Review of Literature

2.1 Maternal Health and reproductive Health Matters

The author emphasizes on the need of having skilled Birth attendants for safe home delivery. The authors also mention that there has been a shortage of these Skilled Birth Attendants in about 28 countries around the world. Many efforts are made by the developing countries to reduce the maternal mortality. The main aim was to increase the availability of skilled birth attendants by providing them with appropriate training and having them posted at right places. The author specify that improving the health systems will result in long term goal of benefitting the population, however this does not assist the immediate millions of women who will be delivering at home in absence of the skill birth attendants. The article mentions that the study carried out in these 28 countries shows that more than 50% of the deliveries are performed without the presence of skilled birth attendants which explains the reason for a high number of maternal deaths in these countries. The ratio of the total maternal deaths to the total population is quite high and is a cause of concern in these countries.

There has been very diminutive improvement in the number of births attended by a skilled birth attendant since the past 20 years. This article recommends having a combined solution from the government and local community to provide inexpensive health services in those countries where there are majority of home deliveries and no skilled birth attendants are available. This type of planning suggests taking assistance from health workers for performing deliveries at home. By providing trainings to health workers on safe delivery aspects, family planning measures, post delivery and child care, women in the weaker sections of the society can be benefited by and large. Thus the
The author concludes by recommending the replacements for skilled birth attendants by the trained health workers in order to have safe deliveries at home.


The author presents a detailed data related to the Traditional Birth Attendants. The author also specifies the importance of the having the trainings for Traditional Birth Attendants and also states how they can change over to Skilled Birth Attendants in a suitable milieu by providing appropriate trainings. For this article, the author has made a study of sixty centers and standard procedures along with the practices followed by Traditional Birth Attendants and have been observed the improvements shown by these birth attendants in handling pre delivery, post delivery and emergency situations during child birth. This has in turn shown a considerable reduction in the maternal mortality and infant mortality rate.

The author concludes that the result of the trainings given to Traditional Birth Attendants has been consistent throughout all the local health centers and also at the home based deliveries. The TBAs have been found to be effective in providing care for emergencies during child birth and handling extreme cases such as asphyxia and pneumonia. The authors further concludes that at health centers which are not having a strong health system but the local community has a higher percentage of maternal mortality rate, The traditional Birth attendants can work towards achieving the Millennium development goals and help in bringing down the maternal mortality and Infant Mortality rate.

**FIG. 2.1 STAGES WHERE TBA’S CAN CONTRIBUTE.**
FIG 2.2 CONTRIBUTION BY TBA DURING POST PARTUM HAEMORRHAGE STAGE OF DELIVERY.

<table>
<thead>
<tr>
<th>Pregnancy</th>
<th>Potnatał &gt;24 hours</th>
<th>Labour, birth-1st 24 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal</td>
<td>Universal</td>
<td></td>
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<tr>
<td>Promote</td>
<td>Provide</td>
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<tr>
<td>Promote</td>
<td>Safe delivery</td>
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<tr>
<td>Birth-preparedness</td>
<td>Hydration and empty bladder</td>
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<tr>
<td>Care-Seeking APH</td>
<td>Physiologic management of third stage of labour</td>
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<tr>
<td></td>
<td>Uterine massage</td>
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<tr>
<td></td>
<td>Breastfeeding support</td>
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<tr>
<td></td>
<td>Care-seeking for prolonged labour and PPH</td>
<td></td>
</tr>
<tr>
<td>Extra</td>
<td>Postpartum haemorrhage home-based care</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Simplified active management of third stage of labour</td>
<td></td>
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<tr>
<td></td>
<td>(e.g. misoprostol, oxytocin)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anti-shock garment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tamponade</td>
<td></td>
</tr>
</tbody>
</table>

KS Vora et al. (2009) “Maternal Health Situation in India”.

The author states that maternal and child health facilities are the basic of any health service that a country can provide to its citizens. As the mother and children are the most vulnerable people and contribute to the highest number of deaths, they are the most affected by the inadequate facilities available at health centers.

Although India is the fastest growing country and one among the top developing nations, the maternal mortality rate is very high compared to other nations and needs to make a lot of efforts to reach the aim of bringing down the maternal mortality rate to 100 per live births. Currently in India, there are 25.7% of the total maternal deaths occurring India. Geographical vastness and huge diversity in the culture and social status makes it complex to put into operation the modifications and improvements in the health sector.
It is observed that there is a huge difference in the maternal mortality rate across different states as there is also a difference in the way the maternal health programmes are implemented among the states of India and within state at different health care units’ level. There is a huge variation in the above from the primary level to the tertiary levels. This provides an evidence for the limited success of the health programs implemented across India to improve the maternal and child health. Twenty five percent of the total maternal deaths across the world occur in India alone. With a goal of bringing down the maternal mortality rate to 100 per one lakh live births, India has put many health improvement schemes in place however in spite of making tremendous progress on the economic front, India is far from realizing its goal. The main cause for this slow development is the diversity in its geography and social culture. In equalities in the demographics of the country has resulted in non-uniform implementation of health programs. The author also suggest that the social status, literacy rate and the cultural beliefs also play a key role in achieving the goals set by the Government for improving the mother and child Health care in India.

The inclination in the Maternal Mortality Rate (MMR) and Infant Mortality Rates (INR) have been studied by the author along with the various types of care given at different levels of health care units across various states has also been taken into consideration in this study. This article also specifies the various health programs taken up the government of India and the pioneering plans that have been put in place to reach its goals. The reasons for slow progress in the maternal and child health have also been studied and measures to resolve them have been suggested by the author in this article. The author recommends involving private partners and maintaining a constant monitoring and supervision of the health plans and health centers will bring about overall progress of the programs. As per the author, the Public_ Private_ Partnership (PPP) model will prove to be beneficial to both the private and the government as the private health providers would be benefitted from the large infrastructure that is readily available with them and the Government can utilize the expertise, workforce and skills available with the private service providers of Health.
FIG 2.3 CAUSES OF MATERNAL DEATHS IN INDIA, 2003

Causes of maternal deaths in India, 2003

- Haemorrhage: 34%
- Sepsis: 37%
- Hypertensive disorder: 11%
- Obstetric labour: 5%
- Abortion: 5%
- Other conditions: 8%

FIG 2.4 ACCESS TO MATERNAL HEALTH CARE DURING 2005

Access to maternal healthcare according to maternal education (NFHS 3, 2005-6) NFHS = national family health survey

- No education:
  - Antenatal care: 62
  - Institutional delivery: 86
  - Deliveries conducted by doctors: 81
  - Postnatal check-up: 83
  - Postnatal check-up by doctors: 72.6

- 12 or more years of education:
  - Antenatal care: 98
  - Institutional delivery: 18
  - Deliveries conducted by doctors: 16
  - Postnatal check-up: 24
  - Postnatal check-up by doctors: 12
FIG 2.5 WEALTH QUINTILE STATUS

2.2 Emergency obstetric care given at First Referral Units.
Parvathy Shankara Raman, et al. (2009) “Assessing the Regional and District Capacity for Operational sing Emergency Obstetric Care through First Referral Units in Gujarat”

This article is related to study of various factors that affect the emergency obstetric care at First referral units. The author mentions that there are different management issues and many policy related obstructions that are causing a hurdle in improving the maternal Health. Even today one of the major problems in India is to bring down the maternal mortality rate from its current 400 per one lakh births to 100 per one lakh live births.

The author has pointed out at the availability of emergency obstetric care and its accessibility to the needy as the main cause for improving maternal health. The author provides a perspective of the ability of the state government to operationalize FRUs at district and regional level. The study made in this article brings out the detailed view of the functioning of referral units and the manner in which the emergency obstetric care is provided at these centers. The author mentions that all in all 27 health centers from each of the 26 districts in the Gujarat state were studied. This study presents a comparison
between different types of emergency obstetric care provided at health centers starting from basic to comprehensive. A larger study has been conducted on the improvements in the services of ANM and EMCOR Facilities in India. The Author has presented recommendations for overcoming the shortfalls in EmOC Services and has suggested procedures for improvements that can be applied to bring about overall improvement in the health facilities at various levels in the state.

In this study the author has analyzed the conditions of infrastructure, Human resources, drug facility, Management and administrative procedures and found that in a majority of the health centers, the Infrastructure was very poor. In many health centers, the civil engineers decide the location and maintenance of the infrastructure who do not have adequate knowledge on Emergency services thus resulting in abrupt setting for handling EmOC services. There are few centers where even though there is no proper infrastructure set up but there is a high inflow of patient and these centers managed to provide delivery services. This was the similar case with Human resource availability at First Referral Units, lack of CmOC and LSAS specialists and other supportive staff was a cause of concern at these centers. Administration and Management at many centers was considered to be poor, many hospitals records of Birth and deaths were not updated properly. Similarly records of Medicine and drugs were not as per the prescribed format. The Supervision and monitoring procedures are well structured; however they are not followed entirely at these centers. Lack of blood transfusion facility at these centers is another major cause of concern; few centers did not have any provision for blood supply or storage and hence were not conducting and emergency services.


The author specifies that not just Gujarat but in the entire nation, maternal deaths have become a crucial issue pertaining to the public health. In order to bring down the number of maternal deaths, the Government of India has come up with the First referral units and has presented guidelines to operationalize them by providing adequate staffing of specialists and health care staff. On the same lines, the state government of Gujarat has introduced an innovative program called the Chiranjeevi Scheme. This program is based
on the Public Private Partnership Concept and intends to drive the local community to approach the health centers at the time of deliveries. The author mentions that this study was carried out to find out the outcomes of this scheme in terms the reach, the targets, demographics of the patients and the financial aids provided under this program. For this study, 262 patients and 394 non-users of the facility were taken for sample study in the survey of the Dahod Village of Gujarat. The results of the survey showed that the patients receiving care under the chiranjeevi program were satisfied and they could save about Rs 3000 per delivery under this scheme. The author describes the details on improving the program by implementing similar programs in other states of India, and private assistance can be taken to avoid expensive health care treatment at these centers.

**FIG. 2.6 Process of Chiranjeevi Scheme**

![Diagram of Chiranjeevi Scheme]

2.3 Situation analysis of referral units in Gujarat State.


In this study the author takes into consideration of the fact that First referral units are extremely crucial for providing effective EmOC services. The FRUs prove to be a connection point between home deliveries and tertiary care hospitals with all amenities. The author specifies the importance of having referral units in a public health system. With an objective to understand the functioning of the FRUs and assess the benefits and
impairment of the having FRUs, the author has made this study in 06 districts of the state. The sample was selected based the performance of the districts on the number of safe deliveries performed. The author has wisely chosen all types of districts which are showing poor performance, average performance and good performance in delivering health care services. Field visits and personal interviews were taken for the primary research at the regional, district and state level. The state has made a partnership with a private research institute which the author has analyzed in this article. For secondary research, the author has referred various literatures, websites related to emergency obstetric care and referral units. The author has made conclusions that the referral transport system available at FRUs is of very basic type and need to be enhanced. The author also mentions that the center of attention of the transport system is not on providing more and more number of referral but it is more on having adequate vehicles and staff. The management at referral units was also found to be poor also a lot of records in the registers were either missing or recorded incorrectly. Hence the author suggests that more emphasis should be given to process and procedures at referral system rather than focusing on supplies of equipments, transport, manpower and other aspects. The author has concluded that the PPP model would work best for Referral units as this could help bring about improvements in maternal health across the state.


In this study, the author mentions that the reporting and recording of maternal deaths are not carried out effectively in India as a result a realistic picture of the major cause and actual number of MMR is not available in India. In this study, the maternal deaths that happened during April 2007 to March 2008 were considered and evaluated. The author mentions that interviews were conducted with officials to determine the system of recording and reporting of maternal mortality. Various forms containing details of all the deaths that were registered among the local community were analyzed. In order to find out the likely number of maternal deaths, the details of the women who died between the ages of fifteen to forty nine which was registered by the district officials were also studied. Other details related to maternal deaths which had not been registered were
obtained through verbal communications with the medical officers and other health staff. Every year in India 117,000 women die due to maternity related causes. India has the highest number of maternal deaths in southern Asia. The author states that many of the maternal deaths are either not properly reported or not reported at all in majority of the states. Some states have shown a good number of maternal death registrations while some states have very poor reporting pattern. In order get the exact data of the total maternal deaths, the death reporting and registration system has to be apt.

The resulted obtained from the study showed that there was poor system in recording the maternal deaths both at the urban and rural level. Out of the thirty one thousand odd live births, only fifteen maternal deaths were reported. However if the maternal deaths were to be analyzed based on the Maternal Mortality Rate given in the SRS survey of Gujarat, it was concluded that at least eighty two women would have died due to pregnancy related causes. The block health office had recorded only 01 maternal death in the urban area, whereas there were at least 05 maternal death in reality from the urban area for over thirteen thousand live births, which results in a very low MMR of close to 7 per one lakh live births, this shows that the data recorded is far from realistic data. Certain numbers of maternal deaths were reported in the local registration system, however the same deaths were not reported by the district health department. Upon having verbal communication with community health workers, it was found that they were compiled by the senior officers not to report the maternal deaths. The Author further concludes that in order to bring about change in the reporting system and to improve the process, it is necessary to have a third party person appointed to manage the death reporting both at local community level and at the district level. It is essential to make the medical officers and other health workers in the state to be aware of the need to have a good maternal death reporting practice to bring about overall improvements in the maternal health. The author Further states that on the economic growth and development front, India as a country has made tremendous progress and working towards making his gross domestic product higher year by year many policies and procedures are put in place to bring about development of economy and be on par with the developed nations. Similar the state of Gujarat has become a highly industrialized state and has shown exceptional progress in its industrial and economical growth. However the maternal mortality rate and infant
mortality rate is reasonably high both in India as well as in the state. Both the government at the center and the state governments have put many policies in place for improving the maternal health so as to realize the millennium development goals of reducing the MMR and INR rates.

*Malay Kanti Mridha (2009) “Public Sector Maternal Health Programmes and Services for Rural Bangladesh”*

This study is related to the improvements and development made in the mother and child health care by Bangladesh since its independence in 1971 and the policies and procedures put in place to enhance the maternal health so as to achieve the millennium development goals.

More than 75% of the population in Bangladesh is rural and hence major focus needs to be given towards improvement of the rural health. The mother and child health care system in rural areas is studied in accordance with the recommendations given by WHOM. In Bangladesh, Maternal health services are provided by both private, profit oriented health units and Government non-profit oriented units. However the author has focused mainly on the public health system and the maternal health services available in this system. A majority of the health improvement initiatives, plans, policies and procedures are made by the Ministry of Health and Family Welfare Department who derives the sources from the health policies followed throughout the world, certain aspects are taken from the national policies. Under the Ministry of health and Family welfare two departments; the department of Health services and the department of family planning work separately towards improvement of public Health. The mother and child health centers fall under the Family planning department which puts the health policies in place, makes and implements the plans for improvements in health services. Although there has been considerable enhancement in the infrastructure, but it is not evenly done throughout the country. The number of health centers providing maternal and child care has not increased in numbers, but enhancement of services has taken place in the existing facilities. The Health services department of the ministry of health and family welfare ensures that all the available health services are provided uniformly at all levels of health centers starting from the primary rural level to the urban tertiary level. This department also ensures that comprehensive emergency obstetrics care (CEmOC) is available at these
health centers. Trainings were provided to health workers to provide skilled birth attendance to handle home deliveries and other emergencies related to maternal health. Despite having put many plans into actions, the implementation has not been done satisfactory and hence Bangladesh has not been able to realize the MDG of improving the maternal health. The health indicators remain to be low in majority of the states in the country. There is a vast disparity in the availability of health facilities among various divisions, the socially high status divisions have better quality of health services available in comparison to the socio economically lower divisions of the society. The Rajshahi division has better comprehensive and other medical facilities than the WHO set standards. However the Chittagong division has comparatively lower facilities and facilities. This study shows that the facilities need to be improved for more than five-folds in order to match with the recommendations of WHO for reducing the maternal mortality rate. Shortages of doctors, inability to train medical officers on Comprehensive care and the inability to have the trained doctors posted at the rural areas has resulted in the poor health services in these areas. The divisions that have been made based on the socio economic status; this distinction has led to the disparity in the availability of doctors, where there are duplications in the availability at centers which are located in high socio-economic status at the same time there is non- availability of doctors at the low economic divisions.

*Dileep Mavalankar et al. (2009)* “Saving mothers and new borns through an innovative partnership with private sectors obstetricians: Chiranjeevi Scheme of Gujarat, India.”

In this article, the author describes the problem of high maternal deaths in India in comparison to the other countries. Despite the regulations and policies made to improve rural health by having SBAs and CEmOC specialists available at these health centers, the program has not been successful as these trained specialists are not willing to be work in the rural areas.

The author has adopted an approach of involving private gynecologists and obstetricians who are practicing in the local communities at sub district level in delivering maternal health care along with the Government through a public private partnership. This study was carried out in the year 2007, and it was found that most the deliveries took place at
home and in the absence of a trained birth attendant. However once the chiranjeevi scheme was in place, it was found that there was an 24% increase in the number of women approaching the health care unit for delivery and similarly there was a considerable number of increase in the availability of the doctors at these centers. Such programs have been very popular among the local population and have proven to be most successful in rural areas. With the success of this program, the author recommends that similar programs should be implemented at a wider perspective with private partners whereby cost effective treatment can be given to poor women at sub district level such benefits drive more women towards health care institution for treatment as they get good quality care. The author has studied the innovative health program called chiranjeevi scheme which has been implemented by the government of Gujarat in along with private partners. The author has used a descriptive methodology for this study. The study shows that more than eight hundred health care specialists have joined this program in the past two years and more than two lakh women have undergone delivery at private hospitals.

The author estimates that this scheme will provide a new life to the rural community who for long have been kept away from quality care due to lack of knowledge and financial assistance. In the initial phase this scheme was introduced only in five districts of Gujarat and later on, upon the success and good response of the program from the rural population, it was implemented across the state. Many private hospitals have also shown interest to become a part of this scheme and have come forward in serving a social cause. The author is rest assured that this scheme will definitely help in realization of the millennium development goal 4 and 5 by India, if it is implemented across all states.

Dileep Mavalankar, Veena Sriram (2009), “Provision of anesthesia services for emergency obstetric care through task shifting in South Asia”.

In this article, an innovative approach is adopted to in order to reduce the maternal mortality. The author mentions that by transferring the task of the anesthetists to primary level care centers, the emergency obstetric care can be handled easily thereby providing better maternal health. Most of the south Asian countries are now following the task shifting program however since this program has not be applied effective, the results have not shown up as per the expectations in improving EmoC services at rural level.
Anesthetists play a vital role in providing comprehensive emergency care and EmOC services as providing anesthesia is mandatory prior to any emergency operation. It becomes extremely essential in case of cesarean deliveries. However there has been an acute shortage of anesthetists in south Asian countries particularly in the rural areas, hence in order to overcome this issue, task shifting is adopted in most of the south Asian countries. This procedure is an effective way of benefitting both the anesthetists and the rural population, but the local government of each country needs to drive this program for its success. It was found that in most countries, these programs have not been effectively implemented. Most countries and most researchers have not given these issues much consideration and hence very less research has been made on this subject. There are some countries which have followed the practice of task shifting effective and have shown a considerable improvement in maternal health and Emergency care, also have shown a greater reduction in the maternal mortality rate.

The author further mentions that in order to get maximum benefit of this program, there has to be effective management at the state level and at the country level. A responsible higher authority person needs to be appointed to ensure that anesthetists are available at all rural centers and proper administration is carried out including providing necessary training on life saving anesthetic skills. The authority should ensure that there is provision for replacement and proper contingency planning is made in absence of anesthetists to ensure 24X7 supports is provided at these health centers. Apart from human resource planning, the authority should also take care of all legal aspects, effective monitoring, performance evaluation is carried out for these specialists doctors.