DETERMINING THE FACTORS INFLUENCING PATIENT SAFETY CULTURE IN HOSPITAL SETTINGS

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ABSTRACT

Objective: To determine the factors potentially influencing patient safety culture in hospital settings an comparison of patient safety factors in public and private hospital.

Study Design: Qualitative study.

Place and Duration of Study: The study was conducted in two hospitals in Pakistan; one from public and other from private sector, from Feb 2017 to Jun 2018.

Methodology: A multimethod approach was used for data collection including interviews and focused group discussions with 50 physicians/doctors & staff from different levels of management hierarchy/department and analysis was done by integrating and coding the two sets of data manually. The data was coded and themes were formed.

Results: The different themes obtained from the study included: Human factors like leadership, teamwork, communication work-load and professionalism; physical factors like resources, infrastructure and cleanliness; patient factors like severity of illness, availability of attendant and drug allergies; environmental factors like climate, staff and working conditions and safety culture like safe administration of drugs, blood products, sampling, sterilization and prophylactic antibiotics administration.

Conclusion: Multiple factors related to human being and environment were identified to influence patient safety in a hospital setting. Participants from the public hospital were more knowledgeable compared to the private hospital.

Keywords: Pakistan, Patient safety, Private hospitals, Public hospital, Safety management.

INTRODUCTION

Patient safety is a field that focuses on safety in health care through the prevention, reporting and inquiry of medical error that may generate adverse effects on the patients and thereby reducing the harm caused by taking necessary measure[1]. According to the Institute of Medicine (IOM), patient safety can be defined as the prevention of harm to patients[1]. The configuration of care provision is emphasized to prevent errors and must learn from the errors that happened and to construct safe environment that comprises of health care professionals, organizations and patients[2]. The prevention of harm as per the Agency of Health Care Research and Quality (AHRQ Patient Safety) is the medical care which is free from accidental or preventable injuries[3]. It is simply based on the application of safe scientific methods in the health care system to achieve reliable system of health care delivery in order to minimize incidence of adverse incidents[2].

According to WHO, patient safety is found as predominant endemic concern based on the recognition of healthcare errors with an impact of 1 in every 10 patients around the world[3]. Patient safety has now emerged as distinctive healthcare that is supported by a developed scientific framework. There is significant theoretical and research literarture available that informed about patient safety[4]. The resulting patient safety knowledge continually informed about the improvement efforts such as: applying lessons learned from business and industry, adopting innovative technologies, educating providers and consumers,

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enhancing error reporting systems and developing new economic incentives.

Patient safety is a major concern area for all public (funded by the government) and private hospitals that are delivering health services in every country. The main causative elements for patient injury and harm include prescription of antibiotics without knowing the patient's underlying condition or whether antibiotics will help the patient or administration of multiple drugs without relating to adverse drug reactions[5]. Another factor is the poor communication between different healthcare providers or delays in receiving treatment cause more harm than that by the misuse of technology[6]. Patient safety is a broad subject ranging from incorporating the latest technology such as electronic prescribing and redesigning hospitals and services in a team effort to washing hands. To make it cost effective, individual doctors and nurses can improve patient safety by engaging with patients and their families, checking procedures, learning from errors and communicating effectively with the health-care team. When errors are reported and analyzed they can help identify the main contributing factors. Understanding the factors associated with patient safety is essential for making the changes that will prevent errors leading to patient harm.

Several factors and conditions affect the safe and standard health care service delivery to patients. Structural factors, include physical parameters such as the design of buildings and availability of required equipment as well as basic organizational characteristics like the availability of sufficient and trained staff[7]. These characteristics cannot be rapidly changed and an association between these factors and safe patient care is still not very clear. Some structural parameters, like different levels of staff and intensive care have been associated with safe patient care[8]. Human resource matters that affect the morale of staff and work environment, have been reported to have a link with patient outcomes, even including death rates of hospital[9]. These basic characteristics of a hospital and healthcare organization

are influenced by several other factors like morale, patient safety culture and motivation that influence attitude and behaviour of the staff which in turn influence the quality of work carried out[9,10]. Teamwork, use of appropriate technology, individual effort, working environment and culture and ethics of hospital, all play a role in safe patient care. These are mediating and contributing factors that can influence patient care indirectly but also are potential determinants of patient safety and reflection of patient safety improvement in the future.

METHODOLOGY

This qualitative study was carried out in one public and one private hospital from June 2017 to February 2018. The purpose of this study was to examine the Patient Safety concept in two Pakistani hospitals (public and private) and to explore the impact of cultural and internal factors on the use of patient safety construct in these two national hospitals.

A multimethod approach was used for data collection including interviews and focused group discussions with 50 physicians/doctors & staff from different levels of management hierarchy/department and analysis was done by conventional content analysis methodology. The study participants were enrolled by a purposive sampling technique; physicians/surgeons, paramedical staff and management personnel of different tiers were selected. For better and in depth understanding this sampling method was chosen in order to reach information-rich participant which was in line with the objectives of the study. Further study participants were informed that they can withdraw from the study at any stage without any harm to them.

The study objective was explained to potential participants and verbal informed consent were obtained from willing participants and they were ensured that their information will be kept confidential and anonymous. Those who were full time employees were selected and data were collected by using semi-structured questionnaires. Interview with each participant

lasted for about 20-25 minutes and was conducted in a private area to avoid any bias, based on the participants' willingness to answer the questions.

Data were transformed from description to interpretation via a data analysis process that included the following four steps: a) preparation, b) data integration, c) organization, and d) classification. During the stages of preparation and data integration, interviews were transcribed and read many times to acquire an overall sense of perceptions of patient safety concept by the participants in their departments, wards and hospitals. In the organization phase, open coding and grouping were used to generate categories and subcategories. Lastly, in the classification phase, themes were identified.

Study design and ethical aspects were approved by the ethical review committee of both the public and private hospital.

RESULTS

In the study, total 50 participants were enrolled; 25 each from public hospital and private
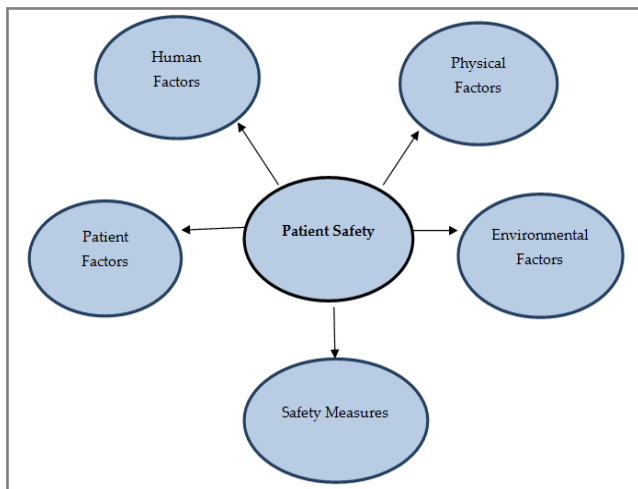

Figure: Patient safety factors themes identified in the study.

hospital. Demoghraphic characteristics of study participants from Public hospital and private hospital are detailed in table-I. They was no significant (*p*=0.513) difference between

demographic characteristics of participants from both hospital.

Following themes related to patient safety factors were identified by study participants of public hospital and private hospital (figure).

Participants of private hospital mentioned two most important factors i.e. "fulfillment of psychological needs of the patients" and "Asking

Table-I: Demographic characteristics of study participants of Public and Priavte hospital.

Category	Frequency	
	Public Hospital	Private Hospital
Age		
25-35	08	07
36-46	10	09
47-57	07	09
Gender		
Male	13	11
Female	12	14
Department		
Medical	07	05
Surgical	02	03
Peads	02	03
Gynae	03	03
Emergency	02	04
Cardiology	03	03
Human resource/ Management	07	04
Profession		
Physician/Surgeon	09	09
Nurse/ Paramedics	08	08
Management	08	08
Work Experience (Years)		
<5	5	4
5-10	4	5
10-15	4	5
15-20	5	6
>20	7	5

the patients recall and restate during the informed consent process to verify their understanding" which are usually ignored in healthcare settings.

DISCUSSION

Pakistan is a welfare state and providing health, education, food, clothing and shelter is the duty of the government[11]. According to the Alma Ata declaration in 1978, Pakistan's government

established an extended net of primary health   facilities to improve the accessibility of the

Table-II: The main themes and subthemes of patient safety factors identified by the study participants.

Themes	Subthemes	Quotes
Human Factors	Well-trained medical staff including doctors and nurse	"I think training of doctors is very important in order to avoid unforseen events…."
	Attitude	
	Leadership	
	Team Work	"Doctors and paramedical staff working in team can help patients more efficiently…"
	Communication	
	Commitment	
	Skills and expertise	
	Work distribution	"Work should be properly distributed among all the staff…"
	Active management of patient	
	Distribution of workload and health care provider ratio	
	Proper history taking, examination and reporting	
	Proper counselling	"Asking the patients recall and restate during the informed consent process to verify their understanding.."
	Stress and fatigue of medical staff	
Physical Factors	Inspection of rooms including beding and wiring	"Inspections of rooms before and after shifting patients.. to change bedsheets.."
	Hospital resources	
	Infrastructure including building, floors, beds	
	Technology	
	Careful monitoring	
	Quality care	
	Cleanliness	
	Comfort	
	Less radiation exposure	"X-rays should not be done unnecessarily.."
Patient Factors	Patients knowledge	"Patient's knowledge and attitude about his/her illness is important.."
	Availability of attendant	
	Psychological needs	"Fulfillment of psychological needs of the patients.."
	Severity of illness	
	Drug allergies	"Patient with a drug allergy are harmed more than others…"
Environmental Factors	Situational issues	
	Working conditions	"Safe and friendly working environment.."
	Hygiene	
	Climate e.g. extreme heat and cold	"Hospital temperature should be monitored.. extremes of temperature hinder work performance.."
	Natural calamities	
	Friendly staff	
	Accountability	
Safety Culture developement	Safety measures and rules	"Proper SOPs to be followed.."
	Proper sterilization	
	Sampling care	"Precautions to be taken while sampling…"
	Proper waste disposal	
	Control of infection	
	Safety of equipements	
	Safety of treatment	
	Safe administration of drugs and blood products	
	Prophylactic antibiotics	"I always give my patients prophylactic antibiotics pre and post surgery.."
	Safe drinking water and food	
	Safety of procedures and investigation	

population to the basic health care facilities with the chief purpose of providing equitable, effective and accessible health care services at a cost that individuals can afford[12].

Public and private sector hospitals are concentrating on providing quality services both in terms of financial and non-financial achievements to acquire competitiveness as the heathcare environment has become highly competitive[13]. Much like all other services, the degree of excellent performance is difficult to be determined as contributing factors are diverse depending on the interests and integrity of each health care system[14]. Our study conducted in the settings of private and public hospitals of Pakistan, identified various factors potentially influencing patient safety. Main findings of the study revealed that various factors related to human, patient, environment and safety culture of hospital contribute to patient safety. It is evident through various studies that many a times patients are significantly harmed by their health care providersresulting in permanent injury, increased length of stayin hospitals[13] and even death. That is why effective treatment for each patient depends on multiple elements along with the competence of an individual health care provider as depicted in the results of our study.

Different studies have been conducted worldwide, taking into account the adverse events patients underwent due to the health care system; such as an unexpected reaction to antibiotics, which are mostly preventable[15]. In another study, it was reported that wrong identification of patients is a vital factor for warranting patient safety as it can result in serious errors like administration of wrong medication and blood transfusion mistakes.

Indicators of patient safety identified by participants of Public hospital included almost all aspects of patient safety however; participants of Private hospital were not clear and mostly gave vague answers. Main indicators identified were Mortality rate due to communicable diseases, data of blood transfusion reactions, post-trauma complications, nosocomial infections, vaccination complications, GA complications, records of double pricks, complications of IV cannula, accidental puncture, complications of anesthesia, postoperative hip fracture, obstetric trauma, postoperative pulmonary embolism, sepsis, birth trauma, foreign bodies kept in the body during procedures, hospital falls and pressure ulcers. In a study, it was reported by the majority of the respondents that besides other aspects individual differences, like patient's age, independency, and underlying diseases, are crucial considerations for ensuring patient safety[16].

Nowadays a major issue is unsafe handling and care of patients which results in 10% adverse events worldwide in patients who get hospitalized[17]. This unsafe patient care requires attention and is an arduous task for improving patient care[18]. In developing countries due to severe under funding and lack of technologies in health care, there are limited interventions available for patient safety[19]. Cultural context is one of the key factors in patient safety as with a collective mindfulness about safety issues, health care can be delivered safely. Our study showed that participants from Public hospital were more knowledgeable regarding patient safety concepts compared to participants of Private hospital. Overall, participants of Private hospital had average knowledge about patient safety and especially the management staff had low knowledge. These findings are consistent with the result of studies from different countries in our region[20].

In the present study, role of cultural context in determining the use and implementation of patient safety concept was not sufficiently understood by participants of public as well as private hospitals. In the present study, role of physicians and surgeons in development and promotion of patient safety construct was more clearly defined by study participants of public hospital as compared to private hospital.

CONCLUSION

Our study was successfully able to identify the role of healthcare providers and hospital

environment on patient's safety. However there was a lack of understanding on the role of culture in this context. Participants of public hospitals were more knowledgable regarding the factors affecting patient safety in comparison to those from private hospitals.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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