Effectiveness Of Rural Healthcare Centres: An Empirical Study In Sonitpur District Of Assam, India.

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ABSTRACT

It is essential for a nation to have provision for proper healthcare facility in urban as well as in rural areas of the country as health and socio-economic development work simultaneously. With the distressing effect of COVID-19, it becomes more important to understand how our health care system works and what it has more to provide. India is heavily covered with more rural populations than urban where Community Healthcare Centres (CHCs) being the uppermost tier of rural public health infrastructure in India is formed to provide proper healthcare service to its community. In the present study, an attempt has been made to understand the effectiveness of the health centers in the studied area so as to find out the areas which requires more attention and efforts can be put on those areas so as to improve the quality of service and provide proper healthcare facilities to the community. The result showed distressing figure and despite the well-structured healthcare system in the country, the health care infrastructure and the basic health care facilities even in the CHCs and Model hospital lagged far behind and required proper attention towards it.

Keywords: Effectiveness, Rural Healthcare Institutes, Model Hospital, Community Healthcare Centres, Sonitpur District, Assam.

1. INTRODUCTION

Health is the right of every individual and is an important indicator of well-being that has immediate implications for the quality of life as well as for productive capacities and capabilities (Sahoo, 2008) [1]. Specially, the sudden insurgence of covid 19 demands a nation to have sound healthcare facility in urban as well as in rural areas of the country. India being the second most populated country of the world, where 70[1]% of the nation's population lives in rural areas requires an effective healthcare facility for the rural people. In order to provide proper healthcare facility to this section of people, health infrastructure in rural India has been developed as a three-tier structure which consists of Sub-centers (SCs), Primary Healthcare Centers (PHCs) and Community Healthcare Centers (CHCs) based on pre-determined population norms. Even though a well-structured public healthcare system exists in the country yet India is ranked 113 out of 184 countries according to Health Infrastructure Index (HII) 2021 created by Bennett University and City University of Hong Kong. Such condition put India, especially in the rural areas of the country in a vulnerable category to fight against COVID-19 or any such pandemic.

Recognizing the role of health in economic development and to solve the problem of rural health, National Rural Health Mission (NRHM) was introduced on 2005 to provide reliable, effective and affordable healthcare services especially to the vulnerable section of the society. Though NRHM, now NHM has completed 15 years of journey in Assam, it still has a long way to go and is far behind the desired results. In spite, of several policies adopted by the government, Assam is still a low performing state in terms of public healthcare services.As per 2013 report, in order to provide better healthcare facilities to the rural people of Assam, the NRHM unit in the state has planned to construct 126 Model Hospitals in different districts of the state, out of which 60 hospitals were reported to function from the fiscal year 2013-14. According to NHM official, the main motive behind constructing Model hospitals in the state is to provide quality healthcare services to the people particularly those residing in the rural areas of the state. As per report, there are very few health clinics for the rural people in the state, as a result of which the rural poor are not able to avail proper healthcare facility[2]. Most of the villages in the remote areas of the state having large number of populations have to depend on the few health dispensaries available for their healthcare

[1] https://censusindia.gov.in/vital_statistics/SRS_Report/9Chap%202%20-%202011.pdf
[2]https://m.timesofindia.com

needs. Therefore, construction of Model hospitals in such areas aimed to help the remote people to get access to the basic healthcare needs. As per Government planning, every Model hospital would be facilitated with 30 beds andbe equipped with all the modern amenities as per Indian Public Health Standards (IPHS) such as a high-tech laboratory, out-patient department (OPD), emergency, operation theatres (OT), stabilization units for new born, quarter facility, along with advanced machines and technologies. The facilities that should be available in a Model hospital are almost similar to the facilities that should be available in a CHC. Considering the importance of public health care system, in the present study, an attempt has been made to know about the facilities available at the Model hospital and CHCs of the studied area and the services provided by them to its community amidst the COVID- 19 situation.

2. SIGNIFICANCE OF THE STUDY

Health is a fundamental human right and healthy population is essential for socio-economic growth. The fact cannot be denied that the world is shuttered with the devastating effect of COVID-19. Every possible step has been taken to control the situation. First and foremost, it raises concern on how healthcare system is working and what can be done to bring a sustainable solution to prepare the health care system of the country to tackle further mass healthcare challenges. Though substantial steps have been taken for the availability of healthcare services in the urban areas of India, but there is an urgent need to improve the availability of services and enhance the quality of care in many rural areas where majority of country's population lives. Rural areas account for bulk of population in India as well as in the state of Assam. This huge amount of population could not meet their demand for healthcare with few healthcare centers available to them. Therefore, construction of new segment of Model hospitals in such areas will help the remote people to get access to proper and effective primary healthcare needs. In addition to the Model hospitals, there are CHCs in order to serve the rural population. In the present study, the researcher has made an attempt to know about the facilities available and the quality of healthcare services provided by the studied health institutes to its patients. The study will provide an idea on the areas which requires more attention and efforts can be put on those areas so as to improve the quality of service and provide proper healthcare facilities to the community.

3. OBJECTIVES OF THE STUDY

The present study has been undertaken keeping in mind the following objectives:

i. To understand the healthcare infrastructure available in the public health institutes of the studied area.
ii. To examine the quality of services provided by the health institutes to its patients.

4. METHODOLOGY

The study was conducted in Sonitpur district of Assam and the data used in the study is empirical in nature. As per health survey report of Government of Assam, there are eight health blocks in undivided Sonitpur District of Assam. In the eight health blocks there are a total of 6 Model Hospitals and 4 CHCs. For the purpose of the study all the above-mentioned health institute in the district has been selected. A study was conducted between December 2020 to January 2021. To cross check the quality of service, patients/attendants who were present at the health institutes at the time of researcher visit were interviewed. Permission was obtained from the district health office for the study. The data was collecting adhering the prevailing Covid-19 protocols with prior permission from the concerned authority and only the response of the permitted patients were taken that did not include the COVID-19 patients.

Face to face interview technique was used for collecting data using structured schedule. Two sets of structured schedules have been prepared for the study. First set for the health workers and the second set for patients or beneficiaries. For the study of the first two objective all the workers in the concerned health institutes were interviewed using first set of schedule. Attendants/patients opinions were considered to cross check the quality of service using second set of schedule. From each health institute 10 attendants were interviewed making a total of 10*10= 100 beneficiaries (there are 10 health institutes and from each 10 patients/attendants were interviewed). Patients' viewpoint or opinion about the quality of healthcare services was measured using structured schedule containing 32-item or parameters each measured on five point Likert scale that ranged from a score of (1) Dissatisfied, (2) Not satisfied, (3) Neutral, (4) Satisfied, (5) Highly satisfied. In order to simplify the data and

analysis, the collected data were coded in standard form and entered in the MS excel. Then the data analysis was done using SPSS 20. Percentage, mean and standard deviation were presented in the result section as per the nature of the data.

5. RESULTS AND DISCUSSIONS

5.1. Healthcare Infrastructure of Model Hospitals and CHCs

From the study, it was found that there are a total of 6 Model Hospitals in the studied area viz. Kalabari Model Hospital, Kusumtola Model Hospital, Borgang Model Hospital, Balichang Model Hospital, Ghoramari Model Hospial and Sirajuli Model Hospital and all of them were constructed in between 2014-16. In addition to these, there are 4 CHCs in the studied area viz. Chariduar CHCs, Dhekiajuli CHCs, North Jamuguri CHCs and 155 Base Hospitals. The facilities that should be available in a Model hospital are almost similar to the facilities that should be available in a CHC.

i. **Population:**These hospitals have been assigned some villages under its jurisdiction to provide healthcare services to its people. From the study it was found that 17% of the model hospital covered less than 10,000 population, 33% of the hospitals covered population in between 10,000-20,000 and 50% of the hospitals covered a population of 20,000-30,000.

In case of CHCs, it was found that majority of the CHCs had to serve more than 1,00,000 populations. All the SCs and PHCs in a block were under the jurisdiction of BPHCs (Block Primary Healthcare Centres) and all the cases that cannot be cured in BPHCs are referred to the concerned CHCs as they are the uppermost tier of the rural public healthcare infrastructure. The population served by the Model hospitals are less as they are newest affiliate to the public health infrastructure.

ii. **Physical Infrastructure:** As per IPHS norms, every CHC or Model Hospital should consist of sufficient rooms with facilities of Clinics for various Medical disciplines, Family Welfare Counseling Room, Emergency Room, Operation theatre/ Labour room, Minor O.T., Injection Room and Dressing Room, Observation (Recovery) Room, Stabilization Units for new born, New born corner room, Separate Wards for males and females with provision of separate toilets for both the wards, OPD, Laboratory Room, Cold Chain Room, separate room for X-ray and Ultrasound, space for Pharmacy, Waiting area for patients with required facilities, separate Washroom for staff and patients. It should also have residential/ quarter facilities for both doctors and staff.

From the study, it was found that all the Model hospitals in the studied area have sufficient rooms to perform the required healthcare services. But it was found that, although the infrastructure was available to carry out its activities but due to lack of doctors or supporting staff most of the hospitals did not have functional operation theatre (O.T.) and Stabilization units for new born. Moreover, it was seen that in all the studied hospitals only the ground floor was functioning. Though the first floor was constructed in the similar pattern as that of the ground floor but none of the rooms were in use which may be due to lack of doctors, supporting staff or non-availability of required amenities. Apart, from this majority of the model hospitals either did not have residential facility available for doctors and staff members or the quarters were not in proper condition for them to live in. In addition to these, though the constructions was very recent but in some of the hospitals cracks in the walls have already started to develop which reflected lack of management of hospital committee in the construction process.

In case of CHCs, it was found that all the CHCs in the studied area have sufficient rooms to perform the required healthcare services. All of them have labour room, new born care corner and functional laboratories where various test are conducted. Besides this, it was found that, although the infrastructure was available to carry out its activities but due to lack of doctors or supporting staff none of the CHCs have functional operation theatre (O.T.) and 50% of them did not have Stabilization units for new born. Though quarter facility was available in almost all the CHCs but it was not sufficient and due to its poor condition very few staff use to live in the quarter. Apart from this, the building was not up-to the mark and up-gradation or modification of the building is required to be done.

iii. **Equipment:** As per IPHS norms, a CHC or Model hospital should be equipped with all the required amenities like X-Ray machine, Ultrasound, Oxygen cylinder, Microscope, Sonography, CT Scan machine, etc in order to provide the required healthcare facilities to its people. From the study it was found that the Oxygen cylinder and microscope was available in all the health institutes under study. Though in few of the

hospitals some machines were installed but due to lack of operators they were not functioning. Thus, we can say that none of the model hospital have functional x-ray machine, ultrasound or sonography machine.

Likewise, in the studied CHCs it was seen that Oxygen cylinder and microscope was available in all of them. Besides this, though in few of the CHCs, X-Ray machine was available but due to lack of operating staff they were non-functional. Sonography machine was available in very few CHCs and CT Scan Machine and Cardiogram was not available in any of the CHCs of the studied area. Thus, we can see that in case of both Model hospital and CHCs there was lack of required equipments and in few cases though the machine was available there was lack of operating staff.

iv. **Medicines:**As per norms, there is a list of 320 essential drugs that must be available in a Model hospital. From the study it was found that majority of the studied hospitals have about 50-65% of the drugs available with them. CHCs have a list of 297essential drugs which should be present in its premises in order to serve its patients. From the study it was found that, majority of the CHCs have 70-80% of the drugs available with them. The availability of these drugs varies from time to time. All the necessary drugs should be available in the healthcare facilities in sufficient quantity so as to serve the population. In the present Covid situation all the necessary medicines needed for covid patients are made available in the studied public health institutes.

v. **Supporting Facilities:** As per IPHS norms, every CHC or Model hospital is instructed to have the basic supporting facilities available for the successful execution of the healthcare services. As per norms, a model hospital should have regular water supply, regular electricity facility, telephone facility, internet facility, generator or inverter for backup provision, laboratory facility, proper washroom facility and ambulance facility.

From the study it was found that all the model hospitals in the studied area had regular water supply, regular electricity facility, proper washroom facility for both staff and patients and generator or inverter facility to provide backup service during electricity cutoff. Laboratory facility was also available in the studied model hospitals. Apart from these the accountants of the public healthcare institutes were provided monthly rental charge for the use of internet facility for hospital work purpose. In addition to these, it was seen that none of the hospitals in the studied area had ambulance facility available with them. Either there was no ambulance in their premises or it was damaged. The patients have to use personal vehicles or they use to make arrangements for ambulance from the nearby health institutes if available.

Similarly, like Model hospitals, CHCs also have proper water supply, electricity facility, laboratory facility and they also have provision of generator or inverter to provide backup service during electricity cutoff. Unlike model hospital, all the CHCs have ambulance facility in their premises to carry the referred patients to the nearest hospital.

vi. **Environment and Hygiene*:*** Environment hygiene is important to prevent transmission of infectious diseases within healthcare settings. In healthcare, it encompasses all the practices that prevents or minimizes the spread of disease. In the studied health institutes, hygiene practices were not up to the mark and efforts can be made to make it more reliable. In the present covid pandemic efforts are made by the health institutes to maintain the hygiene and follow Covid protocols on hygiene.

vii. **Human Resource Availability:**Human Resource is the most important component of healthcare system. In absence of sufficient health workforce the desired health outcome cannot be achieved. As per norms, a CHC is a 30-bedded hospital which should provide specialist care in Medicines and should have the service of a Surgeon, a Physician, a Gynaecologist, a Paediatrician, Ophthalmology, Dental and Ayush. Similar to a CHC, a model hospital should also consist of almost the same number of manpower. In addition to these, they should also get the service of auxiliary nurses.

From the study it was found that all the health institutes in the studied area faced shortage of doctors. It was seen that there was lack of specialist in the health institutes which acted as a barrier in the way of providing quality service to the patients. In addition to these, in most of the studied health institute it was seen that there was lack of auxiliary nurses to provide the necessary care to the patients. In some of the health centres it was seen that though the equipments were present in the health premises but due to lack of operators the machines were non-functional. Besides these, there was lack of 4^{th} grade staff in the health

centres which created problem in the way of smooth conduct of the health functions. Though as per norms 1 laboratory technician and 1 pharmacist is prescribed and 2 are desirable for every CHC but in some CHCs 1 technician was not sufficient for them to perform the task due to huge population coverage. Moreover, report has been provided on non-availability of standard laboratory equipments which acts as a barrier in providing accurate laboratory test results.

As per norms, a CHC should have 1 ABPM and 1 Assistant to maintain its accounts efficiently.It was found from the study that most of the health centres had only one accountant to maintain hospital accounts. In such a case, it becomes hectic as well as difficult for one accountant to maintain all the records. Similar was the condition in case of Model hospital. Thus, it could be seen from the study that in both CHCs and Model hospitals health staff were not adequate and this drawback can be eliminated through appointment of new staff as required. But in order to handle Covid situation new health staffs were appointed either permanently or on contractual basis.

The findings of the study are consistent with the findings of many other studies on facilities of public healthcare. The findings of this study accord with the results from a previous study conducted in 2 districts of Assam, India where it was reported non-availability of quality public healthcare facilities, lack of proper care, negligence of hospital authority, non-availability of standard health equipments, lack of medicines and health specialist to be some of the drawbacks of public healthcare which compels the rural mass to visit nearby private clinics or hospitals[3].

5.2. Patients'Opinion Regarding Healthcare Services

While interacting with the patients/attendants it was reported that the health infrastructure of public health institutes were not up-to the mark and improvement needs to be made in this field. Only the response of the permitted patients were taken that did not include the COVID-19 patients. Patients have put forward their opinion regarding availability of human resource and pointed out that both the Model hospital and CHCs did not have sufficient number of doctors to serve its patients and there was lack of specialist in the studied health institutes. In the studied health institutes particularly in case of Model Hospitals it was seen that due to lack of staff or doctors, there was no provision of night shift though as per norms they have to provide service 24x7. It was also seen in case of some hospitals, though the night shift was available but there was lack of staff during night. Moreover, the patients consider the health workers as well as the doctors of public health institutes not to be as efficient as in case of private healthcare institutes. But in the present Covid situation Model Hospital of the studied area were made Covid centre for Covid positive patients and new staff were appointed in the hospital premises to provide the required services to the patients.

Moreover, as per the response received from the patients/attendants it was found that there was no provision for X-ray, CT Scan in the hospital premises though as per norms every CHC or Model hospital should have these facilities. In some of the studied institutes all the test were not done for which the patients had to visit the nearby hospitals or diagnostic centres for conducting the test. Some of the patients even pointed out that due to the lack of latest technology with respect to laboratory in the public health institutes, the patients doubt the accuracy of the results and sometimes even after conducting the test in the public health institutes they try to go for testing in the private diagnostic centres for cross checking and clarifying their doubts. Moreover, regarding NHM medicines some of the patients opine that they were not that effective as the medicines available in outside medical store. To tackle the prevailing pandemic, efforts were made to make available all the required facilities related with basic covid treatment.

Regarding the facilities of health institutes, it was reported by the patients to be low on condition of toilets, laboratory facilities and ambulance facility.Similar findings were observed in other studies. [3, 4]Regarding the service delivery facility, it was reported to be low on maternal health services and in case of administration services, it was seen that the patient's complaints were not given prompt responses. The current study seems to corroborate the findings of other researcher (Narang et.al., 2011) [5] on user opinion of service quality.

Besides, this study has potential shortcomings. Physical constraints, to a great extent, have compelled the researcher to reduce the size of the sample. Moreover, there could be biasness in the responses of the respondents or may be disinclined to give opinions on health services due to lack of experience. This may affect the reliability of the data to some extent. In spite of all the constraints, sincere and serious attempt has been made by the researcher to make the study a meaningful one.

Table 1: Patients opinion on quality of health care

Items	Mean	S.D.
Infrastructure and health facility		
Condition of Building	3.52	.645
Adequacy of room	3.27	.803
Adequacy of medical equipments	3.25	.569
Adequacy of health staff	3.14	.803
Proper sitting and bedding arrangements	3.34	.625
Condition of Toilets	3.04	.621
Cleanliness of hospital and environment	3.26	.585
Drinking water facility	3.41	.695
Electricity facility	3.53	.644
Laboratory facilities	3.07	.563
Ambulance facility	2.86	.440
Interpersonal Aspect and Staff behavior		
Adequate time given by doctor	3.74	.559
Doctor listening skills	3.77	.532
Addressing queries of patients	3.82	.384
Receptionist ability to convey information	3.82	.384
Pharmacist explanation on medicine queries	3.76	.431
Doctor behavior	3.90	.320
Nurses behavior	3.61	.488
Behavior of other health staff	3.56	.499
Helpful nature of hospital staff	3.47	.501
Honesty	3.64	.498
Healthcare delivery		
Doctor examination of patients	3.69	.566
Doctor information on illness and treatment	3.67	.584
Doctor prescribed medicines helpful to patients	3.62	.487
Prescribed drugs availability	3.57	.497
Services of nursing staff	3.46	.557
Maternal health services	2.87	.570
Administrative Procedure		
Prompt response to the complaints of patients	3.06	.293
Process of hospital admission	3.90	.296
Stay and discharge service	3.64	.483

Clinical appointment	3.79	.447
Service Charge	4.04	.207

Source: Primary Data, 2021

6. CONCLUSION

The public health care structure of Assam is well planned but when we look at the basic facilities that specific healthcare institutes should provide as per norms with which it is formed, it lags far behind with a lot of under capacities. Recognizing which service has not been provided acceptably over time helps the hospital staff to put in more efforts and take measures to overcome the problems associated with the service. The results of the study indicate immediate steps need to be undertaken to ensure availability of proper facilities, standard healthcare equipment and adequate manpower. Further, the findings urge the policy makers and government to consider patients perception as well to improve the quality of service that can subsequently increase their proper utilization and provide effective results.

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