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## A Study to Evaluate the Preparedness of 75 bedded Neuro Care Tertiary Hospital to be Accredited by the National Accreditation Board for Hospitals & Healthcare Providers (NABH).

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### ABSTRACT

Quality Management Systems and Accreditation are versatile tools to ensure equity in healthcare services and the meeting the increasing aspirations of people. Optimum/ideal state of patient care can be achieved by the healthcare institution that focuses on compliance with accreditation standards of NABH and like bodies. Gap Analysis is a tool that helps an organization to compare its actual performance with expected/laid down standards. Gap analysis refers to a study where hospital compare the present policy, procedure, SOP's, infrastructure with defined laid down standards of accreditation body, NABH. Neuro Surgery is that specialized facility of the hospital where lifesaving or life improving procedures are carried out on the human body by invasive methods under strict aseptic conditions in a controlled environment by specially trained personnel to promote healing and cure with maximum safety, comfort and economy. A professionally sponsored programme that stimulates a high quality of patient care in a 75 bedded Neuro Care Tertiary Hospital, in the present era of evidence based medicine, it becomes Imperative to give maximum importance to planning/operating specialist complex, subject to the limitations of finance and space. The hospital can get accredited by NABH by adhering to its laid down patient centric and management centric yardsticks. The study will help us to suggest the necessary changes for improving the patient care and utilization of facilities of specialist hospital to optimum desirable performance standards.

**Keywords:** National Accreditation Board for Hospitals and Health Care Providers (NABH) ; National Accreditation Board for Testing and Calibration Laboratories (NABL); Out patient's Department (OPD); Operation Theatres (OTs); Quality Care; Patient Satisfaction

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## INTRODUCTION

Patient safety and patient centered care are emerging as key drivers in healthcare reforms along with management centric improvements. [1] Accreditation is the external quality assessment of healthcare organization's strategic goals. A hospital accreditation program is the systematic assessment of hospitals against accepted standards and certification is a confirmation of characteristics of an object, person, or organization against published standards. Prominent national organizations have recommended accreditation which is being implemented widely. [2,3] NABH, an acronym for National Accreditation Board for Hospitals & Healthcare Providers is a constituent board of Quality Council of India, set up to establish and operate accreditation programme for healthcare organizations. Broad area of study is related to Healthcare sector with specific field of study involving Neuro Surgical Health Care facility. The specific topic of research deals with evaluating the preparedness of 75 bedded Neuro Care Tertiary Hospital to be accredited by the National Accreditation Board for Hospitals & Healthcare Providers (NABH).

Tertiary Neuro Care Hospital selected for study is a Super Specialty Institution housing major facilities related to - Neurosciences, Trauma Care, Physiotherapy and Rehabilitation work. Unique Corporate Set up was adequately studied to understand the overall vision, mission and objectives of the hospital. All invasive and non-invasive neurological and trauma care surgical procedures performed at hospital were compared with laid down standards. Hospital accreditation programs are the systematic assessment of hospitals against accepted standards and certification is a confirmation of characteristics of an object, person, or organization against published standards. The study is of utmost importance for improvement in patient safety and quality patient centered care specific to any 75 bedded Neuro Care Tertiary Hospital.

## MATERIALS AND METHODS

### Source of Data:

**Primary Data- Patient**, and staff interaction, hospital rounds, direct observation.

**Secondary Data-** Hospital documents/record review, clinical record review.

### Resources

- Hospital Manual.
- System tool kit- NABH.

### Source of Data

Primary Data- Patient and staff interaction, hospital rounds, direct observation.

Secondary Data- Hospital document/record review, clinical record review.

**Design of the Study:** Comparative Cross Sectional Study.

**Duration of the Study:** The study was carried out on 75 bedded Neuro Care Tertiary Hospital during a 06-month period from 1st January 2016 to 31st June 2016.

**Inclusion Criteria:** 115 abstracts were screened and 20 papers/articles/Research thesis/Research documents were reviewed. Inclusion criteria included last 15years studies addressing the effect of hospital accreditation and certification. Outcomes included both clinical outcomes and process measures.

**Exclusion Criteria:** Literature which is older than 15 years and not relevant due to vintage, technological changes or relevance.

**Tools-** Tools utilized are NABH system tools along with the NABH chapters. [4, 5] The chapters which are patient centered and management centered chapters as under:-

**Patient-Centered Standards are listed as under:-**

- Chapter1:-Access, Assessment and Continuity of Care (AAC)
- Chapter2:-Patients Rights and Education (PRE)
- Chapter3:- Care of Patients (COP)
- Chapter4:- Management of Medications (MOM)
- Chapter5:- Hospital Infection Control (HIC)

**Management-Centered Standards**

- Chapter6:-Continuous Quality Improvement (CQI)
- Chapter7:- Responsibilities of Management (ROM)
- Chapter8:- Facility Management & Safety (FMS)
- Chapter9:- Human Resource Management (HRM)
- Chapter10:- Information Management Systems (IMS)

The same along with 10 essential quality indicators were required to be properly analyzed to arrive at logical inferences. [6, 7, 16]

- Percentage of medication errors.
- Percentage of transfusion reactions
- Urinary tract infection rate
- Respiratory infection rate
- Intra-vascular device infection rate
- Surgical site infection rate
- Incidence of falls
- Incidence of bed sores after admission
- Bed occupancy rate and average length of stay
- Incidence of needle stick injuries

Compliance with accreditation standards of the NABH will lead to quality improvement of hospital's service delivery and patient satisfaction. Proper assessment of the existing service delivery standards of the 75 bedded Tertiary Neuro Care Hospital is of utmost importance in order derive logical conclusion and benefits. Assessment against important heads was essentially required. [3] The essential heads are listed as under:

**Safe:** Avoiding injuries to patients.

**Effective:** Service to be evidence based.

**Patient-Centered:** Care to be respectful and responsive to preferences, needs and values.

**Timely:** Reducing waits and sometimes harmful delays.

**Efficient:** Avoiding waste, including equipment, supplies, ideas, and energy.

**Equitable:** Same care for all sexes, ethnic groups, geographic location and socioeconomic status.

**Examination/Experiments:** The smooth operation of the core functional areas of a hospital are important for provision of quality care (figure1). The key functional department of the hospital which were required to be examined are:-

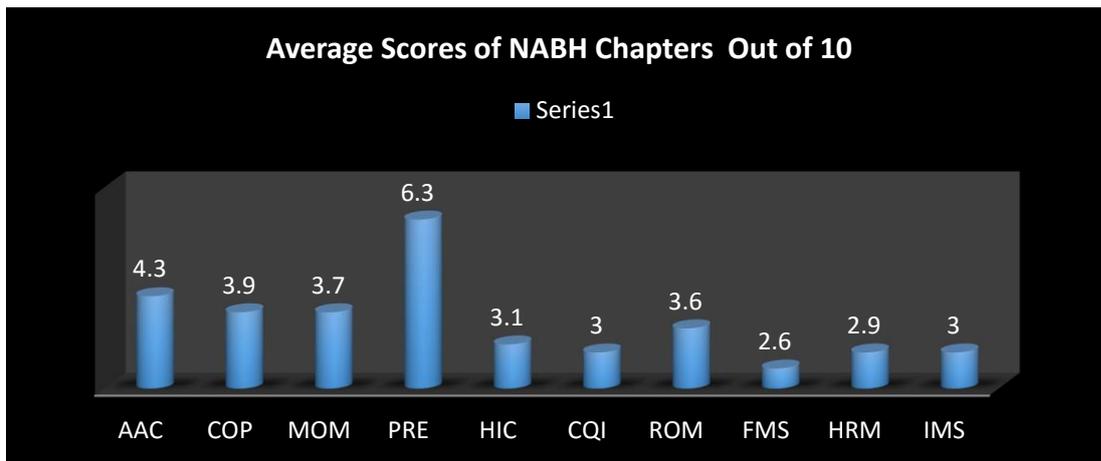
- Out Patient Department
- Intensive Care Unit
- Operation Theatres
- In-Patient Department
- Emergency Department
- Support Service Areas
  - Laboratory & Blood Bank
  - Radio-diagnostics
  - Physiotherapy
  - CSSD

- Laundry
- Kitchen
- Medical Record Department



**Fig: 1-Core Functional Areas**

The average scores (figure2) are as under:-



**Fig: 2- Average Scores of NABH Chapters**

**OBSERVATION/RESULTS**

Various gaps were found between desired and existing standards in the midsized Neuro care tertiary hospital. Major ones are as given in subsequent paragraphs.

Non-availability of the display of scope of services affects patients/families and hinders the process of quality care. Timely compliance to the mandatory legal approvals by the Imaging Department is a must as it may lead to legal implications apart from health hazards. Therefore, timely renewals must be ensured. Essential equipments such as crash cart, defibrillator, etc are not available in patients care areas many times which may be very vital during crisis and is required to be addressed on priority. Maintenance of the building is not being carried out properly. There is a huge problem of seepage in the various areas in the hospital building. The knowledge and practices about Biomedical Waste Management (BMWM) are rudimentary and need repeated training and monitoring. No serious infection control programme is practiced in the hospital duly monitored by nominated appointments/committees on regular basis which is vital for patient health. The Operation Theatres in the Old Building needs certain renovation. Central AC and HEPA filter are not installed. There is no system of allotting Unique ID numbers for each patient at the time of OPD Registration. The patients are registered and the Registration number changes every re-visit. Automation of services will improve quality and patient satisfaction.

Limited Dietary services are being provided in the Hospital. There is no dedicated Kitchen/dietary department to ensure compliance and variety. Laundry services are provided in-house but the segregation and disinfection of the soiled linen is not done properly on regular basis. The maintenance of the hospital building, premises and equipments is not being done periodically and hence are in dilapidated condition. Fire safety issues are not addressed and may lead to criticality. Also, safety and security issues for patients are not in place. The security guards have not been placed in many areas like paediatric ward and outside OT area. There is an acute shortage of nurses as per the bed strength and national standards, which leads to compromise on

the patient care services. All the required posts/numbers are not filled up resulting to over workload, and needs to be addressed by management. Documentation of the patient care services are at poor state. Forms and formats are not defined at many areas. There are no documented policies and procedures available in the hospital in general affecting quality patient care.

The literature study related to hospital accreditation and its affects along with healthcare staff views/experience with the process indicates important aspects (fig3 &4) given below:-

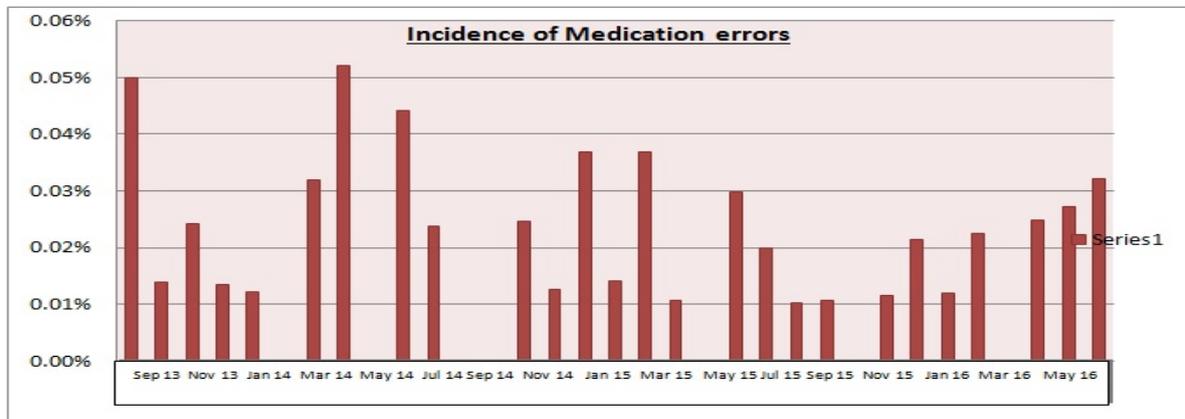


Fig:3- Incidence of Medication errors

**Analysis**

In the incidence of medication errors overall it is less than 0.06. The scenario after pre accreditation process shows very less incidence of medication errors all ranging between 0.00% to 0.03% which reflects a marked improvement.

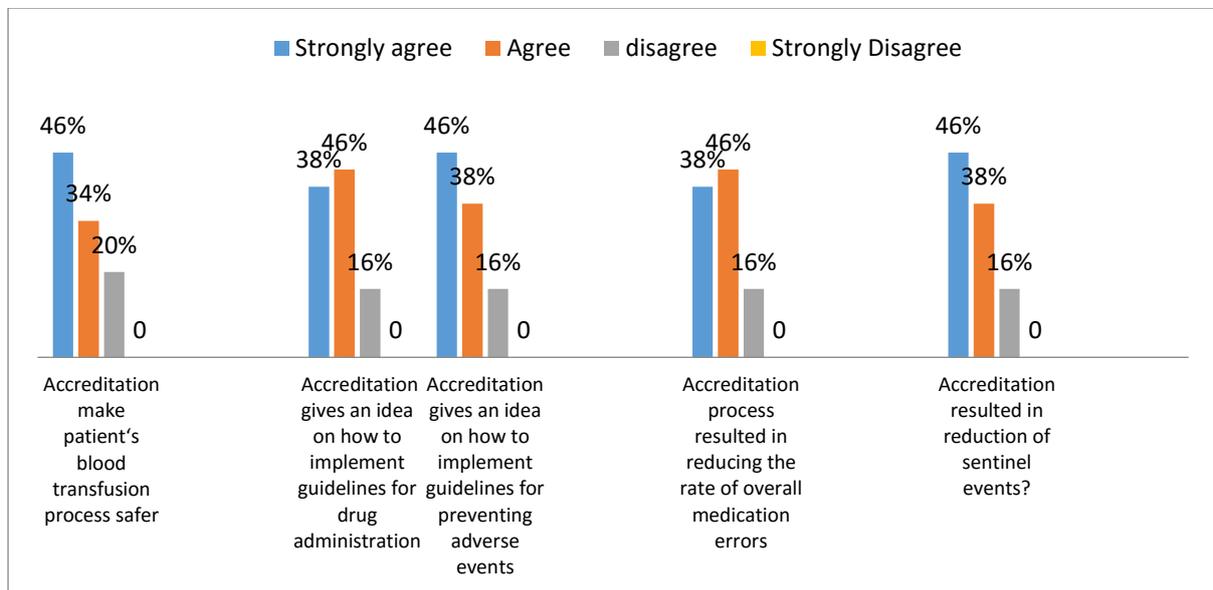


Fig: 4- Impact of Hospital's Accreditation on Patient's Safety Related to Patient Medication

**DISCUSSION**

In view of vital gaps there is an essential requirement to take remedial steps for streamlining the processes as under:-



The floor directory should be created for each floor and be displayed at exit points from lift/ staircase on respective floor. Signages should be bilingual (English/ Hindi or English/ Punjabi) and symbolic/ pictorial. The Licences and Acts should be available with the responsible authority (MS/SMO/HA) at the hospital level.

The person sitting at front office should be fully aware on the scope of services provided by the organization. The OPD slip is generated in duplicate and one copy is retained by the hospital which is stored in the MRD. These need be stored in a proper manner. The emergency staff including doctors and Nursing staff and driver should be Basic Life Support (BLS) trained. Advanced Cardiovascular Life Support (ACLS) training should be given to CMO and few of the nursing staff. Checklist of drugs and equipments for ambulances should be maintained which should be checked daily in each shift. Fully equipped crash carts in the department are required at emergency department. Designated trolley and wheel chair bay is required for this department. Triaging area should be earmarked (displayed) in the department.

Well documented procedure & procedure manual should be developed for the Lab department. The intimation of the critical results shall be documented with the details of date, time, person intimated to and by, etc. Biohazard cabinet for Microbiology needs to be provided in the department. Dedicated refreshment room needs to be demarcated in blood bank. Data capturing of adverse blood transfusion reaction needs to be made compulsory by insisting on return of Transfusion reaction form to Blood bank from each unit issued. Blood bank safety programme to be made and integrated to the hospital safety manual. Immunization should be carried out for all the staff.

The required AERB approvals/renewals should be obtained well on time. Well documented procedure & procedure manual should be developed for the Radiology department. The intimation of the critical results shall be documented with the details of date, time person intimated to and by, etc. Internal & External quality assurance should be carried out. The radiology staffs needs to be trained on necessary safety precautions required in the department.

Plumbing work and fixtures need immediate replacement and repair at operation theatre. Zoning facility shall be strictly followed by the clinical staff. Centrally air conditioning with HEPA Filters is required in the operating room. Janitor closet should be there with every ward. Side rails for the beds should be provided which are must for patient safety. Civil works needs to be carried out immediately to replace/ repair the broken fittings and furniture. Adequate number of nurses needs to be allotted as per the Standard National Norms particularly at ICU. Personnel protective wears as per Universal Precautions must be provided for the staff during working hours. Attendee counseling area need to be demarcated. A separate area for the patient attendees should be provided. Infection Control measures should be followed in NICU.

A well documented Medical records policy & procedure manual needs to be prepared. It is recommended to label the shelves with IP number or UHID number which will result in efficient retrieval of files. It is recommended to have compactors because the store area is very less as compared to the number of patients being treated here. A security guard should be appointed in the MRD section for safety of MLC files. Medical record audit are not carried out periodically to assess the completeness and continuity of care. Zoning should be done in the CSSD department (receipt, washing, assembling and checking for breakages, sterilization, labelling, storage, and issue area). In the medical store it is suggested to have double locking system for psychotropic drug and narcotic drugs. Two different keys of the double lock will remain with two different authorised person like one with head of the department and other with medical store in charge. ABC, VED, analysis should be done in the medical store department. [8, 9]

Quality manual of Physiotherapy department needs to be documented. Patients & families needs to be educated on diet limitation when the food is brought from home. One sluicing machine and calendaring machine are required in department. It is recommended to have separate clean area where the cleaned linen will be kept and dirty area for the soiled and infected linen. Adequate Linen collection and Transportation trolleys for dirty linen and clean linen should be provided.

There are huge amount of crowd and parking of vehicles in the hospital campus, which needs an effective control. Training on safety and security measures needs to be imparted to all the security staff at regular intervals.

The organization must timely apply and renew the license for Bio-medical waste management. Staff including the housekeeping staff, shall be provided the required number of personal protective devices. The staff needs an exhaustive training on Bio-medical waste management. [8, 9] Break-down, corrective and preventive plan needs to be formed and documented. AMC and Calibration of the equipments shall be done periodically and the documentation of the same to be maintained. Since there is no Bio-Medical Engineer the equipments are not maintained as per the requirements. A full time technical staff should be there in the hospital.

The organization should have a well documented manpower plan and job specification and descriptions. Well documented policies should be finalized on Performance appraisal, grievance redressal, training & Development, etc. Formation of committees involving some of the stake holders who would be committed to bring about the requisite changes. Monitoring of Performance Indicators is required periodically. [10, 11]

### CONCLUSION

The Hospital in charting the further course of action which will lead to compliance with accreditation standards of the NABH needs to cater for many vital steps.

Time bound action plan catering for financial implications is required. Improvements in the structure, process & outcome should be meticulously planned and holistically addressed. [12] Structural upgrades involving outsourcing contract to experts for structural changes in a time bound manner is strongly recommended. Process changes involving proper updated Standard Operating Procedures are a must and needs to be followed in letter and spirit. The hospital can have root cause analysis to assess the reason through specialist committees. Realistic, formal and on the job training and assessment should be encouraged to derive maximum benefits. [13, 14] Outcome should reflect the resulting impact of the changes introduced. The hospital can start a reporting system for finding out open and honest reporting. The actions to be taken for compliance with accreditation standards by the hospital are likely to impact the delivery of public health services positively, ensuring quality services, efficient outcomes with economy, risk management with patients, staff and visitors safety, and above all equity in healthcare services for the patients. [15, 16] The research will help the similar healthcare establishments in their efforts for improvement and accreditation. It will assist in evaluation and suggest for essential improvements in hospital manual. Assessment of the existing service delivery standards of any 75 bedded Tertiary Neuro Care Hospital along with gap analysis will get facilitated. The study will guide a 75 bedded Tertiary Neuro Care Hospital in charting the further course of action which will lead to compliance with accreditation standards of the NABH and institutionalization of a quality management system, leading further to a continuous quality improvement plan. Also, it will act as a relevant Template for assisting 75 bedded tertiary care hospital in its accreditation efforts.

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