

RURAL AMBULANCE SYSTEM

**RAKTIM KUMAR KASHYAP, DEEPJYOTI KALITA, AKASH SAIKIA,
POLKIV SAIKIA, NILANJAN SAIKIA, VIKRAMJEET KAKATI**

ASSAM DON BOSCO UNIVERSITY, AZARA

ABSTRACT

In India Emergency Medical Response is Lagging Behind. It is basically because of poor time implementation and lack in technological advancement. To look after the situation we are introducing Rural Ambulance System. It will greatly improve our Emergency Service in India. It will be really useful in quick deployment in places with good transportation system or Better Road Service. With the raging increase of Female Mortality Rate in India each year. This Service will really come in handy in future time. [1].

High-Quality, consistent emergency service needs effective deployment for receiving the patient, evaluation of all the equipment's for Patients care. Tri-Cycle might be the most common vehicle in India. Easily available, Compact size, Lesser Fare and quite reliable for short distance travel. In this paper, we tried to represent a new model of Tri-Cycle Ambulance which will be really helpful for to reach who do not get emergency service on time in rural areas. The Features, Working mechanism, Structure, components etc. of the Tri-Cycle Ambulance is briefly discussed with important figures in this paper. The main intention of this paper is to help the Indian Emergency Response Service as much as possible.[2]

1. INTRODUCTION

As the economy is rising India shows lots of Potential for growth. In India 2/3 part of population lives in rural areas. Approximately there are nearly 540000 rural villages in India. Only 23% of the rural population lives within the %km radius of a Hospital. 25% are ranged from 5-10 km radius and more than 50% ranges from 10km or more. Government of India started the National Health Mission (NHM). Health care accessibility was considered as an important factor in this mission. [3]

Emergency Medical Service is a part of services dedicated to providing Hospital acute medical care or transportation to advance medical care service. The main objective of Emergency Medical Service is to provide treatment to people in immediate need of medical care, Preparing for patient's removal to the next point of advance service without delay and reducing the causality. [4]

2. RELATED WORK

Rural Ambulance overcome the drawback of regular ambulance in case of Size as well as availability of service in different terrains. A Nurse will always be available with the Rural Ambulance. She will be able to take care of the patients on the way to the hospital as well as she will be able to give the patients the correct medication that is necessary. The Rural Ambulance will be equipped with all the necessary equipment's need for an On-Route

Pregnancy Delivery. Also by the ambulance will be fitted with a Heat Chamber for New Born Baby as well as with a Detachable Stretcher. [1]

3. ABOUT RURAL AMBULANCE SYSTEM

The ambulance is basically divided into two parts depending on their functions. The primary part of the ambulance is the Chassis of the Tri-Cycle which is to be used for Transportation purpose and following by the second part which is the cabin of the ambulance. Which will be fitted with a detachable stretcher and all the necessary equipment's needed for the patient's survival. The ambulance will be fitted with a Live Telephone line for faster service within 10km Radius approx.[1]

4. PROBLEM FACED WITH INDIAN AMBULANCE SYSTEM

While calling an Ambulance during emergency, the following problems are generally faced by the public

- Ambulances are occasionally late
- In some cases the helper in the Ambulance is Negligent
- Ambulances are generally dropped off in the poor conditions
- Ambulance doesn't goes to the deeper backward parts of India
- The Local Ambulances generally don't travel to the muddier zones of India

5. INCREASED MORTALITY RATE DUE TO AMBULANCES

It has been observed that with each passing years the mortality rate of the patients transported via a local Ambulances are increasing. A regular Ambulance journey has a distance of 0-45km with a mean distance of at least 5kms. In Ambulances Increased distance often results in Increased Mortality rate. According to an analysis by Jon Nicholl, James West, SteveGood acre and Janette Turner from the Medical Care Research Unit of University of Sheffield, UK. It has been found out that with 10km increase of distance from the Patient to the Hospital. It increases the Mortality Rate by 1% each year. [5]

5.1 INCREASED FEMALE MORTALITY RATE

In Asian Countries the Maternal Mortality Rate is quite high as compared to the other Western countries. A research by Prakash A from Banaras Hindu University, Varanasi, states that Hospitals in India have a 4.21 Maternal Mortality Rate per 1000 Live Birth. In India(Except Kerela) since the last 15 years the Maternal Mortality Rate has Increased Significantly

5.1.1 BASIC REASONS FOR INCREASED MATERNAL MORTALITY RATE IN INDIA

- Poor Antenatal and Postnatal care
- Delays of Ambulances to reach the patient
- Uncomfortable Journey to Hospital via. Ambulances
- Lack of Education of the people
- Differences between people from Urban area and Rural area
- Nutritional Failure
- Maternal age instability
- Sanitation and Hygiene
- Caste Problem

Table 1. Trends in Essential Maternal Health Indicators

S.No	Indicators	NFHS 3 (2005-2006)			NFHS 4 (2015-2016)		
		Urban	Rural	Total	Urban	Rural	Total
1	Antenatal care coverage ^{1, 2}	73.8	42.8	50.7	66.4	44.8	51.2
2	Antenatal care coverage (FULL) ³	NA	NA	NA	31.1	16.7	21.0
3	Births attended by skilled health personnel	75.3	39.9	48.8	90.0	78.0	81.4
4	Perinatal mortality rate	36.3	52.6	48.5			
5	Prevalence of low birth weight	19.3	23.3	21.5			
6	Prevalence of anemia in women	51.5	58.2	56.2			
7	Mothers who consumed IFA for 90 days or more when they were pregnant with Their last child (%) ⁴	34.5	18.1	22.3	40.8	25.9	30.3
8	Institutional births	69.4	31.1	40.8	88.7	75.1	78.9
9	Received PNC within 48 hours of discharge/delivery	60.8	28.5	36.8	71.7	58.5	62.4
10	Currently married women who usually participate in household decisions (%)	45.0	33.0	36.7	85.8	83.0	84.0

Grey area – numbers for the indicators are not available

1. NFHS 3- Mothers who had at least 3 antenatal care visits for their last birth (%)
2. NFHS 4- Mothers who had at least 4 antenatal care visits (%)
3. Full antenatal care is at least four antenatal visits, at least one tetanus toxoid (TT) injection and iron folic acid tablets or syrup taken for 100 or more days
4. NFHS 4 - Mothers who consumed IFA for 90 days or more when they were pregnant with their last child (%)

[6]

6. CONCLUSION

From the survey we can conclude that the transportation system in India is very poor which results in the lag in the emergency responses, as a result the mortality rate in the rural areas are increasing. There are narrow and earthen roads which creates problem for the vehicle to pass.

Moreover from the data collected from “National Rural Health Mission” we found out that there are shortage of emergency response vehicles which increase the problem in delivering the service to the required fields.

So after analyzing the data from survey we can come to a conclusion that we require a vehicle which is capable of quick response overcoming all the problems faced by the regular ambulance in the rural areas. Moreover it should be cost efficient and affordable for the general public.

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