A STUDY ON EMERGENCY DEPARTMENT OF A 28 BEDED HOSPITAL, DELHI

By

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Dissertation submitted in partial fulfillment of the requirements of the degree

MBA Hospital Management

Academic Year, 2019-2021

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Six Sigma Healthcare Pvt. Ltd. New Delhi

THE IIHMR UNIVERSITY, JAIPUR

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ACKNOWLEDGEMENT

I am extremely indebted to all the professionals at **Six Sigma Healthcare, New Delhi** for generously sharing their precious time and knowledge which inspired me to do my best during the dissertation.

I am sincerely grateful to my **Guide Prof. Nutan P. Jain** for her support and constant supervision in completing the dissertation topic.

I would also like to thank **Dr. Pradeep Bhardwaj CEO & Medical director**, for being my mentor throughout the training, sharing his valuable experiences and giving his illuminating views on a number of issues related to management.

I am also indebted to him for giving me incredible opportunities to gain knowledge about management of a healthcare organization by arranging required exposure of various departments of the hospital. His profound knowledge and dynamic thinking have given me constant encouragement to perform better and achieve the task allotted.

Special thanks to **Mr. Bharat Sharma & Mr. Ashish Sharma** for their guidance, friendly advice and invaluably constructive suggestions during my tenure at Six Sigma Healthcare.

I am also grateful to all the department heads and staffs; without their active co-operation the study would not have been completed.

YASH GAUTAM

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LIST OF ABBREVIATIONS

AAC: ACCESS, ASSESSMENT AND CONTINUITY OF CARE

ALS: ADVANCED LIFE SUPPORT

BLS: BASIC LIFE SUPPORT

COP: CARE OF PATIENTS

CPR: CARDOPULMONARY RESUSCITATION

ED: EMERGENCY DEPARTMENT

FMS: FACILITY MANAGEMENT AND SAFETY

HIC: HOSPITAL INFECTION CONTROL

ICU: INTENSIVE CARE UNIT

LAMA: LEAVE AGAINST MEDICAL ADVICE

MLC: MEDICO LEGAL CASES

MOM: MANAGEMENT OF MEDICATION

NABH: NATIONAL ACCREDITATION BOARD OF HOSPITAL & HEALTHCARE

NABL: NATIONAL ACCREDITATION BOARD FOR TESTING AND CALIBRATION LABORATORIES.

PPE's: PERSONA; PROTECTIVE EQUIPMENT

SOP: STANDARD OPERATING PROCEDURES

INTRODUCTION

Hospitals being a vital part of the healthcare industry, the interventions in the quality part have given a new scope and insight by improving the services as well as structure of the hospital.

Quality of a service refers to the degree of the adherence to predetermined standards based on existing knowledge, principles and practices. Hence it has no specific meaning unless relate to a specific objective and function. Quality of care plays an integral part between the quality, accessibility and cost of health care within a society.

The four main components of quality improvement are:

- **Quality Control** - Quality Control ensures that the project deliverables obey the specifications and meet the expectations of the stakeholders. To ensure the correct use of Quality Control, testing and quality measurements are used.

- **Quality Assurance** - The assurance of the quality in health care organization can be done by defining the standards, norms and guidelines, by measuring the variations and by improving the compliance with the norms.

- **Continuous Quality Improvement** - It is similar to the Quality assurance but has more participatory approach and based on broader perspective of cultural change in the organization.

- **Total Quality Management** – It is the systematic process of identifying and decreasing the errors by improving the quality. It focus on respective client and user.

Three aspects of quality of care are**:**

1. **Measurable Quality:**
   The provider judges this aspect of care by comparing the actual and the standard performance.

2. **Appreciative Quality:**
   The experiences practitioner who not only trust the standard but also on the personal experience can judge this expect of care.

3. **Perceptive Quality:**

   Being judged by the recipient this aspect of care is based on the degree of care expressed by health care providers rather than on the technical competence and physical environment.

Different concerns of quality from providers, recipient/client and organizers/managers.

Providers concerns

- Providing care according to preset norms
- sufficient resources
- Self-satisfactory outcome
- Should add to redesign and upgrading of skills and competence

Recipient/client concern

- Accessibility
- Affordability
- Quick attention
- Less holding up time
- Early findings and cure
- Treatment of client with compassion regard and concern

Organizers concern

- Responsible to the Society for the assert spent on the well-being care
- Public safety assurance and preventing dissatisfactory care
- Meeting the recipient and provider's requirement and providing cost effective healthcare services.

Recognition is critical for scaling up priority health interventions of the many facets of the quality of care. If uptake of health services is to be increased, not only better technical quality is required but also better acceptability and patient-centeredness – across the continuum of care. Perceptions of quality are shaped by individual factors, interconnected community and health system. Moreover, quality of care cannot be understood fully without

some appreciation of the relationships, social norms and values/trust within the society where care is provided.

The various attributes to measure and describe the quality of care are:

- **Acceptability:** Conforming to the needs, expectations and desires of patients and their families
- **Effectiveness:** Ability of attaining the greatest health improvements.
- **Efficiency:** Lowering healthcare cost without compromising on attainable health improvements
- **Equity:** Conforming to a principle which determines fair healthcare distribution among the population.
- **Optimality:** The balancing of Cost against effectiveness of care on health
- **Legitimacy**: Conforming to preferences of the society as expressed in ethics, regulations and laws

Keeping the above attributes in mind, to achieve a sustained and successful improvement it is important that we identify the approach, method and tools. However, the method of implementing the improvement is vital, regardless the approach used. Quality improvement methods are used to review the structures, processes and outcome, also to identify changes that can improve the quality of services, thereby, enhancing patient safety.

- Structural aspect reflects the ability of the provider to deliver good quality care
- Process component reflects the measures taken to improve the health of community
- Outcome component is indicative of the effect of the intervention of healthcare

Advantages of Quality in Hospital Setting:

- Waste reduction
- Better team motivation levels
- Reduced misunderstanding and conflict among staff
- More efficient
- Gaining the trust of clients

- Reduced customer grievances
- Decreased rejection cases
- Improved care and guaranteed quality
- Lessened lead time
- Improved relationship with customers
- Cost reduction and better profit gains

Accreditation

Accreditation is a review process to determine if educational programs meet defined standards of quality. Once achieved, accreditation is not permanent—it is renewed periodically to ensure that the quality of the educational program is maintained.

Basic principle of accreditation

- Accreditation is a Team Effort.
- Statutory / Regulatory / Licensing – Compliance, a MUST
- It is based on STRUCTUREs, PROCESSes & OUTCOMEs
- FOCUSED ON PATIENT CARE & SAFETY

Importance of accreditation

- Helps determine if an institution meets or exceeds minimum standards of quality.
- Helps students determine acceptable institutions for enrollment.
- Assist institutions in determining acceptability of transfer credits.
- Helps employers determine the validity of programs of study and whether a graduate is qualified.
- Employers often require evidence that applicants have received a degree from an accredited school or program.
- Helps employers determine eligibility for employee tuition reimbursement programs.
- Enables graduates to sit for certification examinations.
- Involves staff, faculty, students, graduates, and advisory boards in institutional evaluation and planning.
- Creates goals for institutional self-improvement.
- Provides a self-regulatory alternative for state oversight functions

HOSPITAL ACCREDITATION AUTHORITIES IN INDIA

Some accreditation agencies in the field of hospital accreditation are working closely with healthcare providers to improve the quality of healthcare services and ensure a healthy and safe environment to set new benchmarks for other hospitals.

BENEFIT OF ACCREDITATION

Benefits to the clients/patients

- Improved health
- Better services
- Right of patients are respected and protected
- Provide high quality of care and patient satisfaction

Benefits to health providers

- Information flow among staff is improved
- Health worker Understand patients better
- Work satisfaction levels of the health staff can be improved
- Reward on the basis of performance is given to the staff

Benefits to the health institutions

- Patients become more satisfied with the services
- Cleanliness of environment can be achieved
- The hospital can become a reputed facility
- Raises level of continuous improvement

Benefits to others

- Third party evaluation can be done
- Provide access to certified information on level of care

QCI (Quality council of India)

Quality Council of India was set up in 1997 by Indian government jointly with Indian industry, giving accreditation in the field of education, health and quality advancement. It promotes the adoption of quality standards by providing strategic direction to the quality movement in the nation by building up conformity assessment system which has international level reorganization

QCI functions through five main accreditation boards:

1. National Accreditation Board for Certification Bodies (NABCB)
2. National Accreditation Board for Education and Training (NABET)
3. National Board for Quality Promotion (NBQP)
4. National Accreditation Board for Hospitals & Healthcare Providers (NABH)
5. National Accreditation Board for Testing and Calibration Laboratories (NABL)

Organogram of the QCI is presented in Fig. 1.

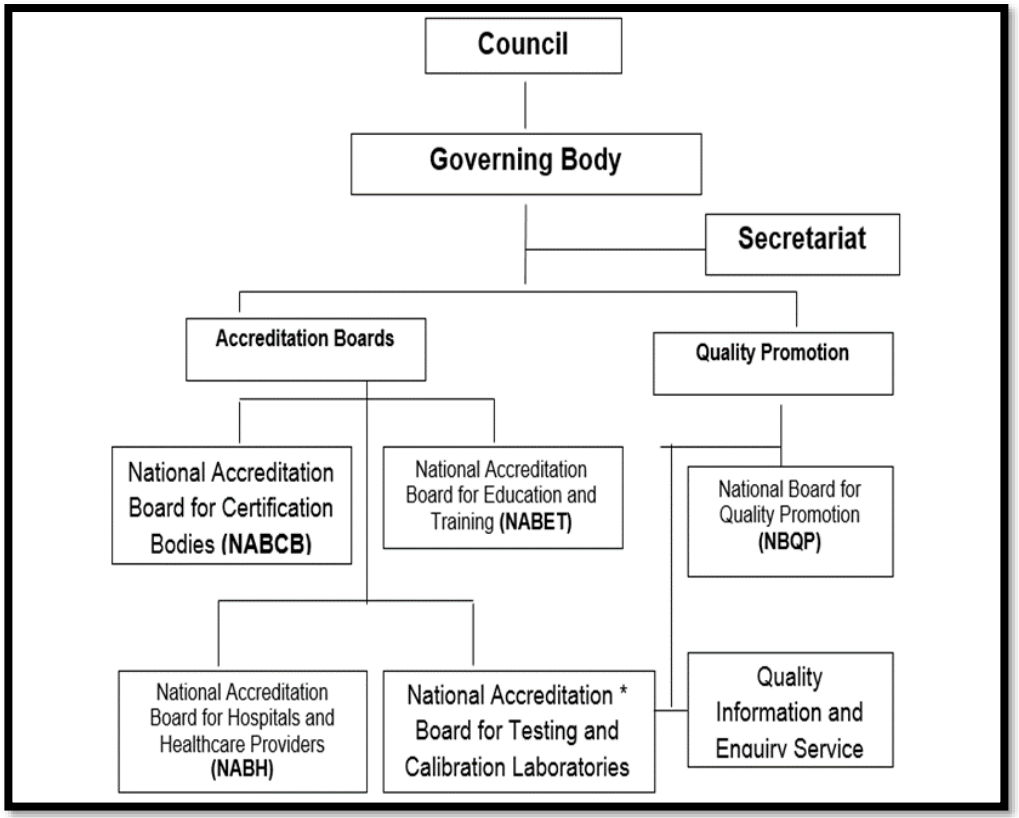


Fig. 1: Structure of Quality Council of India

National Accreditation Board for Hospitals and Healthcare Providers

Being a constituent board of Quality Council of India, NABH was formed in 2006 to operate and establish accreditation programme for healthcare organization and has its Headquarter in New Delhi.

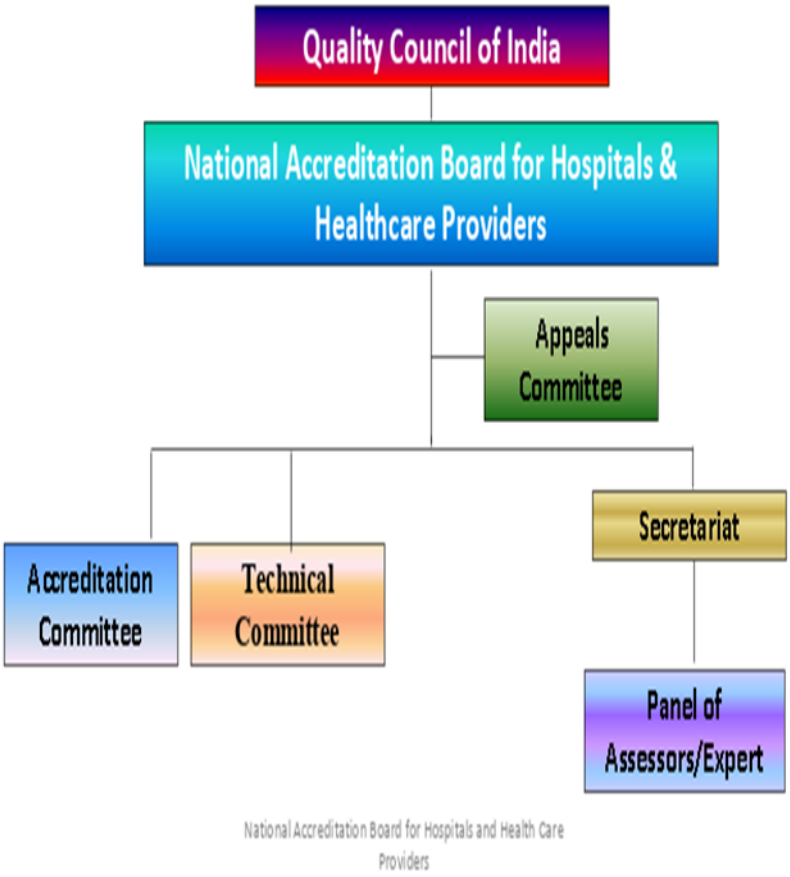
Vision

To be the apex national healthcare accreditation and quality improvement body, functioning at par with global benchmarks.

Mission

To operate accreditation and allied programs in collaboration with stakeholders focusing on patient safety and quality of healthcare based upon national/international standards, through process of self and external evaluation

Fig. 2: Structure of NABH



Organization like QCI and NABH have structured a comprehensive healthcare standard in its 10 CHAPTERS, which further consist of 105 standards and 683 measurable objective elements as shown in Fig. 3 which has to be achieved by the hospitals and healthcare providers so as to get the NABH accreditation. In 2006, first edition of standard was released and after that it has been revised every 3 years. Right now, the 4th version of NABH is being used which was released in December 2015.

Fig. 3: NABH Quality Standard Components

	STANDARDS		OBJECTIVE ELEMENTS	
	4TH EDITION	**5TH EDITION**	**4TH EDITION**	**5TH EDITION**
Chapter 1	14	14	96	91
Chapter 2	22	20	151	142
Chapter 3	13	11	76	68
Chapter 4	08	08	54	53
Chapter 5	09	08	54	51
Chapter 6	09	07	59	49
Chapter 7	06	05	39	32
Chapter 8	07	07	56	45
Chapter 9	10	13	53	76
Chapter 10	07	07	45	44
	105	**100**	**683**	**651**

Chapter details

NABH 4th EDITION	NABH 5TH EDITION
1) Access Assessment and Continuity of Care (AAC)	1) Access Assessment and Continuity of Care (AAC)
2) Care of Patients (COP)	2) Care of Patients (COP)
3) Management of Medication (MOM)	3) Management of Medication (MOM)
4) Patient Right & Education (PRE)	4) Patient Right & Education (PRE)
5) Hospital Infection Control (HIC)	5) Hospital Infection Control (HIC)
6) Continuous Quality Improvement (CQI)	6) Patient Safety & Quality Improvement (PSQ)
7) Responsibilities of Management (ROM)	7) Responsibilities of Management (ROM)
8) Facility Management & Safety (FMS)	8) Facility Management & Safety (FMS)
9) Human Resource Management HRM)	9) Human Resource Management HRM)
10) Information Management System (IMS)	10) Information Management System (IMS)

The NABH chapters are further divided between Patient Centred and Organization Centred.

Patient Centred Standards:

1. Access, Assessment and Continuity of Care (AAC)
2. Care of Patients (COP)
3. Management of Medication (MOM)
4. Patient Rights and Education (PRE)
5. Hospital Infection Control (HIC)

Organization centred Standards

6. Continuous Quality Improvement (CQI)
7. Responsibilities of Management (ROM)
8. Facility Management and Safety (FMS)
9. Human Resource Management (HRM)
10. Information Management System (IMS)

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Introduction of Hospital

An emergency department, is a facility of clinical treatment, specialized in emergency medicine, focuses on diagnosis and treatment of injuries and acute illnesses that require immediate medical attention. The role of the emergency department is to provide timely health-care services to the patients as it is the pathway toward all the other departments in the hospital.

The ethos of care is reflected by the quality of care provide by that department for a hospital and this goes a great deal route in the hospital reputation. It is the right of every patient who is coming to the emergency department to get a sage and quality care.

Meanwhile, if the patient is getting any negative experiences or the processes happening in ED are inefficient, it will lead to negative image of the organization in the community which will further affect the revenue as well. So, the system, functioning and resources in the emergency department should be up to the mark, only then the department can work effectively

OBJECTIVES

The following are the objectives of the study:

- To review the quality assurance guidelines of the hospital (if any), NABH standards for structure and processes in Emergency department.
- To study the quality of Emergency Department in terms of structure and processin the emergency department.
- To identify the facilitating and hindering factors for the current level of quality of structure and processes standards

.

Quality Assurance Policy at the Hospital (quality cell and year)

The Quality framework which is followed by hospital is the same as NABH suggest.

Quality Assessment Tools Used for Quality Assurance at Hospital:

- Gap Assessment toolkit
- In depth Interviews
- Observations
- Vital, Essential and Desirable Analysis
- Photographs
- Statistical Tools

The above Quality assessment tools were utilized by the hospital during the NABH accreditation to comprehend the processes, identify the causes and to settle on the choices which further aided in continuous Quality improvement activities.

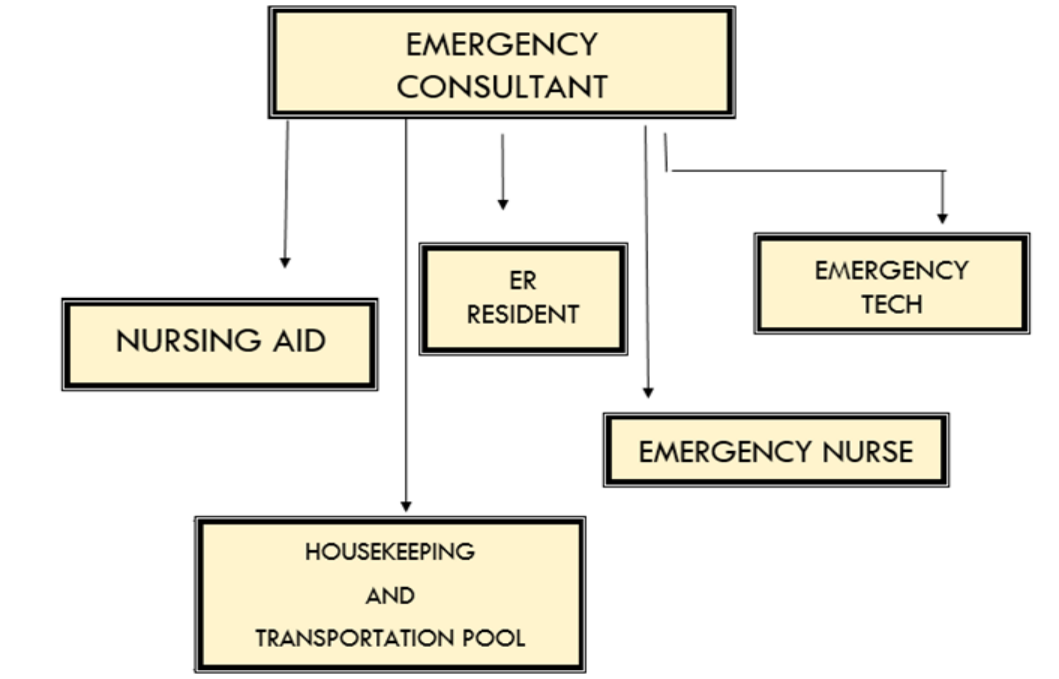
The purpose of using these tools was to control and assure quality among the various departments of the hospital. Being generic in nature these tools can be applied to any condition.

Emergency Department at Hospital 2-3 bed

Hospital's emergency department is situated on the ground floor of the main hospital building. Emergency room area has been designated as the most vital part of any tertiary care hospital.

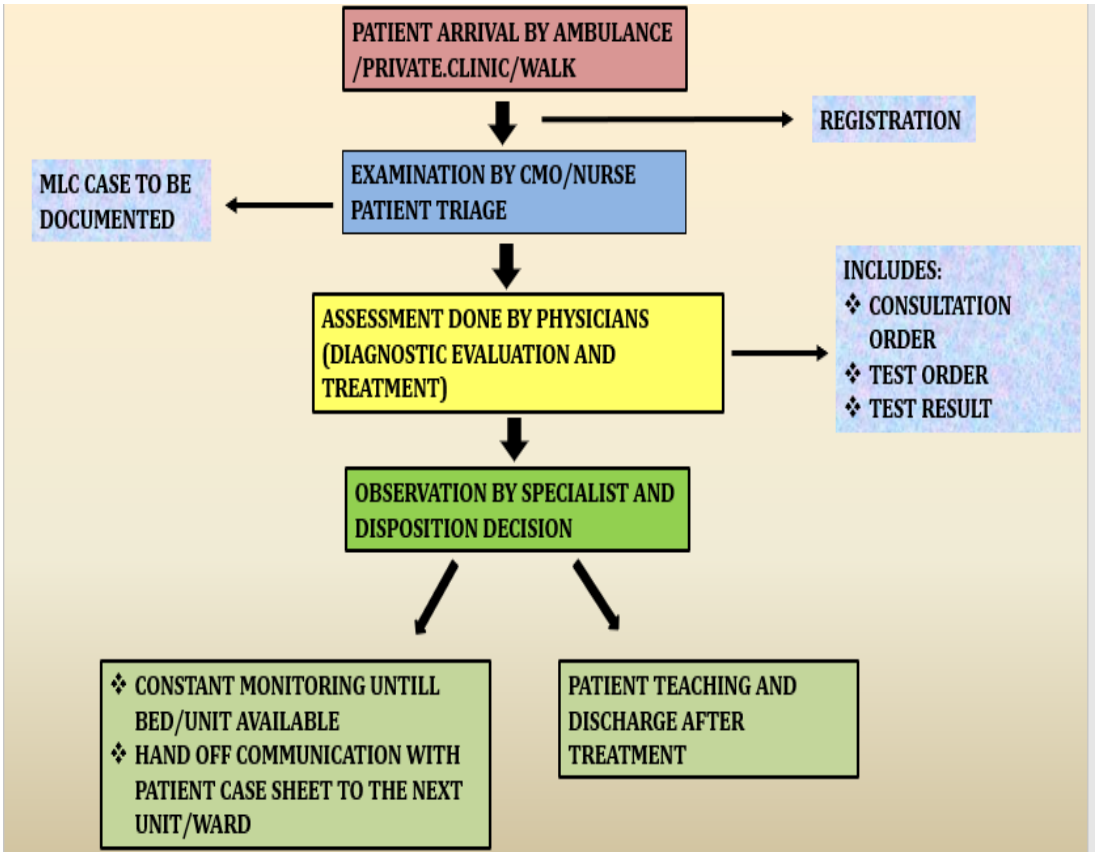
Keeping in view the above, Emergency room in Hospital has been allocated to an area of hospital which is easily accessible.

Fig. 4: Human Resource of Emergency Department at Hospital



As per the policy defined all emergency resident, nursing staff, emergency technicians, housekeeping staff and the staff nurse is heading by emergency consultant as shown in Fig. 4 This is streamlined according to the protocol followers by the hospital.

Fig. 5: Patient Flow Diagram in Emergency Department at The Hospital



The Fig. 5 represents the various stages through which patient pass during his/her arrival at emergency department of The Hospital.

When the patient arrives to the Emergency department through the ambulance or walk-in, the triage process is done by the nurse in charge to determine which patients are the sickest, and need the most immediate medical attention by monitoring the vital signs which helps to determine the severity of the condition.

Meanwhile the basic information is taken by the patient's attendant to complete the registration side by side. Each and every individual coming to the emergency department is seen, regardless of the insurance coverage or ability to pay.

Once the basic vital examination and triage is done by the nurse, further examination of the patient is done by the chief medical officer of emergency department. In case, arrived case

falls under the category of Medico legal case, it is documented and treated as per the hospital policy for MLC cases.

Further assessment of patient is done by the physician where diagnostic evaluation and treatment is done which includes test ordered, test done and the consultation given. Once the report arrives it is observed by the specialist and the disposition decision is made by him/her as per the results of the report.

Either the patient is discharged or the admission is suggested by the respective doctor as per the condition of the patient. Before admission the various consents are taken as per the hospital policies and the hand off communication with patient case sheet to the next unit/ward is done.

In case the patient has to be discharged after the treatment given, patient education/teaching is done and the well documented discharged summary is given to the patient.

Procedures carried out in the Emergency Department

In light of the conversation held with the Head of the Emergency Department it has been found that the following procedures are carried out in regular days:

- Cardio Pulmonary Resuscitation (CPR)
- Intravenous cannulations
- Arterial Blood Gas Test
- Airway securing measures e.g., ventilation, Oropharyngeal or Nasopharyngeal airway etc.
- Definitive airway measures e.g., Rapid sequence induction or Crash Intubation
- Procedural sedation and Analgesia
- Regional Anesthetic Block
- Central Venous Cannulation

- Arterial Line Insertion
- Suturing
- Nasal Packing
- Joint reduction and Slabbing
- Gastric Lavage
- Pleural Tapping
- Ascitic Tapping
- Pericardiocentesis
- Bladder Catheterization
- Ryle's Tube insertion
- Wounds and Burns dressings
- Intra articular injections
- Transcutaneous and Transvenous cardiac pacing
- Chest tube insertion
- Focused Abdominal Scan for Trauma (FAST)

Hospital Policy for Medico-Legal Cases

Any patient seeking emergency medical service is screened first and first care is provided if required. The EMO in duty informs ER consultant if the case is MLC. All the MLC are notified to the police as per Document.

Steps to be followed:

- The MRD manager will be informed for each MLC and he will be responsible for statutory compliances in case of MLC.
- All MLC are recorded and marked as MLC in stamp and stored separately under secure custody
- The ER Nurse will inform the security supervisor of an MLC case who will then notify the local police. The Police Intimation Report is to be made in triplicate
- one copy for security office
- one for police
- one to be attached in the MLC File.
- In case of alleged rape, the patient shall be examined & treated by the Obstetrics and Gynecology who shall complete the MLC report.
- All samples, clothing etc. shall be handled as per Policy on Forensic Evidence Samples MLC

Hospital Policy for Triage of Patients

The screening and sorting of large number of patients medically and prioritizing them on the bases of the medical attention and severity of the illness. The sorting is further segregated into three general priority categories:

Color coding of triage

- Red – Immediate (Priority 1)
- Yellow – Urgent (Priority 2)
- Green – Walking (Priority 3)
- Black – Dead

The policy of prioritizing patients is based on the urgency of their individual need for medical care.

Red – IMMEDIATE (Priority 1)

First Priority, most urgent, Life-threatening shock or hypoxia is present or imminent, but patient can be stabilized and, if given immediate care, shall probably survive.

Yellow – URGENT (Priority 2)

Second Priority, Urgent, Injuries have systemic implications or effects, but patient is not yet in life threatening shock or hypoxia; patient seems to withstand for 45 to 60 minutes wait without immediate risk.

Green – WALKING

Third Priority, Non-urgent, localized injuries without immediate systemic implications; minimum care required.

Black – DEAD (Priority 3)

Any patient who is not responding and has no spontaneous circulation is classifies as dead.

During the CODE YELLOW the above color coding is used.

Use of the color bands (Fig. 6) at the times patient arrives and assessed by the triage nurse in the emergency department is used.

Fig. 6: Colour Coded Bands Used During Triaging Process

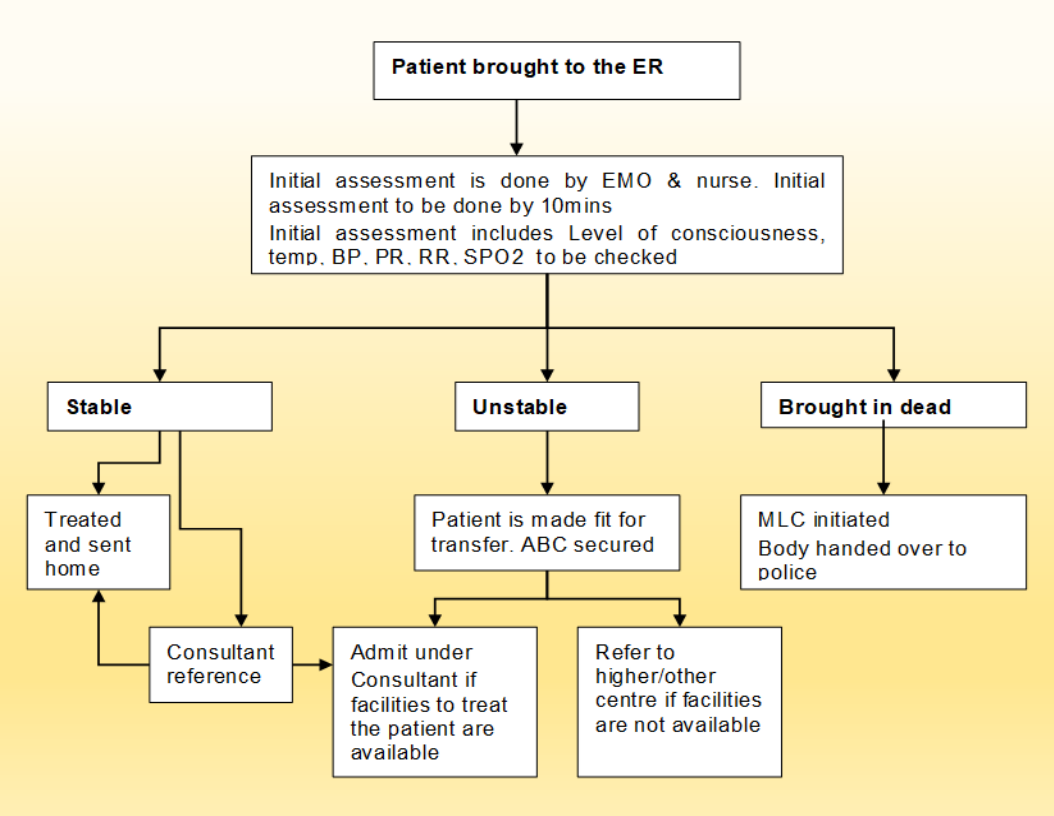
Color Codes:

- Allergy – RED
- Diabetic pt. – Orange
- Hypertensive pt. – blue
- Paediatric pt. – pink
- Fall risk – yellow
- Latex Allergy – Green

Steps to be followed while moving patient from emergency department to some other specialty or another department are

- Any patient showing risk factors on initial assessment will have a coloured-band placed on his/her wrist by the nurse.
- The applied band is documented by the nurse in the chart as per hospital policy.
- The stickers which are used to be documented in the record must correspond to the band text and colour.
- After the application of the band, each patient will be instructed by the nurse that band should not be removed.
- In case any coloured band has to be removed during patient' treatment it will be removed by the nurse, new band will be made after reconfirming the risk, and is placed in the wrist by that nurse immediately.

Fig. 7: Flow Chart of Patient Triage in Emergency Department



The Fig. 7 represents the various stages through which the patient pass during the triage process at The Hospitals.

When the patient arrives to the Emergency Department, he/she is assessed by the triaging nurse. The evaluation of the patient's condition is further done by the nurse and their treatment and admission priority is further determined on the basis of the evaluation done.

After the emergency assessment and treatment is done, the patient is referred to the internal triage system of the hospital.

Hospital Policy for Initial Assessment

The Hospital has a policy that the initial treatment in emergency department shall be done within 10 mins.

- The Emergency Medical Officer and Nurse will do the initial assessment of the patient coming to the emergency department.
- The initial assessment should be done with in 10 mins.
- It will include determining the consciousness level, pulse, checking the blood pressure , temperature and RBS in case the patient is diabetic.

The initial assessment will determine the patient's condition whether stable or unstable and measures will be taken accordingly.

Initial Assessment Done by Medical Officer includes

Assessment criteria for NON-RTA patients include:

- Presenting history:
- Past medical history:
- Allergies:
- Temperature., blood pressure, spo2-, grbs(optional),
- Investigations done:
- Provisional diagnosis:
- Treatment given:
- Course of action: outpatient/admission/transfer out/references
- Nutritional screening
- MLC initiated

Initial assessment will aid in documentation of the plan of care which is to be documented within 24 hours or before 24 hours as per the condition of the patient.

Discharge Process for Emergency Department

Once the patient is seen in the emergency department the discharged planning is processed where the medical records of patient are completed and a follow up care plan is made to make the patient understand all the aspects of care.

- This includes the activities related to documentation like LDA removal, condition at departure, review of discharge instructions prepared by the provider, and taking the signature of patient on the receipt and making her understand those instruction
- Referring back of managed care program members to the primary care provides.
- The physician of the emergency department will be seeing the condition of patient during discharge and will note it down in the emergency records.
- Summary of discharge plan will be given to the patient.
- During the discharge time the medical record will be completed.
- Discharge of the minor will be done under the custody of the legal guardian or parents.

Policy for Shortage of Medication in Emergency Department

The hospital has a policy to keep all emergency drugs available 24 hours and replenish them immediately.

Procedure:

- All medications in the emergency department should be 24 hours available.
- All medications in emergency department will be replenished on daily basis by the duty nurse.
- With every change in shift the nurse on duty will check the Crash cart and medication inventory to detect theft or loss
- Narcotics drugs will be kept in the box with double lock and key, and will be under the supervision of the nursing supervisor.
- Narcotics drugs will be released only on the signed req. of the consultant
- Crash cart once opened, will be informed to pharmacist and is refilled and locked within 10 mins
- Working condition of ER equipment will be checked with each shift change by nurse on duty

- Any non-functioning of the equipment will be informed to the nursing in charge and bio medical engineer and complaint will be raised.

Registers Maintained in Emergency Department

- List of Consultants on Duty from all departments
- MLC register for medico legal cases
- Patient register (In and Out)
- Case files of patients attended in the ED
- Drug Inventory Register
- Controlled Drugs and Psychotropic Drugs Inventory
- Narcotic Drugs Register
- Ambulance register
- Inventory register (CSSD, medicines, major inventory, crash cart, ambulance)
- Patient culture swab register
- MRD register

Forms and Formats Maintained in Emergency Department

- Emergency Assessment
- Triage Sheet
- MLC Form
- Death certificates
- Left against medical advice form
- Consent form for Anaesthesia & Surgery
- Antibiotics/ drug chart
- Medical certificates
- Requisition for Blood/Blood products
- Outpatient prescription form
- Police intimation form
- Authorisation for medical and / or surgical treatment and / or procedure
- Lab requisition
- Radiology requisition form

- Fitness certificates
- Sickness certificates
- Procedure Safety Checklist
- Adverse Anaesthesia Events sheet
- MAS form

LITERATURE REVIEW

1. **Strategies for Improving Physician Documentation in the Emergency Department – a Systematic Review**

   Diane L. Lorenzetti, Hude Quan, Jason Jiang and Cynthia A. Beck *BMC Emergency Medicine* **volume 18**,Article number: 36 (2018) https://bmcemergmed.biomedcentral.com/articles/10.1186/s12873-018-0188-z in this article showing Physician chart documentation can facilitate patient care decisions, reduce treatment errors, and inform health system planning and resource allocation activities. Although accurate and complete patient chart data supports quality and continuity of patient care, physician documentation often varies in terms of timeliness, legibility, clarity and completeness. While many educational and other approaches have been implemented in hospital settings, the extent to which these interventions can improve the quality of documentation in emergency departments (EDs) is unknown.

2. **An Analytical Study on Medical Waste Management in Hospitals**

   https://www.alliedacademies.org/articles/an-analytical-study-on-medical-waste-management-in-selected-hospitals-located-inchennai-city.pdf Acharya and Singh Meeta [3]. Stated steps for safe management of bio medical waste are handling, segregation, mutilation, disinfection, storage, transportation and final disposal. .Gupta and Boojh [5,6] said that segregation process helps to separate the infectious waste and non-infectious waste, lack of separating technique increase the chance of mixing the infectious and non-infectious waste, additionally Athavale and Dhumale [7] found lack of training among waste handlers and auxiliary staffs lead to mixing the collected infectious and non-infectious waste together.

3. **Improving Emergency Department Patient Flow**

   Emergency Department, Calderdale & Huddersfield NHS Foundation Trust, West Yorkshire, UK https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5051606/

   literature review was performed by Paul Richard Edwin Jarvis to identify evidence-based strategies to reduce the amount of time patients spend in the ED in order to improve patient flow and reduce crowding in the ED. Use of doctor triage, rapid assessment, streaming and the co-location of a primary care clinician in the ED have all been shown to improve patient flow. In addition, when used effectively point of care testing has been shown to reduce patient time in the ED. Patient flow and departmental crowding can be improved by implementing new patterns of working and introducing new technologies such as point of care testing in the ED.

4. **Effect of Interruption on Triage Effect in Emergency Department**

   https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6037611/

   In the above cited article on Effects of Interruptions on Triage Process in Emergency Department, Kimberly D. Johnson, PhD, RN, CEN, Gordon L. Gillespie, PhD, DNP, RN, CEN, CNE, CPEN, and Kimberly Vance, MSN, RN, NE-B stated that interruption during triage process can cause delay and interfere with providing efficient and safe patient care. It can increase the process time for triage and can cause system delays to the ED process. Additionally, It can lead to errors in assessment and documentation. So, it is necessary to identify the interruptions causing the most harm to ED patients and develop interventions to mitigate the adverse impact of it; thereby decreasing errors and delays, which will lead to improved ED process time and patient outcome.

   An emergency department deals with serious life-threatening emergency conditions, so poor quality of services may delay the treatment and this may further have some adverse outcome on the patient management which can bring sense of dissatisfaction among the patients and their family members.

   The purpose of the study is to identify and assess the deviation coming in the processes and infrastructure of the emergency department from pre- defined NABH and to suggest valid recommendations focusing on the deviation for better quality output and overall patient satisfaction

RESEARCH QUESTIONS

- What are the essentials in terms of structure and processes in the emergency department according to NABH standards?
- What are the NABH standards followed in the 28 beded Hospital, and if not, what are thereasons?

METHODOLOGY

- **Study Design:** Descriptive Study.

Descriptive studies are observational studies which describe the patterns of disease occurrence in relation to variables such as person, place and time. They are often the first step or initial enquiry into a new topic, event, disease or condition.

- **Setting:** Emergency Department of 28 beded hospital, Delhi.
- **Duration of Study:** Three months (April-June 2021)
- **Sample Size:** Out of 250 planned Emergency Department patient records, 110 patient records were reviewed/observed. (110 ka justification)

Interview with emergency department staff and in-depth interview with senior management was planned but could not do because of lock down due to COVID-19.

Study Tools:

1. Observation checklist was used to assess the infrastructure and services provided by the staff of the hospital.
2. A data sheet was developed to record relevant information from Emergency Department register.

Data Collection Procedure:

The steps include:

a) Review of the quality policy, guidelines, SOPs of emergency department of the hospital, NABH guideline.
b) Reviewing of hospital manuals, policies and records
c) Observation of the structure and processes.

Data Analysis: Data analysis was carried out using MS Excel. Analyses of each indicator in terms of % compliance meeting the standards. All the parameters in the self-assessment tool kit were assessed under the following categories

- Compliance
- Partial-compliance
- Non-compliance

RESULTS

Analysis of 42 parameters from the assessment toolkit based on NABH guidelines was done which is used to assess the infrastructure, process flow and services provided by the ED.

After analyzing the data based on 110 samples audited, it has been seen that out of 42 parameters observed, four parameters were showing non and partial compliance.

Compliance: -

A compliance audit is a formal external review of an organization's operations and procedures to ensure they are following all applicable laws, rules, standards, and regulations. In other words, a compliance audit asks.

Types of Compliance: -

Noncompliance is the failure to meet imposed laws or standards, sometimes due to explicit violations of these laws or standards. In other cases, noncompliance is due to a failure to meet a specified threshold or to update practices to meet current demands. Not all instances of noncompliance are legal violations.

Full Compliance means compliance with all material requirements of each standard except for de minimis violations, or discrete and temporary violations during otherwise sustained periods of compliance.

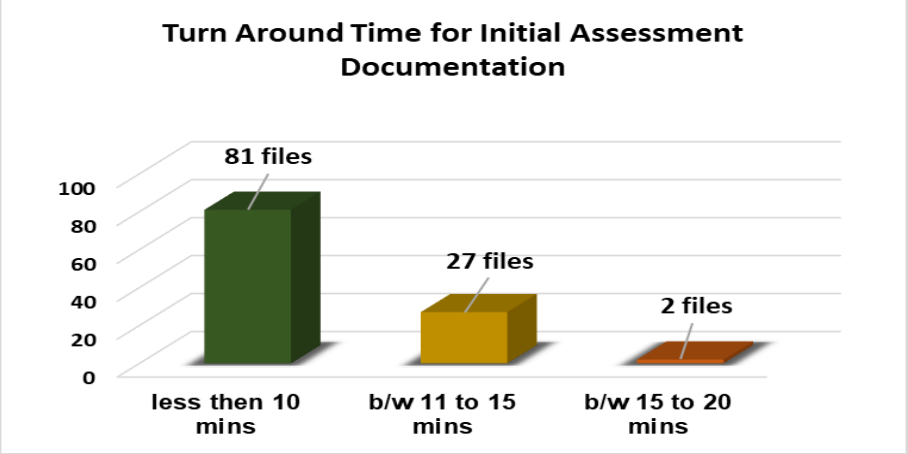
Partial Compliance means that a facility is found to meet the conditions of participation, with moderate to few non - health and safety deficiencies and is able to receive a temporary certification so long as the implementation of a corrective action plan is achieved.

Standard 1: Time frame for doing and documenting initial assessment

Out of total 110 patients' files audited, the initial assessment form of 29 files (26%) were showing non-compliance which means documentation of initial assessment was not done within the standard time 10 minutes as per the policy of the department of the hospital as well as NABH guidelines.

After further investigation it has been seen that 81 files (74%) were documented with in the standard time of 10 mins while 27 files (25%) were documented between 11 to 15 mins and remaining files took more than 15 mins as shown in the Fig. 8

Fig. 8: Percent Distribution of Turn Around Time for Initial Assessment Documentation in Emergency Department



Delay in the documentation of the initial assessment was due to the shortage of staff as due to pandemic crises most of the manpower refuses to work in the hospital area because of COVID infection. Because of the ongoing Covid-19 crisis the initial documentation could not be performed in a timely manner.

Standard 2: Accurate documentation of medication administered

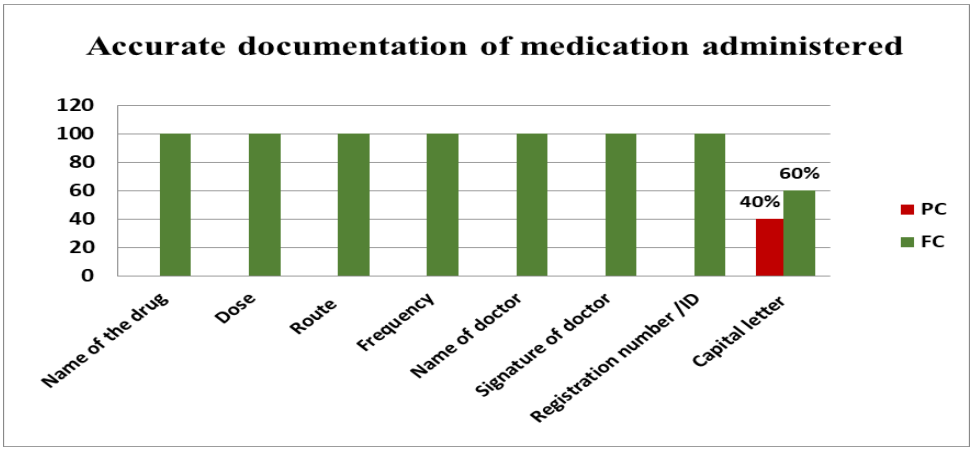
Out of total 110 patient's files audited it has been seen that the drug chart of 44 files (40%) were showing partial compliance, which means medications administered were not accurately documented in the form because the drug name was not written in capital letters as per the policy of the department of the hospital as well as NABH guidelines.

The various attributes for accurate documentation of medication administered are:

- Name of the drug administered
- Dose of the Drug
- Route of administration
- Frequency
- Name of the doctor who administered drug
- Signature of the doctor
- Registration id/number
- Documentation of drug in Capital Letter

The Fig. 9 represents the compliance level of different attributes of Accurate documentation of medication administered, where it has been seen that out of 110 files audited in 44 files (40%) the attribute Documentation of drug in capital letter was showing partial compliance as compared to the rest of the attributes.

Fig. 9: Percent Distribution of Different Attributes for Accurate documentation of medication administered

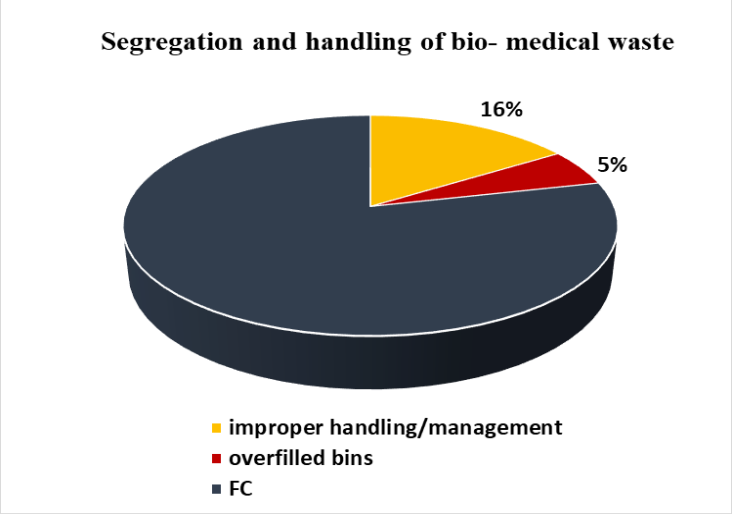


Standard 3: Segregation and Handling of Bio-Medical Waste

Out of total 110 times audited, 23 times (21%) it has been seen that the segregation and handling of bio- medical waste was showing partial compliance which means the bins were found overfilled and the discarded material like pieces of swab, glove and plastic material were lying on the floor near the bins was not managed properly as per the policy of the department of the hospital as well as NABH guidelines.

During the audit 17 times (16%) improper handling/management and 6 times (5%) overfilling of bins have been observed as shown in Fig. 10

Fig. 10: Percent Distribution of Segregation and Handling of Bio-Medical Waste in Emergency Department



The Fig. 11 depict the improper bio medical waste management and handling like used gloves (PPE), plaster etc. which may further lead to nosocomial infection in patients due to poor infection control practices and waste management.

Fig. 11: Improper Management of Bio Medical Waste in Emergency Department

During the study, it was observed that the Essential poster (e.g. bio-medical waste segregation) was missing at its appropriate place and the stickers displayed on the bins were unreadable as shown in Fig. 12

Fig. 12: BMW Bins Displaying Unreadable Stickers

Standard 4: Documentation of Nursing Plan of Care

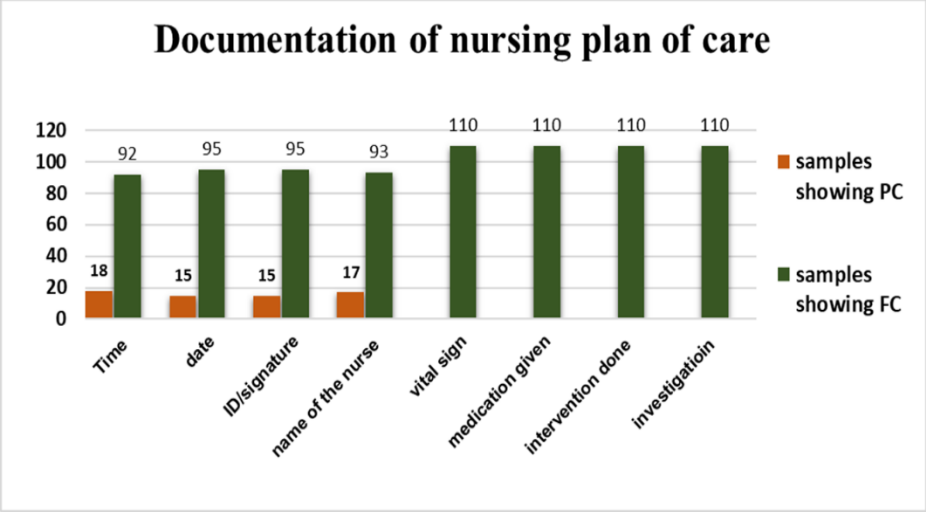
Out of total 110 patients' files audited, the nursing plan of care in 19 files (17%) were not accurately done and was showing non-compliance which means documentation of Nursing plan of care form was not accurately filled and in few of the samples the time, date, sign/ID and name of the nurse were missing as per the policy of the department of the hospital as well as NABH guidelines.

The various attributes for documentation of nursing plan of care are:

- Time
- Date
- Name of the nurse on duty
- Signature/Registration id no. of the nurse
- Vital signs recorded
- Medication given as prescribed by doctor
- Intervention done
- Investigation

The Fig.13 represents the compliance level of different attributes of documentation of Nursing plan of care, where it has been seen that out of 110 files audited in 19 files (17%) the attributes time, date, name of the nurse on duty and Signature/Registration id no. of the nurse were showing partial compliance as compared to the rest of the attributes.

Fig. 13: Percent Distribution of Different Attributes for Documentation of Nursing plan care in Emergency Department



Beside above mentioned the intern could also observe some other relevant aspects:

Through the interactions with patient's attendant and staff of emergency department it was elicited that the admission refusal was done due to following reasons:

- Packages/services to be availed are not included in the Health Insurance Coverage.
- The service delivered/received is not as per expectation.
- The patient faces an affordability issues for availing admission to hospital.
- The primary consultants whom the patient seek for medical consultation are not available in the hospital presently.

Though the Patient Triaging Process of the Hospital was going as per NABH standards, but when there's a change in the shift, or somebody new joins the staff, or due to the busy influx

of patients it is sometimes difficult to make sure the important information doesn't get lost in the shuffle.

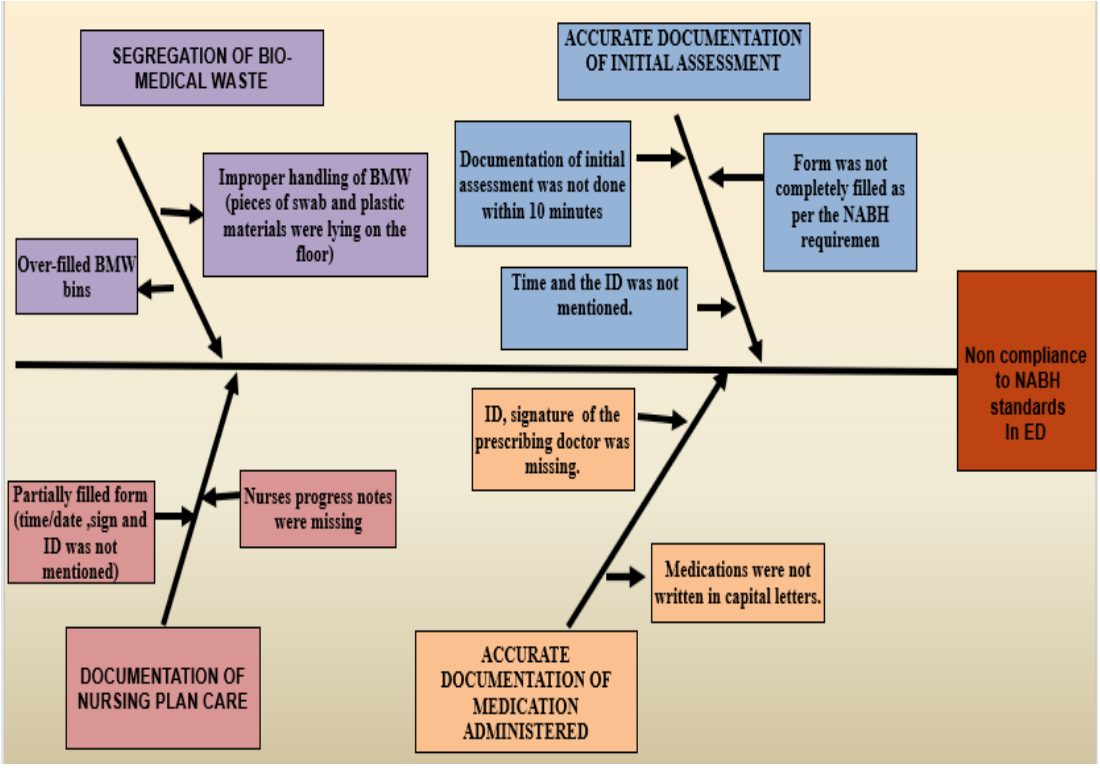
Based on the observation done in the emergency department, the facilitating and hindering factors (Table 1) for the current level of quality standards of structure and processes are:

Table 1: Facilitating and Hindering Factors

FACILITATING
Pre-defined initial assessment as per the hospital policies
Periodic monitoring of patient done during and after the procedure
Adequate availability of PPEs, soaps and disinfectants
Well displayed CPR protocols
Safe medication practices
Well drafted and functional disaster management plan of emergency department.
Well-equipped crash cart
HINDERING FACTORS
Improper handling and management of Bio-Medical Waste
Incomplete documentation of nursing plan of care
Administered medicines were not written in capital letter
Incomplete documentation of the doctor's credentials
Turn around time policy for documentation of initial assessment was not followed
Progress reports of nursing plan of care were missing in some cases
Over filled BMW bins

The Fig. 14 represents the process that helps to identify a particular problem by finding the underlying reasons for the specific issue. The problem regarding the compliance to NABH standards in Emergency Department is written in the rightmost part of the diagram which is the head of the fish. In the left runs its spine, which has bone like arrows pointing to the main causes followed by the sub causes.

Fig. 14: Fish Bone Diagram Showing Root Cause and its Effect



Discussion

As per the study conducted, 92% compliance was observed in the quality parameters of the emergency department as per the defined policies of the hospital.

During the study it was observed that the root cause of the identified problems remains the same in most of the tertiary care hospitals, and as per the NABH standards, 70% compliance ideally represents good quality health care and thereby meeting the eligibility criteria for accreditation.

The remaining 8 % non-compliance should also be taken into consideration while making the changes to maintain continuous quality assurance and excellence.

CONCLUSION

This study reveals that the quality assessment guidelines of the hospital were well documented but not fully implemented.

It was also found that there were some facilitating and hindering factors which were observed during the period of study which can be altered and minimized to a great extent by following the documented quality standards of the hospital.

ANNEXURE

❖ EMERGENCY INTERNAL AUDIT TOOL KIT

NABH REFERENCE	Audit Point
FMS 2	Signposting and directional signages (bilingual) from approach road
FMS 2	Easy and direct access of emergency department from the approach road/main gate
HIC 5	Availability of PPEs, soaps and disinfectants; and their correct use
ROM	Displayed rights and responsibility of organization's employee
HIC 7	Re-use of instruments and equipment
HIC 8	Segregation of bio-medical waste
COP 7	Monitoring of Patients done during and after the procedure
COP 7	Documentation of clinical procedures done
COP 2	Display and documentation of triage policy
AAC	Maintenance of necessary registers (admission-discharge-transfer, stock, laundry, adverse incident register etc.)
COP 7	Well equipped Crash cart (all life-saving drugs and equipment)

COP 4	Documented Disaster management plan
COP 2	Handling of MLC cases on arrival(including capturing identification marks and police intimation)
COP 2	Documented policy on "dead on arrival"
COP 2	Documentation of procedures/policies/protocols for emergency care
COP 5	Documented policies and procedures on uniform use of resuscitation
COP 5	Training in CPR - BLS/ ALS
COP 7	Adherence to standard precautions and asepsis
MOM 3	Storage condition, inventory, expiry dates of medication
HIC 2	Instructions for hand washing displayed near every hand washing area
HIC 2	Adherence to safe injection and infusion practices
HIC 5	Availability of hand hygiene facilities
COP 4	Mock drills of disaster management (at least twice a year)
HIC 2	availability of Sterilized sets: check expiry dates, storage conditions
COP 6	Documented policies and procedures for all activities of nursing services in emergency dept.
AAC 3	In case of transfer of patients: Check stability/transfer notes/ treatment summary.

AAC 2	Availability of defined no. of beds in emergency dept.
AAC 3	Documented policies and procedures on transfer-in /transfer-out of unstable patient/ transfer out of stable patients
AAC 3	Documented policies and procedures on transfer-in /transfer-out of unstable patient/ transfer out of stable patients
AAC 3	Predefined initial assessment
COP 7	Informed consent taken by the doctor before performing the procedure
AAC 3	Check identified staff responsible during transfer
MOM	Safe medication practices (things to check before administration, monitoring, verbal orders, administering high risk medicines etc.)
AAC 4	Time frame for doing and documenting initial assessment
MOM 7	Monitoring of patient after medication administration
AAC 12	Structured clinical handover by doctors and nurses after every shift

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