Review Article

Prevention of errors in health care- patient (Medical customer) safety

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ABSTRACT

Hospital is a people sensitive place, Providing services to sick people round the clock. People have a free access to enter any part of the hospital at any time for advice and treatment. The hospital atmosphere is filled with emotions, excitement, life & happiness, death & sorrow. Since hospital operates under continuous strain, it gives rise to irritation, confrontation, conflicts and aggression, threatening the life of hospital staff and hospital properties.

We are all painfully aware of the problem of patient safety in health care. More specifically is the growing number of preventable deaths that occur in our nation's hospitals at an alarming rate.

By Patient Safety, we mean prevention of harm to patients while receiving Health Care. Medical errors not only result in additional costs for hospitalization, litigation, hospital acquired infections, lost income and disability etc, but they also cause erosion of trust, confidence and satisfaction among the public and Health care providers.[1]

Key words: Health Care, Preventable Medical Errors, Preventable Deaths, Patient (Medical Customer), Medical Customer Safety

Introduction:

"The 5th May is being celebrated all over the world as the Global Hand Hygiene Day" WHO.

Hospitals are scary places to be in. Volumes of investigations, life saving and life threatening medications, life support devices, complex diseases, delicate interventional procedures and marathon surgeries – an error can be disastrous. Yet research shows that medical errors happening frequently.[2]

A **medical error** is a preventable adverse effect of care, whether or not it is evident or harmful to the patient. This might include an inaccurate or incomplete diagnosis or treatment of a disease, injury, syndrome, behavior, infection, or other ailment.

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Medical Errors in India [3]: In India recording 5.2 million injuries every year due to medical errors adverse events. Worldwide recording 43 million injuries, 23 million years healthy lives lost.

Topping the list are: Medication errors, followed by Hospital acquired infectionsand Deep vein thrombosis.

These findings for the first time try to quantify the global burden of unsafe medical care across a range of adverse health events.[3]

The United Nations body quantified the number of surgeries taking place every year globally which accounted 234 million. It said surgeries had become common, with one in every 25 people undergoing it at any given time. China conducted the highest number of surgeries followed by Russia and India. In developing countries, the death rate was nearly 10% for a major surgery.[4]

In US estimate there are over 400,000 preventable deaths annually according to James etal.[5]

Where Medical Errors occur? Medical errors can occur anywhere in the health care system:

- Hospitals, Clinics, Outpatient Surgery Centers, Doctors' Offices.
- Nursing Homes, Pharmacies, Patients' Homes.

What are Medical Errors?

Medical errors happen when something that was planned as a part of medical care doesn't work out, or when the wrong plan was used in the first place.

Errors can involve:

Medicines, Surgery, Diagnosis, Equipment, Lab reports.

They can happen during even the most routine tasks. Most errors result from problems created by today's complex health care system. But errors also happen when doctors and their patients have problems communicating.[6]

The World Health Organization (WHO) said on that "millions of people die each year from medical errors and infections linked to health care. It said that if the checklist is effectively used worldwide, about 500,000 deaths could be prevented each year".[7] It is worth noting that these figures are likely to be an underestimate of the true picture; this is because of a well-recognized culture of under-reporting in almost all health-care systems.[8]

'Assessment of Injection Practices in India'–by the India indicates that a very large number (3 to 6 billion) of injections are administered in India every year. Nearly two-thirds of these injections are unsafe (62.9%). Govt. of India had signed a pledge in July 2006 to work to reduce health care-associated infections in collaboration with world alliance for patient safety.[9]

By giving correct drug to a correct patient, correct time, correct route, correct dose by clean and safety method we avoid medication error. It is important to note that at least 50% of Health Care Associated Infections (HCAI) are preventable. Every year unsafe injections result in 1.3 million deaths mainly due to Hepatitis B, Hepatitis C and HIV.[10]

Ten (10) Systemic causes for healthcare errors:[11]

Poor communication, unclear lines of authority of physicians, nurses, and other care providers.

- 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.
- Drug names that look alike or sound alike
- The impression that action is being taken by others within the organisation.

Table-1: Data regarding various errors and cost of it in developed countries, developing countries and India.

Sl.No.	Events	Developed countries	Developing countries	Total	India
1	Surgeries	80 millions	154 millions	234 millions	29 millions
2	Errors	14million	27millions	43millions	5.2 millions
3	Readmissions	14.20%	12.70%	13.50%	12.50%
4	Drug errors	5%	9%	6.50%	9.50%
5	Infections	2.50%	3%	2.90%	4%
6	Temporary disability	59%	55%	56%	55%
7	Permanent disability	33%	35%	33.60%	35%
8	Deaths (major surgeries)	6.60%	10%	8%	!0%
9	Working days lost	7.2million days	15.5 million/d	22.7 million/d	3.5million/d
10	Financial implications	$1.3billion	$1.5 billion	$2.8 billion	$0.4billion

- Reliance on automated systems to prevent error.
- Inadequate systems to share information about errors hamper analysis of contributory causes and improvement strategies.
- Cost-cutting measures by hospitals in response to reimbursement cutbacks
- Environment and design factors. In emergencies, patient care may be rendered in areas poorly suited for safe monitoring.
- The American Institute of Architects has identified concerns for the safe design and construction of health care facilities.
- Infrastructure failure.

Discussions:

Patient safety challenges

As per **WHO** 1 in 10 patient receive harm during the treatment process 1.4 million people worldwide suffer from infections acquired in hospitals.

Since 2009, The 5th May is being celebrated all over the world as the Global Hand Hygiene Day in India too; many hospitals undertook activities to promote awareness on hand hygiene in health care workers.

1.The prevention of health care associated infections (HCAI)and the prevention of surgical complications have been recognized as major issues and taken up as global patient safety challenges, calling for action by health care facilities across the globe.

2. The first challenge is **"Clean care is safer care"** and addresses the problem of health care associated infection with focus on the improvement of hand hygiene - the single most important factor to prevent HCAI.

3. The second challenge is **"Safe Surgery Saves Lives"** calling for application of standards of care and the implementation of a simple check list called the safe surgery check list. The check list includes a series of simple checks to be done before induction of anaesthesia, before making the incision and after the operation is over.

WHO safety goals:

The assumption of safety in the **FIRST DO NO HARM**

"Safety is the most provision of healthcare is as fundamental as care itself. The basic dimension of performance necessary for the improvement of healthcare Safety is the underlying reason for risk management, infection control. It is the reason we insist on control, and environmental management programs. Qualified clinical practitioners and support staff, validating education, expertise, and other credentials; providing appropriate orientation and continuing education; and performing periodic appraisal.

B. International Patient Safety Goals we are supposed to follow,

Goal1: Identify Patients Correctly

Goal 2: Improve Effective Communication

Goal 3: Improve the Safety of High-Alert Medications

Goal 4: Ensure Correct- Site, Correct-Procedure, Correct Patient Surgery

Goal 5: Reduce the Risk of Health Care – Associated Infections

Goal 6: Reduce the Risk of Patient Harm Resulting from Falls

1- IDENTIFY PATIENTS CORRECTLY Requirement: The organization

a. Use and develops an approach to improve accuracy of patients' identification.

b. before administering medications, of at least two patient identifiers.

c. Before taking blood and other specimens for blood, or blood products.

d. Before providing treatments procedures and clinical testing.

2-IMPROVE EFFECTIVE COMMUNICATION

Requirement The organization develops an approach to improve the effectiveness of communication

a. Verbal and telephone order or test result is written down among caregivers.

b. The order or test result is by the receiver and read back by the receiver.

c. Confirmed by the person who gave the order.

3-IMPROVE THE SAFETY OF HIGH-ALERT MEDICATIONS Requirement: The organization develops an approach to improve the safety of high-alert

a. Policies to address the location, labeling, and storage of medications.

b. Concentrated electrolytes are not present in concentrated electrolytes.

4-ENSURE CORRECT-SITE, CORRECT PROCEDURE, CORRECT-PATIENT SURGERY Requirement: The organization develops an approach for to

a. Ensure the correct-site, correct procedure, and correct-patient surgery

b. Mark surgical site correct site, correct procedure, and correct patient

c. Verify that identification and involve the patient in the marking process

d. Use documents and equipment needed are on hand, correct, and functional time-out procedure before starting a surgical procedure

5-REDUCE THE RISK OF HEALTH CARE–ASSOCIATED INFECTIONS Requirement: The organization develops an approach to reduce the risk of health

a. Policies to reduce the risk of health care–associated infections

b. Adopt or adapt currently published and generally care–associated infections

c. Implement an effective hand hygiene accepted hand hygiene guidelines program

6-REDUCE THE RISK OF PATIENT HARM RESULTING FROM FALL Requirement: The organization develops an approach to reduce the risk of patient

a. Policies to reduce the risk of patient harm resulting from falls.

b. Implement initial assessment of patients for fall resulting from falls.

c. Implement measures to reduce fall risk and reassessment when indicated.

Others are:

Reducing bloodstream infections

Preventing bloodstream infections from central line venous catheters.

Reporting and learning systems WHO Draft Guidelines for Adverse Event Reporting and Learning Systems is designed to help countries develop or improve reporting and learning systems in order to improve the safety of patient care.

Technology: Identifying and clarifying the role and objectives of technology in improving patient safety, both in the developed and developing world.

High 5s: Addressing safety problems through implementing standardized solutions and measuring progress worldwide.

Conclusion:

In this document we are exploring how approaches such as human factors can help us to make ‘Never events’ preventable errors a near reality. Here patients, their families, clinicians and their teams, all who thought it would never, could never happen to them. We will then look at how we can learn from these cases to ensure that next time it doesn’t happen to us. Researchers say most medical centers have long list of patient safety procedures to place to prevent surgical mistakes such as mandatory “time-outs” in the operating room to make sure medical records and surgical plans match the patient on the table. Even though these errors are not intentional but require more vigilance, competence and care from medical industry.

Pointers towards improved patient safety measures

- Make patient safety an awareness priority amongst healthcare personnel and patients.
- Create a healthcare culture of safety
- Initiate routine safety assessment
- Implement vigorously known safety practices
- Incorporate patient safety into all healthcare professional training
- Deal promptly with professional misconduct leading to medical errors.

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