to eat something before taking medicine but there were no supply of food or snacks for the patients admitted in tea garden hospital." –P7, Pregnant mother, Mirtinga tea garden.

Myth and superstition

There are many superstitions that exist in tea garden communities regarding the MNH care and treatment. One of these superstitions included not allowing mothers to leave their home in the afternoon or night as they believe the outside is an ill environment and is bad for the health of a pregnant woman. Another was that pregnant mothers will not disclose their pregnancy as they believe this may cause harm to the baby.

"During delivery, we provide hot food like hot rice, water, and tea which will decrease the labour pain of pregnant

mother andhelp in augmenting the delivery to happen early. But at tea gardens hospitals, there are no such opportunities for delivery." –P9, Traditional birth attendant, Phulchara Tea garden.

"I follow some traditional rules during my pregnancy. We believe if pregnant mothers cut any fish or vegetables at solar eclipse or lunar eclipse, it may cause congenital anomalies to the neonate." - P7, Pregnant mother, Mirtinga Tea garden.

Referral

The main issue for referring expectant mothers with complications is the transportation system. There are no vehicles in tea gardens and more financial support is needed to be able to refer the mother quickly. Moreover, fate is highly depended upon for pregnancy complications. These create obstacles for proper referral of pregnant mothers.

"The community people do not easily want to go to the hospital due to transportation problem because of the dearth of their money which is needed to manage the transport. Tendency to go to the facility will be increased if transportation is easier in accessible" –P13, Health Supervisor, Varaora Tea garden hospital.

"Delivery normally occurred at home by traditional birth attendant. We usually believe on our luck when a complication arises during pregnancy and delivery period. But if complication arises then it is difficult to manage money and transportation which subsequently may cause maternal and neonatal deaths." -P10, Community Leader, Amrailchara Tea garden.

Knowledge gap

The majority of respondents mentioned maternal ignorance on receiving antenatal care and postnatal checkups as a major knowledge gap. Some do not feel it necessary to go to a health care provider. Working pregnant mothers are always busy at tea gardens, so they cannot find the time to become educated on maternal health care from service providers, which continues this cycle of ignorance.

"Most of the pregnant mothers do not receive regular check-up as they have no knowledge about the importance of antenatal care service. A pregnant mother in tea garden can take maternity leave up to four months for two times pregnancy. Early marriage is a common scene in the tea garden community. These challenges need to be addressed and overcome." –P8, Midwife, Mirtinga tea garden hospital.

"Pregnant mothers in tea gardens work from morning to evening. At the same time the health care providers also afford their services which create a gap. Thus, pregnant mothers cannot know and receive the maternal health care services during pregnancy even cannot receive TT vaccine." - P-15, President, Panchayat committee, Rajghat tea garden.

Traditional practices

Tea garden communities prefer to conduct delivery at home with a traditional birth attendant. They think that a home delivery is comfortable, allows for all necessary things to be available without any delay and can easily be practiced without any financial burden. Delivery occurs at the corner of their house where the mother will stay for up to nine days post-delivery with their baby. The placenta is buried immediately after delivery and allowed to firing them and providing the generated heat to mother using the flame. The baby usually makes to bath immediately after delivery with hot water. After the nine days is over, they cut off the baby's hair and use mustard oil to dry out the umbilical cord. Neonates are allowed to give honey or sugar immediately after delivery.

"Pregnant mothers do not want to come at dispensary for delivery and also do not want to inform the health care provider. They feel safe and comfort to delivery at home as they can perform their traditional practices at home but not at hospital." – P15, Member, Khejurichara Panchayat committee

"There is a traditional practice to cut the umbilicus of new-born. Some titled community cannot cut the umbilicus even allow them to assist in delivery. Pregnant mothers are practiced to eat salt with food even with tea during delivery as they believe these increases the labour for smooth delivery. This is a traditional practice in their society" -P19, Traditional birth attendant, Phulchara Tea garden.

Accessibility of health care

Accessibility to health care services by casual workers of tea gardens is not equitable by any definition. There is shortage of medicine and a limitation in providing treatment to casual workers in tea garden hospitals, however pregnant mothers are not actually interested in receiving treatment from the hospitals.

"Most of the mothers are not getting proper maternal health care services from the tea garden hospital as they are not registered workers. Only 704 peoples are registered as workers in this garden. So, it needs to improve the health mostly for those deprived casual pregnant mothers." – P14, General Secretary, Panchayat Committee, Khejurichara tea garden.

"This intervention is essential for tea garden workers especially for mostly deprived casual pregnant mothers. Most of the tea garden mothers are not aware of available essential maternal and new born care. Accessibility to tea garden hospitals by casual workers is very poor. We hope to improve this condition by the support of this project work." – P7, Community Leader, Mirtinga Tea garden.

Challenges and immediate needs

There is inadequate training and refresher training on MNH services for health care providers in tea garden hospitals and dispensaries. Even the traditional birth attendants emphasized

that they require proper training to improve their abilities regarding delivery and referral care.

"I received only one year midwifery training from Matrimangal hospital, Sylhet in 1992. Since then I did not get any other training. So, I expect more training on safe delivery to update my skill and knowledge. Supply of required medicines for pregnant mothers is not sufficient in tea garden facilities. In tea garden community; financial constrain, family traditions, dependency on unskilled birth attendant for delivery, unavailability of emergency transport are the main barriers behind not seeking health care from the facility." – P9, Midwife, Amrailchara tea garden hospital.

"There are registered and non-registered workers in the tea garden. Though few facilities offered the provision of health care services for registered working pregnant mothers but non-registered pregnant mothers are mostly the neglected one in receiving maternal health care services. So, it is essential to do something for those deprived mothers living in the tea garden". – P10, Midwife, Varaora tea garden hospital.

"We are conducting delivery traditionally for many years but we need training to identify the high risk pregnant mothers in tea garden to ensure safe referral of them in time. Moreover, supply of required iron folic acid (IFA) tablets and delivery kit needs to be available in the tea garden hospitals and dispensaries."-P19, Traditional Birth Attendant (TBA), Phulchara tea garden.

Discussion

The major findings of this study were the persistence of inadequate knowledge on MNH services, a lack of community awareness on MNH, non-coordination and negligence in receiving MNH care, belief in myths and superstition, improper referral for related complications, dependency on traditional practices and difficulties in accessing health care facilities. This hinders the ability of tea garden communities to receive quality MNH care. This study also found an urgency for an MNH intervention to ensure the MNH care services are adequate in marginalized tea garden areas. This MNH intervention would improve knowledge, better practices, and increase the quality of service for mothers and their babies.

According to the World Health Organization's framework, need assessment is essential in quantifying the performance of health care systems at every level including the role of the decision makers and identifying the responsible factors behind all failures, which in turn, help to achieve better results by putting affords on those identified areas [20].

Our study revealed that a knowledge gap and negligence in receiving maternal care persists in tea garden communities. Another study in the tea garden area of Bangladesh revealed that the risks of maternal death are increasing due to home deliveries conducted by untrained birth attendants who are ignorant to, misperceive, or lack knowledge on MNH [12].

Our study identified many misperceptions and malpractices on maternal and neonatal care found in the tea garden communities like dependency on traditional healer during maternal complications and delivery, ignorance to go at facility. Some other studies also had consistency with our study findings with analyzing the risk factors of maternal complications in rural Bangladesh [21,22].

Many of the participants emphasized issues of the social awareness of MNH and social barriers placed on women in tea gardens as causes for the maternal and neonatal deaths cited in the study. Another study in Bangladesh showed that social autopsy [23,24] of maternal and neonatal deaths is important for the community to build knowledge, reflect, empower and inspire leadership, increasing commitment and male participation in reducing these deaths [25].

The study also found the importance of improving awareness among communities regarding the utilization of proper MNH services, which the current study corroborated. The same study stated that maternal death reduction will be safeguarded by appropriate health care seeking behavior of proper maternal health services as well as elimination of existing misperceptions and malpractice [24,26].

Our study showed a number of gaps and challenges in the referral process, specifically in transporting mothers with complications from tea garden to referral centers. Similar results were found in another study where it was found that 75% of maternal deaths are preventable if given timely access to essential facilities, however transportation and road infrastructure are barriers to this remedy [27].

The participants of the study also urged for remote areas to be identified so that they can receive special support in reducing maternal and neonatal deaths rate. This same issue was identified in another study where death tolls were found to be reducible through the mapping out of areas with high death rates [28].

The majority of the participants also mentioned a gap in service delivery by field-level health care providers. One of the major contributors to this issue was that expectant mothers work during the day plucking tea, which is the only time that health services are available. Other factors included the remote area and negligence of mothers in receiving health care. Another study revealed that factors needing attention in developing countries, like Bangladesh, were community-based strategies for healthcare service delivery, addressing the challenges, increasing access to skilled birth attendants and improving the coverage of antenatal care and nutrition status [29].

Maternal and neonatal mortality rates can be decreased by 60-99% or completely by increasing midwifery and obstetric services with a combination of family planning facilities. By ensuring proper prenatal care, safe labor and delivery, and postnatal care by midwives, maternal mortality rates can be decreased by 69%. This is also a cost-effective approach for the community which is important for developing countries like Bangladesh [30].

An intervention for scaling up of cost-effective, evidence-based maternal and newborn health along with a continuum of care is essential for strengthening the healthcare system

through decentralized planning, implementing and monitoring from centre to periphery level in Bangladesh [31].

Conclusion

The study identified a number of constraints persist in the teagarden community which restrict to ensure quality of maternal and neonatal care. Whereas, there are enormous demands for maternal health services has been explored.

The current context clearly shown that enhancement of the quality of service delivery among the mothers though the teagarden health facilities can improve the overall situation. Interventions looking at improving awareness, increasing access to the facility care, quality antenatal care, skilled delivery care and postnatal care are possible solutions. Thus, it will improve the health situation of mother and their babies and reduce maternal and neonatal deaths in the teagarden marginalized community of Bangladesh.

Ethical declaration

The ethical clearance was obtained from the national ethical review committee of CIPRB for teagarden research. An informed written consent was taken for each of the in-depth interviews before collection of information.

Competing interests

The authors declare no conflicts of interest.

References

1. Ministry of Health and Family Welfare Bangladesh (2015) World Health Organization, World Bank. Success Factors for Womens and Children's Health Bangladesh.
2. Groveemail J, Claeson M, Bryce J, Amouzou A, Boerma T (2015) Maternal, newborn, and child health and the Sustainable Development Goals-a call for sustained and improved measurement. Lancet. 386: 1511-1514.
3. Biswas A, Rahman F, Halim A, Eriksson C, Dalal K (2015) Experiences of Community Verbal Autopsy in Maternal and Newborn Health of Bangladesh. Health MED. 9: 329-338.
4. Ronsmans C, Graham WJ (2006) Maternal mortality: who, when, where, and why. Lancet. 368: 1189-1200.
5. Alkema L, Chou D, Hogan D, Zhang S, Moller AB, et al. (2016) Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by the UN Maternal Mortality Estimation Inter-Agency Group. Lancet. 387: 462-474.
6. Arifeen SE, Hill K, Ahsan KZ, Jamil K, Nahar Q (2014) Maternal mortality in Bangladesh: A Countdown to 2015 country case study. Lancet. 384: 1366-1374.
7. Koblinsky M, Anwar I, Mridha MK, Chowdhury ME, Botlero R (2008) Reducing maternal mortality and improving maternal health: Bangladesh and MDG 5. J Health Popul Nutr 26: 280-294.
8. Singha R (2012) Target of MDG to Development of Maternal Health in Bangladesh: A Review of Brac Achievement. Bangladesh Res Pub J 7: 454-460.
9. Laishram J, Thounaojam UD, Panmei J, Mukhia S, Devi HS (2013) Knowledge and Practice of Ante-natal Care in an Urban Area. Indian Medical Gazette, pp: 101-106.
10. Hussain D (2017) Reflection of Tea Garden Laborer's as Marginalized Community: A Study. Literary Herald. 2: 114-120.
11. Anderson I, Robson B, Connolly M, Bjertness E, King A, et al. (2016) Indigenous and tribal peoples' health: a population study. Lancet. 6739: 345-347.
12. Biswas A, Dalal K, Abdullah ASM (2016) Maternal complications in a geographically challenging and hard to reach district of Bangladesh: a qualitative study. F1000 Res. 5: 2417-2420.
13. Directorate General of Health Services (DGHS) (2015) Maternal and Perinatal Death Review. Local Heal Bull.
14. Porter S, O'Halloran P (2012) The use and limitation of realistic evaluation as a tool for evidence-based practice: a critical realist perspective. Nurs Inq. 19: 18-28.
15. Brownson RC, Fielding JE, Maylahn CM (2009) Evidence-based public health: a fundamental concept for public health practice. Annu Rev Public Health. 30: 175-201.
16. Adams A, Sedalia S, McNab S, Sarker M (2016) Lessons learned in using realist evaluation to assess Maternal and Newborn health programming in rural Bangladesh. Health Policy Plan. 31: 267-275.
17. Chowdhury ME, Ahmed A, Kalim N, Koblinsky M (2009) Causes of maternal mortality decline in Matlab, Bangladesh. J Heal Popul Nutr. 27: 108-123.
18. Graneheim UH, Lundman B (2004) Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. Nurse Educ Today. 24: 105-112.
19. Priest H, Roberts P, Woods L (2002) An overview of three different approaches to the interpretation of qualitative data. Part 1: Theoretical issues. Nurse Res. 10: 30-42.
20. Murray CJL, Frenk J (2000) A framework for assessing the performance of health systems. Bull World Health Organ. 78: 717-731.
21. Sikder SS, Labrique AB, Shamim AA, Ali H, Mehra S, et al. (2014) Risk factors for reported obstetric complications and near misses in rural northwest Bangladesh: analysis from a prospective cohort study. BMC Pregnancy Childbirth. 14: 347-350.
22. Abdullah ASM, Hossain MS, Rahman F, Halim A, Biswas A (2017) Community Delay in Decision Making and Transferring Complicated Mothers at. Facilities Caused Maternal Deaths: A Qualitative Study in Rural Bangladesh. Int J Glob Health. 1: 15-23.
23. Biswas A, Halim A, Dalal K, Rahman F (2016) Exploration of social factors associated to maternal deaths due to hemorrhage and convulsions: Analysis of 28 social autopsies in rural Bangladesh. BMC Health Services Research. 16: 659-661.
24. Biswas A, Rahman F, Eriksson C, Halim A, Dalal K (2016) Social Autopsy of maternal, neonatal deaths and stillbirths in rural Bangladesh: qualitative exploration of its effect and community acceptance. BMJ Open. 6: e010490.25.

25. Biswas A (2016) Social autopsy as an intervention tool in the community to prevent maternal and neonatal deaths: experiences from Bangladesh. MDSR Action Network.

26. Quayyum Z, Khan MNU, Quayyum T, Nasreen HE, Chowdhury M, et al. (2013) "Can community level interventions have an impact on equity and utilization of maternal health care"-Evidence from rural Bangladesh. Int J Equity Health. 12: 22.

27. Babinard J, Roberts P (2006) Maternal and child mortality development goals: what can the transport sector do? Reconstr Dev World Bank, p: 50.

28. Biswas A (2016) Mapping for Action: Case Study in Bangladesh Connect | Inspire | Challenge | Learn | Act.

29. Arifeen ElS, Christou A, Reichenbach L, Osman FA, Azad K, et al. (2013) Community-based approaches and partnerships: innovations in health-service delivery in Bangladesh. Lancet. 382: 2012-2026.

30. Casto E (2015) Improving Maternal and Child Health in Bangladesh: The Integration of Midwives in Conjunction with the United Nations Millennium Development Goals Initiative. Int Res Scape J: An Undergraduate Student Journal, p: 3.

31. United for Children (UNICEF) (20011) Bangladesh Country programme document. 2011-2016.