

A Study of Hospital Safety in District Hospital, Deoghar, Jharkhand

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Abstract: Hospital Safety is one of the key indicators in the healthcare organization. Hospital Safety Index of WHO checklist is the standard checklist to measure the hospital safety in the term of structural and non structural components. It is the responsibility and the top priorities of the top level management of the organization to provide safety to the patients or customers for better quality care in the competitive world of the 21st century. District Hospital, Deoghar, Jharkhand is running 24 X 7 X 365 and providing patient care services even in the situation when threat (private hospital or nursing homes) are not providing health services. There is no specific time for disaster in the organization, disaster can happen in an organization through human made or natural. To know the preparedness, root cause and effect of an organization, WHO Hospital Safety Index checklist, questionnaire and Quality tool – Fish bone diagram has been used to identified the gaps, analysis the existing action plan of the disaster preparedness and further recommended road map for action plan of the disaster preparedness in the existing infrastructure and the workforce for better quality care services to the patients or customers.

Keywords: World Health Organization, Hospital Safety Index, Safe Hospitals, Hazard Map, Action Card

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I. Introduction

Healthcare service is one the most important critical services while comparing with any other critical facilities such as airports etc. Hospital is a place where patient come for treatment. There is no way that hospital services can stop at any reason. Even losing hospital services due to disaster can lead to loss of sense of security and social instability, which have to yet been fully understood. The loss of patient in health facility due to internal cause emotional repercussion on community. The hospitals are expected not only provide good medical care but also ensure the safety of their vulnerable patients.

In India, Health system currently operates within an environment of rapid social, economic and technical changes. Such changes raise the concern for quality of healthcare as well as patient safety in hospital. Hospital is in an integral part of the healthcare system which is prone to natural as well as human made disaster.

Several incidences has been happen in various hospital due to internal disaster like fire in AMRI hospital, Kolkata, 98 patients were died. The hospital authority has to think into the matter of hospital safety and to take it seriously. Hospital is occupied 24 hours a day / seven days a week by population that is entirely makes it almost impossible to organize a quick evacuation if and when it is needed. The emergency evacuation drill in hospitals is itself a disaster because of its haphazard's implementation.

Public Hospital, Deoghar has not documented their plan what to do before and after incase of disaster occurred. The architect of the hospital is in pathetic situation. There is no emergency gate to evacuate the people in case something happen. Fire extinguisher training has been given by fire officer of the district. How to handle fire extinguisher in case of fire occurred due to short circuit or any other cases.

State Profile of Jharkhand

The government of Jharkhand has stood up to its promise of providing better health services throughout the state. There are 24 districts in the Jharkhand state. There 21 district hospitals out of 24 districts in the state of Jharkhand and three Medical Colleges namely Rajendra Insititute of Medical Sciences, Ranchi, MGM Medical College, Jamshedpur and Patliputra Medical College & Hospital, Dhanbad. One of the districts hospital out of 21 district hospital .i.e. District Hospital, Deoghar. In the health system, District Hospital, Deoghar is directly linked to state and national health system. Therefore, the district level management team has the accountability for better management and provides quality of health services to the community. In the state of Jharkhand, District Hospital, Deoghar is well known in providing better patient care services. The government

of Jharkhand has proposed three Medical colleges in different divisional regions of Jharkhand namely Hazaribagh, Palamu and Dumka. For tertiary care services, Super Specialty Hospital cum Teaching Institution like All India Institute of Medical Sciences (AIIMS) has been proposed and it is expected that Outdoor Services will be provided at the end of the year 2020.

II. Literature Review

Hospital: "Hospital is an institution providing medical and surgical treatment and nursing care for sick and injured people".

An institution equipped with specialized staff and equipment's meant for patient treatment.

Government or Public Hospital: A public or government hospital is a hospital which is owned by a government and receives government funding. In India, government hospitals provide healthcare free or at nominal charges at the point of use for any Indian citizen. These are usually individual state funded. However, hospitals funded by the central government (federal) government also exist. State hospitals run by the state (local) government and may be dispensaries, peripheral health centers, rural hospital, district hospitals or medical colleges hospitals (hospitals with affiliated medical colleges).

Structural Components: Structural components of building refer to those parts of the hospital building that are required for physical support. These include foundations, columns, supporting walls, beams and diaphragms (i.e. floors and ceilings designed to transmit horizontal forces in the earthquake through beam and column to the foundation).

Non Structural components: Non structural components of buildings refer to those components which are physically joined to a building structure (e.g. partitions, windows and doors), those that are essential to the buildings function (e.g. plumbing, HVAC) and items located within the building (e.g. medical equipments, fixture and furniture).

What is Disaster?

"A disaster is a sudden, calamitous event that causes serious disruption of the functioning of a community or a society involving widespread human material economic or environmental losses and impacts which exceeds the ability of the affected community or society to cope using its own resource." UN International strategy for disaster Reduction (UNISDR)

Natural Hazard: Natural process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption or environmental damage.

The Natural disasters were split into three specific groups

1. Hydro-meteorological disasters floods and wave surges, storms, droughts and related disasters (extremes temperatures and forest/scrub fires), and landslides and avalanches.
2. Geophysical disasters like earthquakes, tsunamis and volcanic eruptions.
3. Biological disasters like epidemics and insect infestations.

Man Made Disasters/ Human made Disasters: Disasters due to human activities could be unintentional, but lack of safety measures and abiding by certain safety rules and regulations. Most of these (barring coordinated terrorist activities) are due to certain accidents. Terrorism, Bomb blast, wars, Riots, technology related accidents (Road, Ship, Air), Chemical and Nuclear, Industrial accidents, etc.

Disaster risk management in health: The systematic analysis and management of health risk, posed by emergencies and disasters, through a combination of hazard and vulnerability reduction to prevent and mitigate risks, preparedness, response and recovery measure.

The traditional focus of the health sector has been on the response to emergencies. The ongoing challenge is to broaden the focus of disaster risk management for health from that of response and recovery to a more proactive approach which emphasises prevention and mitigation, and the development of community and country capacities to provide timely and effective response and recovery. Resilient health systems based on primary healthcare at community level can reduce underlying vulnerability, protect health facilities and services, and scale-up the response to meet the wide-ranging health needs in disasters.

Disaster Preparedness: As per UNISDR preparedness is use of capacities and knowledge developed by government agencies, academicians, professional organisations, communities and individuals to anticipate and respond effectively to the impact of natural hazards events.

Hazard: Hazard is a natural physical event which has a potential to convert into disaster, causing widespread injury or deaths and damage to public or private property or the environment.

Objectives of The Study

- To assess the existing vulnerability in terms of structural and non structural element safety of the facility.
- To assess the awareness among staffs on Hospital safety
- To know the status of maintenance and inspection policy for structural and non-structural element of the hospital.

- To know the preparedness to respond to disaster

Research Questions

- What type of disaster affects the hospital?
- Why hospital should concern on internal safety?
- What are the steps hospitals should take to manage the disaster?
- How staffs and administration are ready to handle the situation?
- How disaster affects hospital by different ways?
- As per Work WHO Checklist

Hypothesis

A. Null Hypothesis - To know that public hospital's structural and non-structural element are not safe in the view of hospital and patient safety, staffs are unaware to take measure action to handle the disaster.

B. Alternative Hypothesis- To know that public hospital's structural and non-structural element are safe in the view of hospital and patient safety, staffs are aware to take measure action to handle the disaster.

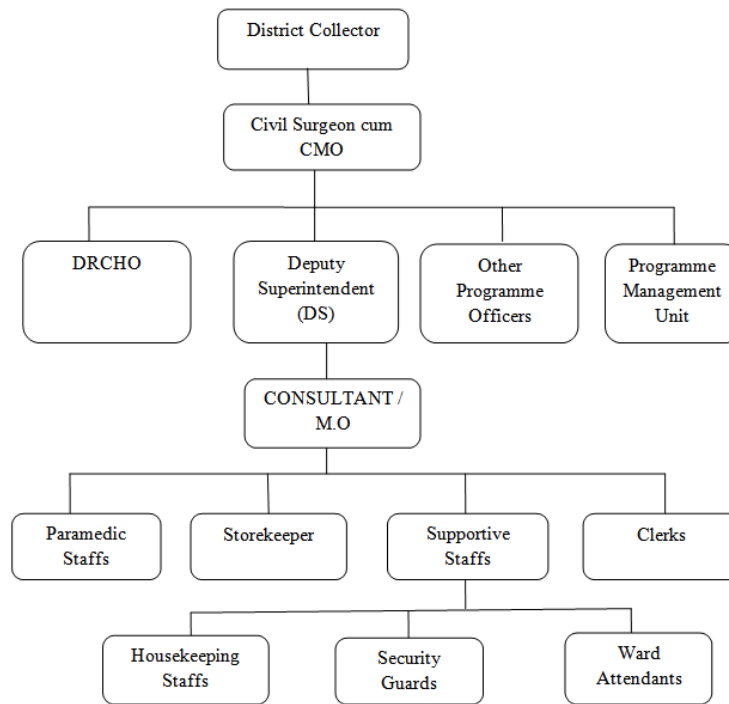
Research Methodology

This is an exploratory study which was aiming to explain the status of hospital safety preparedness in case of disaster and to improve the patient safety. The purpose of the study is to explore and explain the attitude of the hospital staffs and administration towards hospital safety and disaster preparedness. This study was trying to get the important information of disaster preparedness in hospital. Structural, non-structural, human resources and function preparedness, its present status and tried to find out the area where there was a need of improvement in addition to attitude of staffs and administration. Hence the broad methodology for research was including both qualitative and quantitative approach. It was non-participatory research. The overall idea was to explore and explain the status of hospital safety.

Background of The Healthcare Provider

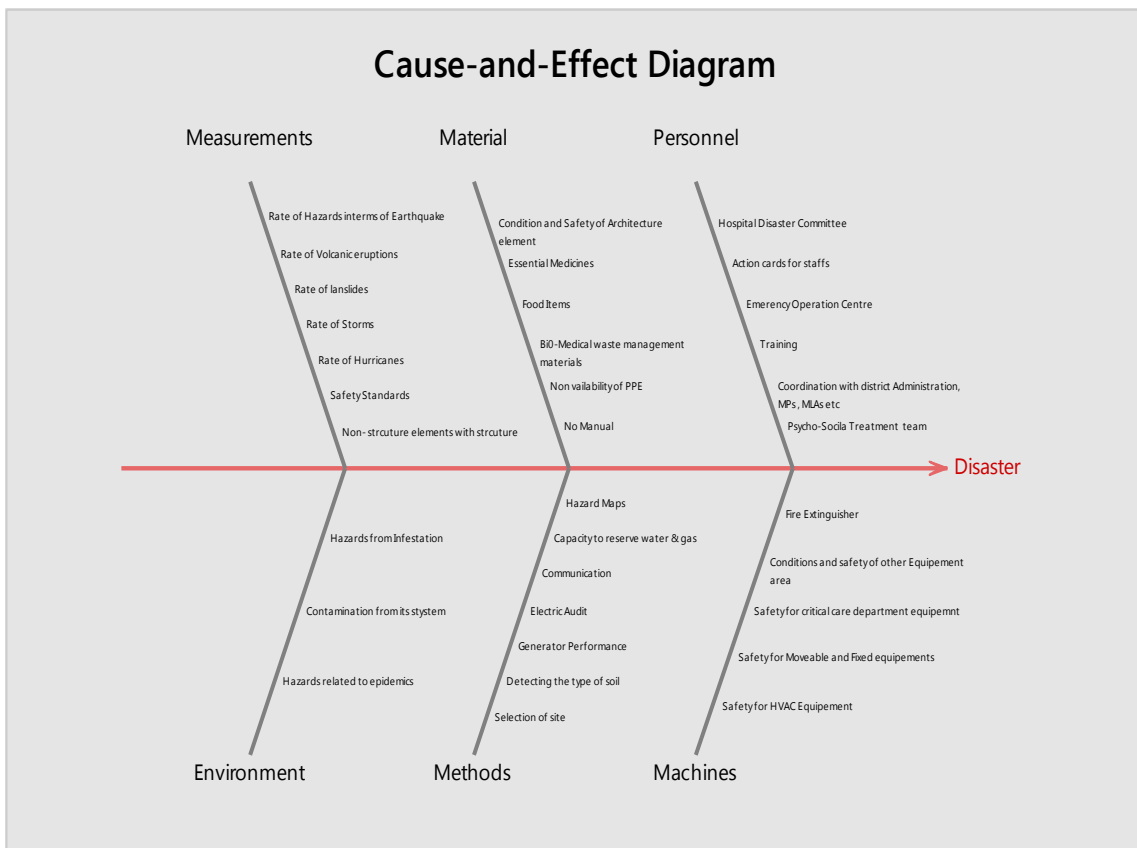
District Hospital, Deoghar has adequate number of employee, structural facilities and the funding is through government. This Hospital is the best public hospital in the area of Santhal Pragana division of Jharkhand state. This hospital was previously ISO certified and recently winner of kayakalp award. This Hospital is catering almost 17 lakhs population and Its Bed Occupancy Rate is 77 percent on an average of every month. District Hospital, Deoghar is providing Secondary Level Health care services. Referral from 8 CHCs (Community Health Centres), 5 PHCs (Primary Health Centres) and 181 HSC (Health Sub Centres) to District Hospital, Deoghar for better treatment and care of Patients. District Hospital, Deoghar has all in house supportive services like Blood Bank, Laboratory, Digital X-ray, Electrocardiogram, Ultrasound and ambulances services are available round the Clock. This hospital is growing over the years and is currently having about 130 beds including facility like Intensive Care Unit and Special Newborn Care Unit. There are various types of wards like Emergency Ward, Male Ward, Female Ward, Burn Ward, Mal Nutrition Treatment Centre, Diarrhea Ward, Eye Ward, Prisoner Ward, Tetanus ward, Isolation Ward and Geriatric Ward. Well equipped labour room, major and minor operation theaters are available and has incinerator for sound Bio-Medical Waste Management System.

Structure of The Organisation At District Level



Tools And Techniques Of Data Collection

One main tool has been used for different activities for data collection that is hospital safety index which was developed by World Health Organization. Quality tool Fish Bone diagram- cause and effect graphical analysis has been done.



III. Key Observations and Findings of The Study

- Hospital does not have hospital safety manual, specific hospital safety plan, safety plan as per different hazards.
- Hospital is keener on desirable issues like fire, loss of power, loss of water, loss of HVAC, they are not any precaution on issue of internal flooding, bomb threat, earthquake
- Patient file should contain some important codes and instruction regarding safety which is absent there.
- Hospital don't have internal and external hazard map, which is the most important thing in case of disaster response.
- There is no post of safety officer at District Hospital, Deoghar. Government is not recruiting as Safety Officer for particular hospital only.
- There is no procedure to check the vehicles entering into hospital area, no scanning, and no check, vulnerable to bomb threat and IED blast or terrorist attack.
- They don't have alternate facility location if the main facility gets affected.
- This hospital doesn't have hospital safety committee or constituted disaster committee and no hazard maps.
- Hospital has no safety policy and SOP.
- There are some specific devices which requires for patient safety mostly disable or non- mobile patients, hospital doesn't give much importance to it. It is situated in suit part of hospital not in general part.
- Training has been given to nurses and other supportive staffs to handle fire extinguishers in case of short circuit. Training not provided in regards to the other important aspect like child abduction, terrorist attack, earthquake, bomb treat or internal flooding.
- Hospital safety budget is the biggest problem. They cover it in maintenance budget but there is no specific safety budget in this hospital.

Root Cause Analysis

- There is no planning, architect and designing team of the health department of Jharkhand. A team comprising medical architect, hospital administrator, hospital engineer, financial expert, health statistician and social scientist should be formed for the hospital planning.
- This hospital building is not scientifically architect or constructed as in this area healthcare cannot be separated from the building in which it is delivered. Architectural designs have an important healing process and disaster management of the facility.
- Due to lack of proper coordination among Health department, Electric Department Building department and fire department of the district as well as state.
- Due to lack of trained staffs.
- Top level administration of the district till now does not constituted Disaster management committee.
- Top level administration of the facility does not recommending for electric audit or does not assessing the facility at regular interval of time keeping in point of view disaster i.e. very often short circuit has been occurring in the facility.
- Lack of funds for Disaster in hospital
- Hazards Map is not available
- There is no action cards for staffs

IV. Key Recommendations

- Constitute of Planning, architect and design team of the health department of Jharkhand.
- Constitute of Hospital Disaster committee.
- Frame a safety policy and implement it and keep record for it.
- Periodically mock drill and training should be done for all staffs including Medical Officers.
- There should be hazard maps.
- There should action cards for all staffs and well known about their responsibility during disaster.
- Allocation of Funds for Hospital.
- Periodically gap analysis, review and can take preventive and corrective action.
- Contact no. of fire officer and fire department should display in the hospital which is easily visible for public as well as staffs.
- Adequate fire extinguisher should hang in proper place and as per their vulnerability.

V. Conclusion

In the era of competition among health care providers to provide better healthcare services even in the worst situation of the facility is the biggest challenge to satisfy the customers or patients. In keeping point of view of the existing structural and non structural of the hospital, a quality tool has been applied to prepare a road map and action plan to proper handle the human made or natural disaster.

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