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REVIEW ARTICLE

Strategies to Improve Patients Safety in Emergency Department

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Abstract

Patient safety is a fundamental principle of health care. The process of delivering care to the patients contains a certain degree of inherently unsafe. Approximately 1 in 10 hospital patients' experiences an adverse event, of which half may be attributed to clinical error and a third result in significant harm or death. Clinical errors in emergency medicine may include errors of patient identification, hospital-acquired infections due to poor procedure asepsis, patient isolation procedures, medication errors, misdiagnosis, and failure of follow-up of investigation, communication errors, physical care and miss-triage. Improving patient safety in emergency department requires an understanding of the emergency department environment and a methodical stepwise approach of improving safety based upon factoring reporting of clinical incidents and evaluating reported incidents using accepted methodologies such as root cause analysis. Patient safety should be monitored proactively in order to ascertain risks and assist assessment and refinement of interventions to improve patient safety.

Keywords: Triage; Patient Safety; Medication Error.

Introduction

Nowadays, patient safety is a serious global public health issue in hospitals. Adverse Events can occur anywhere, hospitals, clinics, pharmacies or even the patient's home. Health care delivery system involves advance technologies, leads to conflicting interests from stakeholders and providers. Sometimes, limited resources of health care facility also have a negative impact on the performance of the health care system. Common errors are encountered in emergency. If any adverse event happened in hospital, the health providers are reluctant to register or talk publicly about adverse events and medical errors for fear of embarrassment, punishment and malpractice litigation. Adverse events lead to moderate or greater disability or death. According to WHO, approximately 1 in 10 patients are getting injured while receiving clinical care and a third result in significant harm or death. The day of greatest risk of an adverse event is usually the first day of admission to hospital and half of the adverse events are preventable with the current state of medical knowledge. Patients' adverse effects may be due to errors of patient identification, hospital-acquired infections due to poor procedure asepsis, patient isolation procedures, medication errors, misdiagnosis, and failure of follow-up of investigation and communication errors, physical care and miss-triage.

Patient safety is defined as 'freedom from any kind of accidental injury while receiving medical care or medical error'. For example, a patient supposed to be on a salt free diet may accidentally be given a routine diet. Patient may end up buying wrong medicines due to doctor's illegible handwriting.

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Causes of healthcare error in Emergency Department

Human Factors

Health care providers are trained in various Institutes with different experience. It leads to variations in patient care practice also. Poorly designed duty rosters may contribute to over work load, fatigue, depression and burnout. A high proportion of junior medical and nursing staffs that are still in training are involved in patient care. Unfamiliar setting to patient and time pressure to care providers leads to error.

Medical factors

Patients having a high severity of illness, place them at greatest risk of serious adverse effects. Complicated technologies and powerful drugs also lead a medical error.

Environment factors

Noisy, busy work spaces with frequent intrusions from alarms, pages, telephone calls, overcrowding, patients' family members' intrusions and personal consultations, all of which create distractions to care providers and its increasing the risk of error. In emergencies, patient care may be rendered in areas poorly suited for safe monitoring.

System factors

Poor communication, unclear lines of authority of physicians, nurses and other care providers are some of the system factors. Complications increase as patient to nurse staffing ratio increases. Disconnected reporting systems within a hospital (fragmented systems) in which numerous hands-offs of patients results in lack of coordination and errors. Inadequate systems to share information about errors hamper analysis of contributory causes and improvement strategies. According to the WHO, 50% of medical equipment in developing countries is only partly usable due to lack of skilled operators. As a result, diagnostic procedures or treatments cannot be performed, leading to substandard treatment.

The Joint Commission's Annual Report on Quality and Safety 2007 found that inadequate communication between healthcare providers or between providers and the patient and family members, was the root cause of over half the serious adverse events in accredited hospitals. Other leading causes included inadequate assessment of the patient's condition and poor leadership or training.

Common Safety problems in emergency departments

Patient identification errors are incorrect labelling of laboratory requests and mislabelled samples may result in delays, misdiagnosis and incorrect treatment such as transfusion errors.

Hospital acquired infection

Simple procedures carried out by inexperienced staff using suboptimal asepsis techniques in inappropriate result increases the risk of hospital acquired infection. Poor screening or compromise of isolation procedures due to overcrowding can pose genuine life threats to other patients.

Incorrect interpretation or failure to follow up pending imaging or laboratory investigations result can lead incorrect or delayed diagnosis.

Medication errors

Illegible, incomplete, verbal drug prescriptions, dosing errors and compromise of medication administration procedures increase the risk of adverse drug events.

Communication errors

Omissions in the handover of care between health care providers within the emergency department at the change of shift, transfer patients from one to another department and discharge the patients may cause serious delays in both diagnosis and the follow up of urgently needed investigations or treatment.

Triage errors which may result in significant delays in care for low-priority patients. A triage error may result in significant delays in diagnosis or initiation of treatment.

Injury from fall

Environment hazards such as wet floor, slippery floor, fail to put patients' bed side rails and without proper handicapped accessible in bath room and toilets.

Ways to rectify common safety problems in the emergency department

Patient identification errors

This error may be reduced by using Computerized Identification Barcode system and Emergency Department Information system.

Hospital acquired infection

Employees reduce the chance of disease transmission from one patient to another and to the employee by proper training about universal precautions such as the use of gloves, gowns, masks and other personal protective equipments.

Incorrect interpretation or failure to follow up

This may be reduced through emergency information system that is patients' all reports are got from computer or SMS or email (centralized computerized barcode).

Medication errors

This can be reduced by clear handwriting and instead of oral prescription, send SMS or email.

Communication errors

This can be reduced by clear communication and written document. Patient safety is a team activity that requires communication of the approach to improving safety and it is high priority to all members of an emergency staff.

Triage errors

This may be resolved via placing the senior staff and standard policy and protocol.

Injury from fall

This may be rectified by keeping proper sign board, set the alarm in emergency beds while forgetting to put side rails and construct the bath room and toilets with handicapped accessible.

Understand the environment

Health care providers should develop coping ability to work in emergency department and understand the characteristics of emergency department and patients care. Patients' relatives should not be allowed inside the treatment room and place them in separate place and post one nurse to console.

Identify specific risks

Risk identification is usually undertaken with the aid of clinical incident reporting system. Try to learn from mistakes.

Analyse and evaluate the risks

Two common forms of analysis are root cause analysis and failure modes and effects analysis.

Treat the risks

two common preconceptions that can stand in the way of an effective remedy include the 'perfection myth'-if we try hard enough we will not make any errors and the 'punishment myth' – if we punish people when they make errors they will make fewer of them. In reality, at least 80% of errors may be attributed to poorly designed care systems and processes that fail to account for human fallibility.

Monitor and review

The improvement of patient safety is a continuous process and information concerning process safety should be collated systematically and routinely.

Role of the "EGAIRT NURSE" (reverse nurse)

E-educate the patient;

G-guarantee that treatment is complete;

A-admission not indicated;

I-information (documentation) complete;

R-review (follow-up) arranged;

T-transport arranged.

Phase of care strategies in Emergency Department

Phase 1: Receive the patient and follow the protocol for treatment, (referral / transfer agreements, medical advice policies, protocol and training).

Phase 2: 24 / 7 trained triage nurse available, backup triage staff for busy periods, link triage category with clinical area, and documentation of vital signs and availability of medical records.

Phase 3: Immediate bed availability for all triage category 1 & 2 patients.

Phase 4: Timely senior staff reviews of all patients post-assessment by junior staff, regular review of status of all patients in emergency department by senior staff on duty.

Phase 5: Pre-exit review of all patients by senior (EGAIRT) nurse and medical officer, appropriate referral of discharge patients, written discharge instructions all discharged patients.

Phase 6: Timely review of all patient discharge, patient radiology, and ECG and pathology results.

All phases: Documentation, incident / error reports, complaints, documentation of interpretation of ECG / X-ray findings, date and signing each and every diagnostic report form indicating that it has been reviewed in a timely manner.

Strategies to promote patient safety

- Employees should be selected, appointed, oriented and provided proper training.
- Regularly arrange patient safety awareness priority programme amongst healthcare personnel and patients.
- Training the health professionals on communication and teamwork.
- Create a safety environment (temperature, light and noise).
- Initiate routine safety assessments programme.
- Implement vigorously known safety practices.
- Written standard protocol / policy / algorithm for common emergency procedures.
- Review the safety protocol / policy / algorithm periodically.
- Evaluate the safety procedures regularly.
- Senior faculty supervise patients' safety round the clock.
- Incorporate patient safety into all healthcare professional training.
- Deal promptly with professional misconduct leading to safety errors.
- Writing patient information leaflets.
- Document anonymous and confidential incident reporting.
- Analysis of all unexpected deaths to understand why and what went wrong and what lessons can be learnt.
- Supporting the health professionals if and when they make genuine mistakes, ensuring lessons are learnt.
- Valuing patients and providing the best possible care.
- Establish good system to deal with complaints, litigation etc.

Issues related to personnel for patients' safety

- Health workforce is overburdened, under skilled due to acute shortage.
- Health care providers are under time bound and time pressure to deliver emergency care.
- Inadequate and inequitable distribution of health care providers in hospital.
- Poor teamwork among health care professionals.
- The relationship between health care provider and consumer is less trusting.
- Communication gap between providers and consumers increasing due to more complex health care.
- Lack of accountability among health care providers.
- Health care providers not disclose / hide the patients care error.
- Patients' family also not cooperating due to lack of knowledge on emergency procedures.

Issues related to system to improve patients' safety

- No safe work environment
- Complex interventions and technology
- Cost and resource constraints
- Infrastructure inadequacy to provide services
- Weak Governance / Management / Corruption
- Lack of political will
- There is no practice of root cause analysis, incidents not reported and weakness in the system remains
- There is no single system to monitor the functioning of hospitals
- Limited resources in the health facility
- Inadequate institutional support
- Large unregulated private sector
- Lack of policy
- The current marketing strategy
- Ensuring health care quality consistent across the country
- Reducing the cost of health care delivery without reducing quality
- More involvement of mass media and NGOs to protect patient rights
- Lack of health care regulation, but the Government is working to introduce
- Regulation at all levels of health care delivery (minimum standards)
- Accreditation is voluntary, not mandatory

Conclusion

Patients' safety is a team work. It needs cooperation from everyone to achieve success. Improving patient safety in the emergency department requires a systemic approach to risk identification, risk analysis and evaluation and the implementation of safe process of care. Monitoring is an essential component of patient safety improvement. An open communicative culture that promotes reporting and minimizes blame supports patient safety improvement.

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