

**COMPLIANCE TO FALL PREVENTION SAFETY BUNDLE BY NURSING
STAFF IN PRIMUS SUPER SPECIALTY HOSPITAL**

Dissertation Submitted to



The IIHMR University, Jaipur

For the partial fulfillment for the award of the degree of

Master of Business Administration (MBA)

In

Hospital and Health Management

By

Dr. Manya Mittar

Under the Supervision and Guidance of

Ms. Deepti Sharma

DECLARATION BY STUDENT

I hereby declare that this dissertation titled **COMPLIANCE TO FALL PREVENTION SAFETY BUNDLE BY NURSING STAFF IN PRIMUS SUPER SPECIALTY HOSPITAL** is the bonafide record of my original research work. I hereby declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.



Dr. Manya Mittar

Date: 18.6.2022

CERTIFICATE

This is to certify that Dr. Manya Mittar, in partial fulfillment of the requirements for the award of the degree of MBA Hospital and Health Management from the IIHMR University, Jaipur has successfully completed her internship at Primus Super Specialty Hospital, Delhi during March 22, 2022 to June 19, 2022.

Place:
Date:


Preceptor/Head of the Organization
Name of the organization

Dr. Ravi Pratap Singh
Quality Manager
Primus Super Speciality
Hospital, Delhi



CERTIFICATE

This is to certify that dissertation titled **COMPLIANCE TO FALL PREVENTION SAFETY BUNDLE BY NURSING STAFF IN PRIMUS SUPER SPECIALTY HOSPITAL** is a record of the research work undertaken by Dr. Manya Mittar in partial fulfillment of the requirements for the award of the degree of MBA Hospital and Health Management from the IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere, scientific and analytical.

Faculty Guide

IIHMR University, Jaipur

Date:

School Dean

IIHMR University, Jaipur

Date:

INTERNSHIP REPORT

INTRODUCTION

I, Dr. Manya Mittar, joined Primus Super Specialty Hospital through 25.3.22 to 19.6.22, for internship, as part of my ongoing course of MBA in Hospital and Health Management in IIHMR University, Jaipur. This gave me an opportunity to witness the real time working in a hospital and the managerial issues that arise on a daily basis. I was able to learn through observation and under the guidance of my mentor. This helped me better understand the theory that I learnt through my course. The internship helped in understanding how to work as a part of a team and be a valuable asset to the organization.

In addition to the work assigned to me on a regular basis, I also conducted a study and collected data for the purpose of dissertation. Under the guidance of both my faculty and organization mentor, I chose the topic of Patient Fall and completed my dissertation on the same. This internship provided me a rich learning experience and helped in development of valuable skills.

OBJECTIVES OF THE INTERNSHIP

I had multiple objectives upon starting this internship.

- The primary objective of this internship was to understand the basic functioning and the systems in a hospital.
- This included the overall working as well as learning the functions of different departments of the hospital.
- The aim was also to understand how different departments coordinate with each other in a systematic manner for the smooth functioning of the entire organization.
- I also got an opportunity to learn about NABH and its practical implementation in the various departments of the hospital.
- Since, the hospital also had an upcoming NABH assessment; I was able to understand the difference between NABH 4th edition and NABH 5th edition.
- Another objective was to apply the principles of research in a practical setting, to conduct a study/dissertation.
- This gave me an opportunity to understand sampling and data collection techniques, the different types of study design, data analysis and its visual representation.

ORGANISATION PROFILE

Primus Super Specialty Hospital is a super specialty hospital was established in 2007 the ISO 9000 accredited was established in 2007. It is located in Chanakyapuri, Delhi. The hospital boasts of state of the art medical technology and construction. The quality policy of the hospital is to provide ethical, reliable, high quality and cost effective health care services through care and compassion to ensure complete patient satisfaction. This also includes improvement of quality of services by adopting latest technology and equipment to strengthen the medical processes and procedures to achieve the set objectives. Primus hospital also strives to meet the national and international standards and benchmarks.

SERVICES PROVIDED BY THE ORGANISATION

Primus Super Specialty Hospital provides services in the following medical departments:

- Orthopaedics - Joint replacements
- Orthopaedics - Truma Care
- Spine care
- Neuro Science
- Pulmonology
- Cardiology
- Gastroenterology
- Nephrology & Renal Transplant
- Urology - Kidney care
- CATH Lab
- CTVS

- Other services include Internal Medicine, ENT, Pediatrics, Dermatology, Dentistry, Ophthalmology, Anesthesiology, Radiology, Lab Medicine , Blood Bank, 24x7 Emergency & Trauma

The special focus is on Orthopaedic surgeries such as TKR (Total Knee Replacement), THR (Total Hip Replacement) and more.

It is a 130 bedded hospital with 1 MICU, 1 SICU and 1 CCU. The hospital has a 15 bedded dialysis unit and 7 modular OTs.

KEY ACTIVITIES/PROJECTS UNDERTAKEN OTHER THAN DISSERTATION

I undertook the following activities other than dissertation during the internship period

- Active file audit/Concurrent file audit
 - This included audit of files of admitted patients to check for documentation gaps
 - This was done using a checklist provided by the hospital
 - The checklist was formulated by using NABH standards
 - A sample size of 220 files was taken each month, through random sampling
 - Auditing was done in all IPD areas of the hospital in order to cover files under each consultant
 - Analysis was done using excel, at the end of each month
- Prescription audit analysis
 - Analysis of prescription audit conducted by the clinical pharmacist
 - Analysis was done using excel, at the end of each month
 - Analysis was done to find out the compliance to medication standards put forth by NABH
 - It also helped to find out any medication errors that might have happened
- Daily audit of ICU
 - This was done using a pre-established checklist
 - Involved regular monitoring of crash cart, medicine inventory, biomedical waste management, documentation gaps
- Departmental audits
 - Gap assessment of all departments was done on 1.6.22 and 2.6.22.
 - Done using a pre-established checklist based on NABH guidelines

- Miscellaneous activities
 - Other activities such as conducting trainings, writing and circulating minutes of the meeting, designing circulars and posters based on NABH guidelines

KEY LEARNING FROM INTERNSHIP

The internship provided a rich atmosphere for overall learning and development. The learnings were as follows:

- I got an opportunity to understand how to conduct daily audits and gap assessments in different departments. I learnt the process to be followed to conduct an audit. I also understood the process of designing a checklist, in order to conduct a successful audit
- My learning also increased in excel and data analysis and visual representation using the same. I was able to understand the practical implications of Pivot Table and Chart and various other excel formulas.
- By conducting data analysis in real-life situations, I was able to draw insights from the same.
- Further, I understood how to use such insights to put forth practical recommendations.
- This internship helped in my overall personality development. This included improvement in both soft skills and hard skills.
- I was able to understand the systems that work in a hospital and processes and policies that are followed.
- I also developed problem-solving skills and an understanding on how to tackle inter personal relationships in the hospital.
- It gave me a high-level view regarding the workings of different departments like Operations, Front office and OPD, Nursing, OT, Medical and more.
- I was able to learn the updated 5th edition NABH standards and how they differ from 4th edition.
- I also got an opportunity to apply my learning from my course in practical situations.

- This helped me understand the type of outcomes that can be expected and how theoretical methods can be modified to fit the practical situation to achieve better results.

Overall, I had a comprehensive learning experience at Primus Super Specialty Hospital

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ABSTRACT

Through this study, the researcher aims to understand the level of compliance of the nursing staff in following the fall prevention safety bundle. This bundle consists of best practices designed in order to prevent inpatient fall. These include the completion of Morse fall risk assessment, identification of vulnerability status of the patients, use of fall prevention devices such as bed rails, documentation of past surgical history and any sedative medication as well as giving the patient an orientation of the room. It also aims to find out the most common reasons for non-compliance by the nurses. This is a descriptive study set in Primus Super Specialty Hospital in Delhi, conducted from 20.4.2022 to 10.6.2022. The study was conducted using a daily audit checklist, which enlisted the fall prevention measures, which were to be followed by the nursing staff in the inpatient areas. The audit was done by checking the nursing files, interacting with patients and through visual observation. Brainstorming session and Fishbone diagram was used to understand the most common reasons for non-compliance. Pareto chart was used to identify the most troublesome areas of non-compliance and recommendations were given based on the same. The total sample size at the end of the study was 190. The data was analyzed using excel software. The compliance percentage was as follows:

- Morse fall risk assessment done properly during nursing initial assessment: 47%
- Identification of patient's vulnerable status: 53%
- Fall prevention education provided to the patient and attendant: 39%
- Fall risk interventions such as bed rails, grab bars etc. being used: 60%
- Past medication history of sedative use documented or not: 61%
- Past surgical history documented or not: 56%
- Patient and attendant given orientation regarding room, washroom and call bell: 65%

The overall average compliance was found to be 55%. Considering reasons for non-compliance, few recommendations were suggested. The primary suggestion was to establish a comprehensive training program covering each aspect of the fall prevention bundle in detail. Focus was also given on patient education material and nursing handover.

Through the study, it was found that severe non-compliances exist in fall prevention in the hospital and the same need to be addressed extensively

Keywords: “inpatient fall”, “fall prevention”, “hospital”, accidental fall”, “geriatric”, “nursing”, “patient safety”

ACKNOWLEDGEMENTS

I would like to take this opportunity to extend my gratitude towards IIHMR University, from where I got the chance to do a fruitful internship. I would like to thank the entire faculty and the administrative team at IIHMR.

I extend my special thanks to Ms. Deepti Sharma, for being my mentor and my guide throughout this journey. I thank her for all the knowledge she imparted and for her constant support and her invaluable advice, without which this project would not have been possible.

I would also like to express my thanks to Dr. Ashok Kumar and Dr. Ravi Pratap Singh, my mentors at Primus Super Specialty Hospital, for their encouragement and their teachings. Through them, I was able to learn the workings of a hospital and imbibe new skills. I am grateful for their patient teachings during mistakes and positive affirmations during achievements.

Finally, I would like to thank the entire team at Primus Super Specialty Hospital, for their warm welcome and for making this a comfortable and an enticing journey.

Last but not the least; I would like to thank all the participants who took part in this survey.

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ABBREVIATIONS

FRAT - Falls Risk Assessment Tool

IPD – Inpatient Patient Department

JCI – Joint Commission International

NHS – National Health Service

NABH – National Accreditation Board for Hospital and Healthcare Providers

PROFET - Prevention of Fall in Elderly Trial

STRATIFY – St. Thomas Risk Assessment Tool in Falling Elderly Inpatients

TKR – Total Knee Replacement

THR – Total Hip Replacement

WSFRAT - Wilson Sims Fall Risk Assessment Tool

WHO – World Health Organization

INTRODUCTION/BACKGROUND

This study focuses on determination of the compliance of nursing staff to fall prevention safety bundle in a super specialty hospital in Delhi. The study is set in a hospital which caters primarily to geriatric patients offering them orthopedic treatment such as TKR, THR.

Hospital stay for patients is characterized with many challenges and difficulties for patients. The patients in the hospital are burdened with disease and disability, furthermore, the patient attendants have to deal with a significant amount of stress, anxiety and anguish. This, however, is not the only factors which make hospital stay difficult. The environment of the hospital is riddled with increased chances of additional infections for the patients and the attendants. Along with these biological hazards, hospital is a place where other types of hazards are also present which can lead to adverse effects such as prolonged length of stay, disability and even death, in extreme cases. Numerous kinds of hazards related to medication administration, use of biomedical equipment, fire, fall and bedsores are present in the hospital. According to WHO, the adverse events caused due to unsafe patient care is likely to be in the top 10 reasons for death and disability in the world. WHO also states that at a global level, 4 out of 10 patients are harmed in healthcare out of which 80% of harm can be prevented.¹ Thus, it becomes an important responsibility of the hospital to promote patient safety and decrease the risk of such hazards for the patients, their attendants as well as their own staff.

The importance of patient safety from hospital hazards was brought to light in the year 2000, with the publication of a report titled “To Err is Human: Building a Safety Health System”. It was released by The US Institute of Medicine.² According to this report, approximately 98,000 patient lives are lost in a year because of medical errors.³ In 2013, WHO started the Patients for Patient Safety Program. Under this program, the individual patients along with their family and their community are encouraged to be a part of and get involved with patient safety and take ownership of their own safety.² Since then, various programs have been established to increase patient safety. A number of initiatives established by WHO include the launch of “World Alliance for Patient Safety” in 2004, annual “Global Ministerial Summits on Patient Safety”, “Surgical Safety Checklist”, “5 Moments of Medication Safety” and more.¹

One of the major cause of patient harm in hospital is patient fall. NHS hospitals report that patient falls are the most common safety incident, leading to physical and psychological problems.⁴ Fall as defined by WHO is an event which results in a “person coming to rest inadvertently on the ground or floor or other lower level”.⁵ The National Database of Nursing Quality Indicators (NDNQI), March 2012, defined patient fall as “unplanned descent to the floor with or without injury to the patient. Include falls when a patient lands on a surface where you would not expect to find a patient. All unassisted and assisted falls are to be included whether they result from physiological reasons (fainting) or environmental reasons (slippery floor). Also, report patients that roll off a low bed onto a mat as a fall”.⁶ Patient fall is an important indicator to be monitored in the hospital. It frequently leads to accidental injuries to patient. It is reported that, on an average, 3-5 patient falls occur 1000 occupied bed days.⁶ A third of these falls result in injuries. The injuries can range from minor scratches to fractures and even death. In addition to these, the patient may also suffer from psychological trauma, which may lead to isolation and loss of confidence.⁴ Patient falls constitute a wicked problem as they are caused due to an interplay of three broad risk factors: patient factors (age, gait, history of fall etc.)⁴, environmental factors (wet floors, inadequate lighting etc.) and nurse factors (improper orientation of patient to the room, lack of proper briefing to patient and attendant). To decrease the incidence of patient falls, it becomes necessary to quantify them. This also helps in comparison with respect to time, different areas of the hospital and to different hospitals.

Patient falls are monitored under the nursing indicators for the purpose of continuous quality improvement. NABH and JCI quality standards state that the hospitals must establish a system in an effort to decrease the rate of patient fall and the subsequent harm. Incidence of falls is calculated as follows:

$$\text{“(Number of falls / Number of discharges and deaths in that month) * 100”}^7$$

REVIEW OF LITERATURE

Over the years, different definitions of patient fall have been formulated. WHO defines it “as an event which results in a person coming to rest inadvertently on the ground or floor or other lower level”.⁵ Meanwhile, the National Database of Nursing Quality Indicators (NDNQI), March 2012, defined patient fall as “unplanned descent to the floor with or without injury to the patient”.⁶ It becomes important to establish an operational definition, as without it, multiple interpretations of the word can be made.⁸ The NDNQI further classifies falls according to the following:

- whether or not the fall was assisted by hospital staff
- the outcome of the fall in terms of injury (none, minor, moderate, major, or death)⁹

Morse gave another categorization of falls, as follows:

- “Unanticipated physiological falls”: falls that occur due to physical conditions that cannot be predicted until the patient falls
- “Anticipated physiological falls”: falls that can be predicted with a high score on the fall risk assessment. According to Morse, these account for 78% of falls.
- “Accidental falls”: falls that cannot be identified on the fall and do not score at risk on falling on a predictive instrument.⁹

Most of the definitions of falls are based on the causal factor, and thus, for following these, identification of the cause becomes necessary. However, this poses a problem since most falls are a result of multiple causes rather than a single cause.⁹

Studies have enlisted a large number of risk factors. Increased exposure to these risk factors, leads to an increased chance of falling. There are certain biological factors which cannot be modified. The most prominent of these is age. The chances of falling rise with increasing age due to changes in physiological changes in physical and cognitive capabilities. The highest risk is in the age group above 80 years. Some behavioral risk factors such as large amounts of medication intake also increases the chances of fall.⁸ Sedative medication or medications which lead to delirium can increase the risk of fall. Certain environmental factors such as poor lighting, slippery or wet floors, under staffing in the hospitals are also well documented risk factors.⁸ The unfamiliar settings of the hospital,

is a major risk factor to the sickly patient. Patients who have undergone surgery can

experience changes in mobility and balance, thus, becoming prone to fall. A large number of inpatients require support from various biomedical equipment such as catheters, oxygen cylinders, walkers and more. The placement of tubes/parts of such equipment can hinder mobility and further increase the probability of falls.¹⁰ Patients are at a major risk of fall during transfer from 1 part of the hospital to another, such as from ward to diagnostic area. Proper patient safety measures are necessary to check falls during patient transport. Different patients may have different risk of falling through the period of their admission. While patients with acute illness may be at risk for a shorter duration of admission, a patient with chronic disease would have higher risk for the entire period of stay in the hospital.¹¹ Other risk factors that have been well documented in various studies include a previous history of fall, assisted toileting, presence of secondary diagnosis, unstable gait, use of ambulatory aid, vision impairment, fatigue and lower limb weakness.¹¹ Therefore, we see that inpatient falls can be caused because of the mixture of various risk factors. An overview of these factors reveals that some are intrinsic factors while others are extrinsic.¹² A summary of the risk factors is as follows:

- Intrinsic factors
 - Medical diagnosis:
 - Cerebrovascular Accident
 - Parkinsons disease
 - Osteoarthritis
 - Hypotension
 - Hypertension
 - Peripheral Neuropathy
 - Myopathies
 - Dementia/Psychiatric Illness
 - Cervical Spondylosis
 - Cardiac Arrhythmias
 - Foot Disorders
 - Cancer
 - Epilepsy
 - Diabetes
 - Medication:

- Diuretics
- Hypnotic Drugs
- Imipramine
- Topical Eye Preparations
- Anti-convulsants
- Non Steroidal Anti Inflammatory Drugs
- Psychological factors
- Age
- Gender
- Extrinsic factors:
 - Improper walking aids
 - Wrong size of clothes and footwear
 - Slippery floors
 - Improper lighting
 - Equipment
 - Under staffing
 - Others¹²

A study by Mike Wafer in 1996 reports that while a single isolated event of fall is mostly associated with extrinsic factors; intrinsic factors can lead to repeated falls¹². An observational study by Inderpal Singh shows an increased incidence of inpatient fall and subsequent fractures in institutions with single rooms in comparison to multi bedded facility.¹³ According to Manasij Mitra, maximum number of falls occurred at the bedside or in the toilet, when their attendant is not available and in early morning.⁶ It is believed that nursing, which is in direct contact with the patient through the entire day, have an important role in reducing incidence of falls.¹⁴ Thus, non-compliance by nursing to the fall prevention bundles can become an external risk factor by decreased prevention of falls.

Patient safety culture is an important part of the culture of the organization. It indicates a set of shared values and beliefs related to patient safety among the organization staff and influences the engagement of the staff in patient safety behaviors. This lies at the core of improvement of patient safety in a hospital.¹⁵ Thus, the overall culture of the hospital may influence the extent to which nurses engage in fall prevention safety measures. A study

shows that assessment of fall risk and implementation of intervention strategies can reduce patient fall incidence by 20 to 30%.⁴ Many different strategies can be used together to decrease the overall incidence of falls. These strategies when grouped together may be called as the fall prevention safety bundle. At a high level, fall prevention strategies may be grouped into 3 which include fall risk assessment, unique care plans for different patients depending upon the individual needs and regular interventions.⁶ A single fall prevention safety bundle has not yet been universally designed, however, maximum bundles contain assessment of fall history, prescribed medications, absence or presence of mental confusion, whether the person uses ambulatory aids, and the type of gait of the patient to quantify the fall risk of the patient.⁴ Numerous steps can then be taken to prevent falls such as safe transportation, keeping floors dry, patient and attendant education, proper display and appropriate size of clothing amongst many more.⁴ These multicomponent interventions are shown to be more effective than single interventions such as wrist bands of specific color or routine prescription of Vitamin D.⁴ Although the role of nurses takes the forefront, support from hospital leadership is a must for effective fall prevention.⁴ Doctors must also play an equal part along with the nurses. Training and education of hospital staff at regular intervals is a must to develop positive attitudes and a culture of safety. The review and root cause analysis⁴ of falls at safety committee meetings can also provide important insights into the causes of falls. These can then be tackled in appropriate ways.

The top leadership and management of the hospital can empower the ground staff to take decisions regarding high fall risk patients after proper education and training. Effective handover communication between staff can also reduce the incidence of fall.⁴ In addition to these, it has been suggested by WHO² and a study by Manasij Mitra⁶, that involvement of the patient and the attendant in fall risk communication can go a long way in decreasing and preventing falls. Thus, it becomes important to have open and transparent communication with the patient regarding this so that they may take ownership of their own safety in the hospital. Many studies have shown reduction in incidence of fall by 37% after the implementation of fall prevention programs.⁶ This points to the importance of a targeted, collaborative, multicomponent and multidisciplinary approach for the overall reduction in risk and incidence of patient fall. The fall prevention programs especially need to focus in high risk areas such as the toilet, near the bedside and during transportation.

An essential aspect of fall prevention safety bundles is the fall risk assessment. This helps to quantify the risk of fall of each individual patient by taking into account various risk factors. There are scores of fall risk assessments, which are available in literature. One such tool is STRATIFY “(St Thomas Risk Assessment Tool in Falling Elderly Inpatients)”, which can be used in hospitals to identify high risk patients. It uses a 5 point score system and requires a “yes” or “no” answer. Some of these elements include agitation, gait instability and previous fall. A study showed that the STRATIFY tool had a high inter rater reliability and was an easy tool to use and complete.¹⁶ Another tool is the PROFET which stands for “Prevention of Fall in Elderly Trial”, which is used specifically in intensive care units for elderly patients. A screening tool for fall risk assessment was designed by Nandy et al to identify high fall risk in a community setting. This was known as FRAT “(Falls Risk Assessment Tool)”. It can be completed within 5 minutes with an accuracy of 97%.¹⁷ “The Wilson Sims Fall Risk Assessment Tool” (WSFRAT) is considered to be a good fall risk predictor for psychiatric patient and includes clinical experience as a criterion. Meanwhile, Morse Fall Risk Assessment is a tool to be used in acute medico-surgical units.¹⁸ Morse Fall Risk Assessment is a widely used fall risk assessment tool as it is easy and quick to use. It consists of 6 factors which are rated on a scoring scale. However, the tool has to be calibrated for each particular setting and the cut off risk scores can vary for each hospital/unit. It rates the following categories:

- Previous history of falling (within 3 months)
- Secondary diagnosis
- Ambulatory aid
- IV/Heparin lock
- Gait
- Mental status

Each of these are scored according to a scoring system and the final score is obtained by totaling the individual scores. The overall risk is decided by this total score. This is as follows:

- No Risk: Score between 0 to 24
- Low Risk: Score between 25 to 50
- High Risk: ≥ 51

In addition to all the above mentioned efforts, low impact, balance and coordinated exercises have been shown to reduce fall risk in elderly.¹⁷

Patient fall always leads to some impact. The physical impacts can range from minor scratches to fractures. In severe cases, falls can lead to death and disability. It has been reported that 30% to 50% falls lead to a physical consequence, with 1% to 3% leading to fractures, leading to prolonged hospital stays. Even in situations in which the patient does not sustain a physical injury, the psychological sequelae is equally disturbing. The patients lose confidence, may be overcome with fear and may experience isolation. In addition to this, the healthcare workers also experience negative effects. They may be overcome with a sense of guilt, dissatisfaction with oneself, fear of further falls and more. Since patient fall is a safety incident that can be prevented by following proper protocols, all efforts should be made towards this.

Most studies suggest that the average patient fall rate in a hospital is 3 to 5 for 1000 occupied bed days.⁶ According to a study by Morris, the average fall rate was 6.63 per 1000 occupied bed days.⁴ This may differ from one type of organization to another. A study done in a psychiatric hospital suggests that the average fall rate was 13 to 25 patient fall in 1000 occupied bed days.¹⁸ In the recent times, the rate of falls among older adults have increased. This can be attributed to an ever increasing aging population. Each incident of fall is estimated to prolong the hospital stay by 6 days and increase the cost by \$14,000.¹⁹

Patient fall and patient safety as a whole has become an important focus point in the recent times. There is an heightening knowledge about this and to reduce the same. In USA, The Center for Medicare and Medicaid Services (CMS) has established zero fall goals by declaring it a “never” event. They do not reimburse the expenses of patient fall.¹⁴ Thus, the importance of nursing in fall prevention is at its peak. It has been seen that in all situations, gaps are found in the implementation of fall prevention safety bundle. This showcases a serious lapse in clinical care and can have dire consequences.

METHODOLOGY

RESEARCH QUESTION

- What is the compliance of nursing staff to fall prevention strategies and safety bundles in the IPD ward of Primus Super Specialty Hospital?

SPECIFIC OBJECTIVES

- To know the compliance percentage of nursing department to fall prevention safety bundle in IPD ward in Primus Super Specialty Hospital in the month from 20.4.22 to 10.6.22.
- To analyze the reasons for non-compliance of nursing department to fall prevention safety bundle in IPD ward in Primus Super Specialty Hospital in the months of from 25.4.22 to 10.6.22.
- To suggest recommendations for improvements of compliance to fall prevention safety bundle in IPD ward in Primus Super Specialty Hospital based on above analysis

STUDY SETTING AND STUDY POPULATION

The study is set in the IPD ward of Primus Super Specialty Hospital. The hospital is a super specialty hospital, specializing in orthopedic surgeries like TKR, THR and others. It is located in Chanakyapuri area in South Delhi. The study population includes all IPD patients admitted in the hospital during the months of 20.4.22 to 10.6.22. The hospital majorly caters to CGHS and other empanelment along with a small proportion of cash patients. A large number of geriatric patients visit the hospital, mainly for orthopedic and cardiac procedures. In addition to this, the hospital also provides other medical services such as cardiology, ophthalmology, gynecology, dental, internal medicine, surgery and many more.

- Inclusion Criteria:

- Patients admitted in the IP department during the study duration, for level/incidence of patient fall
- Nursing staff posted in IPD department during the study duration, for compliance to fall prevention measures
- Exclusion criteria:
 - Patients not admitted in the IPD department during the study duration, for level/incidence of patient fall
 - Nursing staff not posted in IPD department during the study duration, for compliance to fall prevention measures

RESEARCH DESIGN/PROCEDURE

The study follows a descriptive, cross-sectional study design, in an effort to understand the level of compliance of nursing staff to fall prevention measures instituted in the hospital. The study was conducted from 20.4.22 to 10.6.22 in the IPD areas (ward and ICU) of Primus Super Specialty Hospital. Fall prevention efforts include a safety bundle which is a combination of multiple interventions, risk assessment etc. It is both quantitative and qualitative type of study.

SAMPLE SIZE CALCULATION

Data was collected in the period from 20.4.22 to 10.6.22. It was collected from Monday to Friday. Each day, five patient files were audited using checklist, visual observation and by talking to patients. Thus, data was collected on a total of 38 days. The total sample size at the end of data collection period was 190 patient files.

For understanding the reasons for non-compliance, apart from observation and taking field notes, an interview/brainstorming session was held on 7.6.22. 5 staff nurses were randomly chosen to be a part of the session. 2 of the staff nurses were experienced and had been part of the hospital staff for over 5 years. The remaining 3 nurses were fresher and had recently joined the organization. They had been part of the hospital staff for less than 2 months.

SAMPLING TECHNIQUE

The study follows a stratified random sampling technique for data collection. The different strata were the different IPD areas, that is, 2nd floor ward, 4th floor ward, Medical ICU (MICU), Surgical ICU (SICU) and Cardiac Care Unit (CCU). Each area was visited once in a week and 5 patient files were chosen at random for the audit. The room number of the patients was also noted down. After audit of the file, the patient was observed and asked questions to assess whether the elements of the fall prevention safety bundle have been adhered to. The staff on duty assigned to the particular patients were also observed and sometimes asked questions for assessment of their knowledge of the patient's fall risk.

STUDY INSTRUMENTS

A daily audit was undertaken to check the compliance to fall prevention techniques by nursing staff. Different areas were covered on different days to get an overview of the entire IP department of the hospital. For the same, a checklist was designed and used for data collection. Some aspects of the fall prevention safety bundle like use of bed rails, grab bars etc. were visually observed. Patients were also asked if they had been provided fall prevention education.

The following elements of the fall prevention safety bundle were incorporated in the checklist.

- Morse fall risk assessment done properly during nursing initial assessment
- Identification of patient's vulnerable status
- Fall prevention education provided to the patient and attendant
- Fall risk interventions such as bed rails, grab bars etc. being used
- Past medication history of sedative use documented or not
- Past surgical history documented or not
- Patient and attendant given orientation regarding room, washroom and call bell

The same has been attached as annexure 1.

The hospital uses the Morse Fall Risk Assessment for quickly identifying the fall risk of individual patients. It makes use of the following 6 parameters to identify the fall risk of the patients:

- History of previous fall; whether immediate or within 3 months. A history of previous fall is scored as 25, and no fall is scored as 0
- Secondary diagnosis; if the patient has an underlying secondary diagnosis apart from the primary illness, score is 15, and if not, it is scored as 0
- Ambulatory aids; scoring is done on the basis of whether or not the patient uses an ambulatory aid
 - “If the patient walks without a walking aid (even if assisted by a nurse), uses a wheelchair, or is on a bed rest and does not get out of bed at all, score is 0”
 - “If the patient uses crutches, a cane, or a walker, score is 15”
 - “If the patient ambulates clutching onto the furniture for support, score is 30”
- Intravenous therapy or heparin lock; if it is present then score is 20 otherwise 0
- Gait
 - “A normal gait is the one in which a patient walks with head erect and arm swing freely by the sides and strides without hesitation; score of 0”
 - “A weak gait; the patient is stooped but is able to lift the head while walking without losing balance. Steps are short and the patient may shuffle. Score of 10”
 - “With an impaired gait (score 20), the patient may have difficulty rising from the chair, attempting to get up by pushing on the arms of the chair/or by bouncing (i.e., by using several attempts to rise). The patient’s head is down, and he or she watches the ground. Because the patient’s balance is poor, the patient grasps onto the furniture, a support person, or a walking aid for support and cannot walk without this assistance”.
- Mental status; this is judged by patient’s self assessment. The patient is asked questions such as whether he/she is able to go to the washroom alone. 0 is score is for normal and if impaired, score is 15

At the end, the scores are totaled to give the overall fall risk as follows:

Risk Level	MFS Score	Action
No Risk	0 - 24	Good Basic Nursing Care
Low Risk	25 - 50	Implement Standard Fall Prevention Interventions
High Risk	≥ 51	Implement High Risk Fall Prevention Interventions

During the audit rounds, an effort was made to understand the reasons of non compliance through observation and taking field notes. A short brainstorming session was undertaken with on duty staff nursing staff. A central open ended question was asked to initiate the discussion.

“What are the reasons for non-compliance to the fall prevention safety bundle, according to you?”

OPERATIONAL DEFINITIONS

- Fall: “ Fall as defined by WHO is an event which results in a person coming to rest inadvertently on the ground or floor or other lower level.”
- Fall risk assessment: “ A fall risk assessment is used to find out if the patient have a low, moderate, or high risk of falling.”
- Fall prevention measures: “Fall prevention includes any action taken to help reduce the number of accidental falls suffered by susceptible individuals”

DATA ANALYSIS

Data was collected through daily audit in different areas as shown below.

COMPLIANCE TO FALL PREVENTION MEASURES - AUDIT CHECKLIST						
Date	S.No.	Parameter	Evidence	UHD 370845 location 2nd floor	UHD 36766 location 4th floor	UHD 27792 location 4th floor
15/11/20	1	Mohr's fall risk assessment done properly during nursing initial assessment	Nursing initial assessment documentation	✓	✓	✓
	2	Identification of patient's vulnerable status	Nursing handover sheet	✓	2	✓
	3	Fall prevention education provided to patient and attendant	Nursing file, directly asking the patient	✓	✓	✓
	4	Fall risk interventions such as side rails, grab bars etc being used	Visual observation	✓	✓	✓
	5	Past medication history of sedative use documented or not	Nursing initial assessment documentation	✓	✓	✓
	6	Past surgical history documented	Nursing file	✓	✓	✓
	7	Patient and attendant given orientation regarding the room, washroom and call bell	Directly ask the patient	✓	✓	✓
	8	Remarks				

COMPLIANCE TO FALL PREVENTION MEASURES - AUDIT CHECKLIST						
Date	S.No.	Parameter	Evidence	UHD 36766 location 4th floor	UHD 36766 location 2nd floor	UHD 56974 location 9/5/24
15/11/20	1	Mohr's fall risk assessment done properly during nursing initial assessment	Nursing initial assessment documentation	✓	✓	✓
	2	Identification of patient's vulnerable status	Nursing handover sheet	✓	✓	✓
	3	Fall prevention education provided to patient and attendant	Nursing file, directly asking the patient	✓	✓	✓
	4	Fall risk interventions such as side rails, grab bars etc being used	Visual observation	✓	✓	✓
	5	Past medication history of sedative use documented or not		✓	✓	✓
	6	Past surgical history documented	Nursing file	✓	✓	✓
	7	Patient and attendant given orientation regarding the room, washroom and call bell	Directly ask the patient	✓	✓	✓
	8	Remarks				

COMPLIANCE TO FALL PREVENTION MEASURES - AUDIT CHECKLIST

Date	Parameter	Evidence	Unit 5/20/20 Location 2-103	Unit 5/20/20 Location 2-103	Unit 5/20/20 Location 2-103	Unit 5/20/20 Location 2-103	Unit 5/20/20 Location 2-103
1	Mohr's fall risk assessment done properly during nursing initial assessment	Nursing initial assessment documentation	✓	✓	✓	✓	✓
2	Identification of patient's vulnerable status	Nursing handover sheet	✓	✓	✓	✓	✓
3	Fall prevention education provided to patient and attendant	Nursing file, directly asking the patient	✓	✓	✓	✓	✓
4	Fall risk interventions such as side rails, grab bars etc being used	Visual observation	✓	✓	✓	✓	✓
5	Past medication history of sedative use documented or not		✓	✓	✓	✓	✓
6	Past surgical history documented	Nursing file	✓	✓	✓	✓	✓
7	Patient and attendant given orientation regarding the room, washroom and call bell	Directly ask the patient	✓	✓	✓	✓	✓
8	Remarks				- Fall x 1 - vent (1000) - vent (1000) - vent (1000) - vent (1000)		

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Excel software was used for analysis of the collected data. All data, collected using the checklist during daily audits, was transferred into excel software, along with any remarks/observations that were noted alongside. For the ease of calculation, numbers were assigned to compliance and non-compliance as follows:

- 1 for full compliance
- 0 for partial or non-compliance

This was done on a daily basis. The observations and any additional information were also noted down as remarks. Upon the completion of the data collection period, the scores were totaled. The percentage of compliance to each element of the fall prevention safety bundle was calculated. The formula used was as follows:

Number of files with full compliance/ Total number of files checked *100

For analysis, various functions such as COUNT, COUNTIFS, COUNTA, PIVOT CHART and PIVOT TABLE and others were used

Daily audit for compliance to fall prevention safety bundle - Excel (Product Activation Failed)

File Home Insert Page Layout Formulas Data Review View Developer Tell me what you want to do...

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A1 X ✓ f x NURSING COMPLIANCE TO FALL PREVENTION SAFETY BUNDLE - DAILY AUDIT DATA

	B	C	D	E	F	G	H	I	J	K	L	M
	NURSING COMPLIANCE TO FALL PREVENTION SAFETY BUNDLE - DAILY AUDIT DATA											
	DATE OF AUDIT	LOCATION	UHID	Mohr's fall risk assessment done properly during nursing initial assessment	Identification of patient's vulnerable status	Fall prevention education provided to patient and attendant	Fall risk interventions such as side rails, grab bars etc being used	Past medication history of sedative use documented or not	Past surgical history documented	Patient and attendant given orientation regarding the room, washroom and call bell	Remarks	
2	3.5.22	2nd floor	234909	1	0	1	0	0	1	1	vulnerable status of patient not identified, side rail up, past surgical history not documented	
6	3.5.22	2nd floor	371005	1	1	1	1	1	1	1		
7	3.5.22	2nd floor	370019	1	1	1	0	0	0	1		
8	3.5.22	2nd floor	369772	1	0	1	0	0	0	0	Mohr's fall risk assessment not done properly, diagnosis not considered, photo taken, not identified, wet floor observed	
9	3.5.22	2nd floor	369177	1	1	1	1	1	1	1		
10	4.5.22	2nd floor	370895	0	1	0	0	1	1	0	secondary diagnosis and gait not checked, fall risk assessment not done, vulnerable status not checked, sign present but on asking patient receiving education, past surgical history not documented, grab bars not present in washroom	
11	4.5.22	4th floor	337616	0	0	0	1	1	0	1	patient.	
12	4.5.22	4th floor	277780	1	0	0	0	1	0	0	attendant denies receiving education, reconciliation of medication not done, given to patient	
13	4.5.22	2nd floor	371008	1	1	0	0	0	0	0	wrong handover - non identified	
14	4.5.22	2nd floor	152011	1	0	1	1	1	1	1		
15	4.5.22	2nd floor	870421	1	1	0	1	0	0	1		
16	4.5.22	2nd floor	955132	1	1	1	1	1	1	1		

Sheet1 ANALYSIS ROUGH transposed Sheet2

ETHICAL CONSIDERATIONS

Ethical considerations were given foremost importance. Patient names and their personal information were not recorded during data collection. Data was recorded only using UHID number of the patient. In addition, names of the nursing staff observed/recorded were not documented and none of the healthcare workers were penalized for their lapses in fall prevention.

RESULTS

A total of 190 patient files were audited for checking the compliance to fall prevention safety bundle. The files were audited from all IPD areas including 2nd floor and 4th floor wards, MICU, SICU and CCU. Files were audited across all specialties.

Following were the demographic characteristics of the sample.

The sample consisted of patient files from different age groups: 3% were between 2 years to 18 years of age, 71% were in the age group 19 to 64% and 26% were in the geriatric age group.

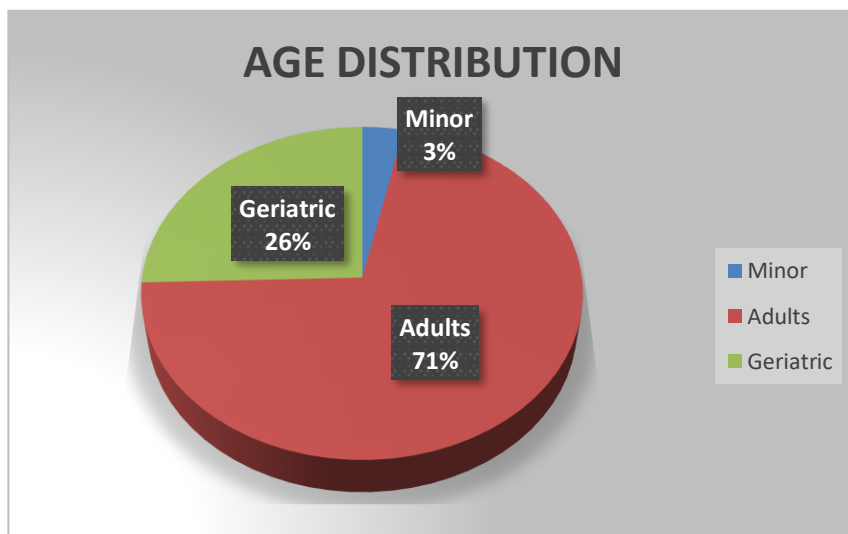


Figure 4.1

Females represented 50.5% of the sample were females, while 49.5% were males.

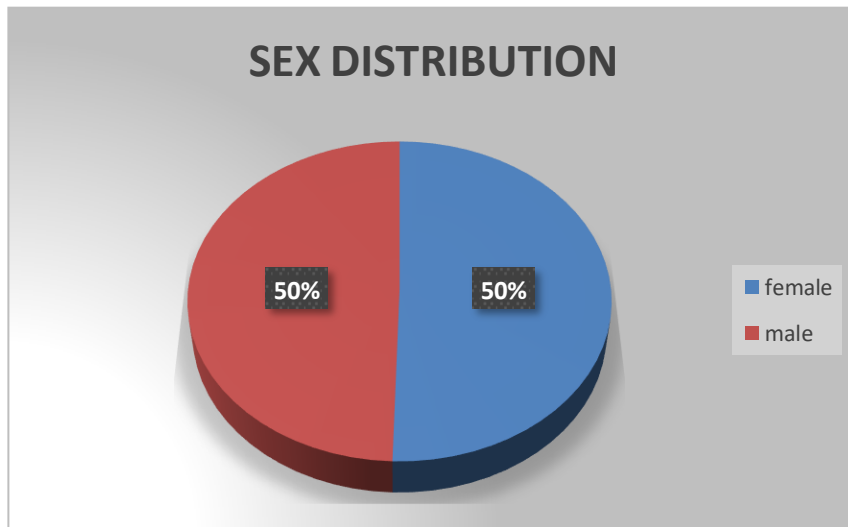


Figure 4.2

The maximum patients were admitted under the specialties of Orthopedics and Joint Replacement, Internal Medicine and Nephrology.

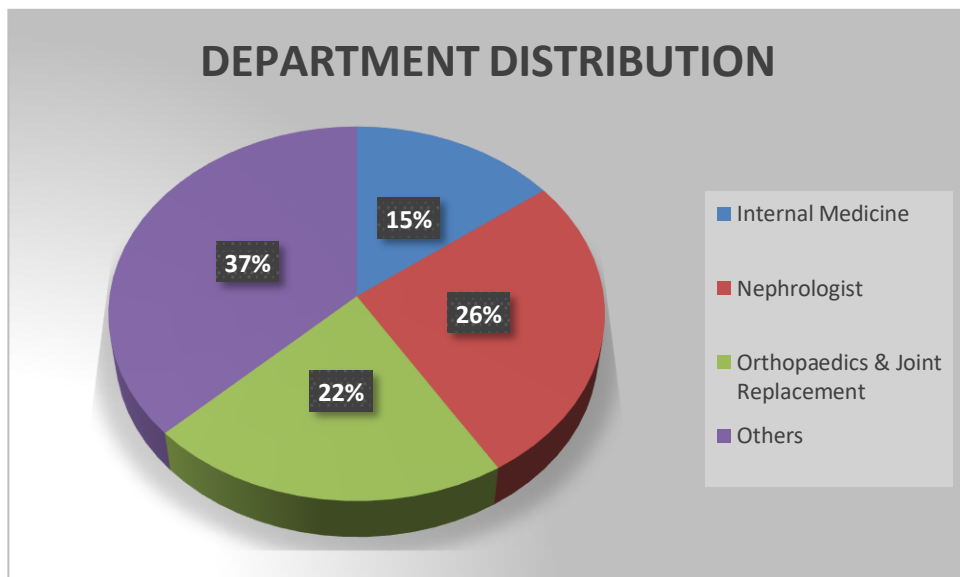


Figure 4.3

The data was analyzed to understand the compliance percentage to fall prevention safety bundle and the reasons for non-compliance

- PERCENTAGE COMPLIANCE TO FALL PREVENTION SAFETY BUNDLE

The following table shows the compliance percentage of each element of the fall prevention safety bundle.

NURSING COMPLIANCE TO FALL PREVENTION SAFETY BUNDLE ANALYSIS			
COMPONENT OF SAFETY BUNDLE	TOTAL FILES AUDITED	NUMBER OF FILES COMPLIED	COMPLIANCE PERCENTAGE
Morse fall risk assessment done properly during nursing initial assessment	190	90	47%
Identification of patient's vulnerable status	190	101	53%
Fall prevention education provided to patient and attendant	190	75	39%
Fall risk interventions such as side rails, grab bars etc. being used	190	114	60%
Past medication history of sedative use documented or not	190	116	61%
Past surgical history documented	190	107	56%
Patient and attendant given orientation regarding the	190	124	65%

room, washroom and call bell			
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Table 4.1

On an average the compliance of nursing staff to the complete fall prevention safety bundle was 55%

The compliance percentage can be graphically represented using a spider chart as follows

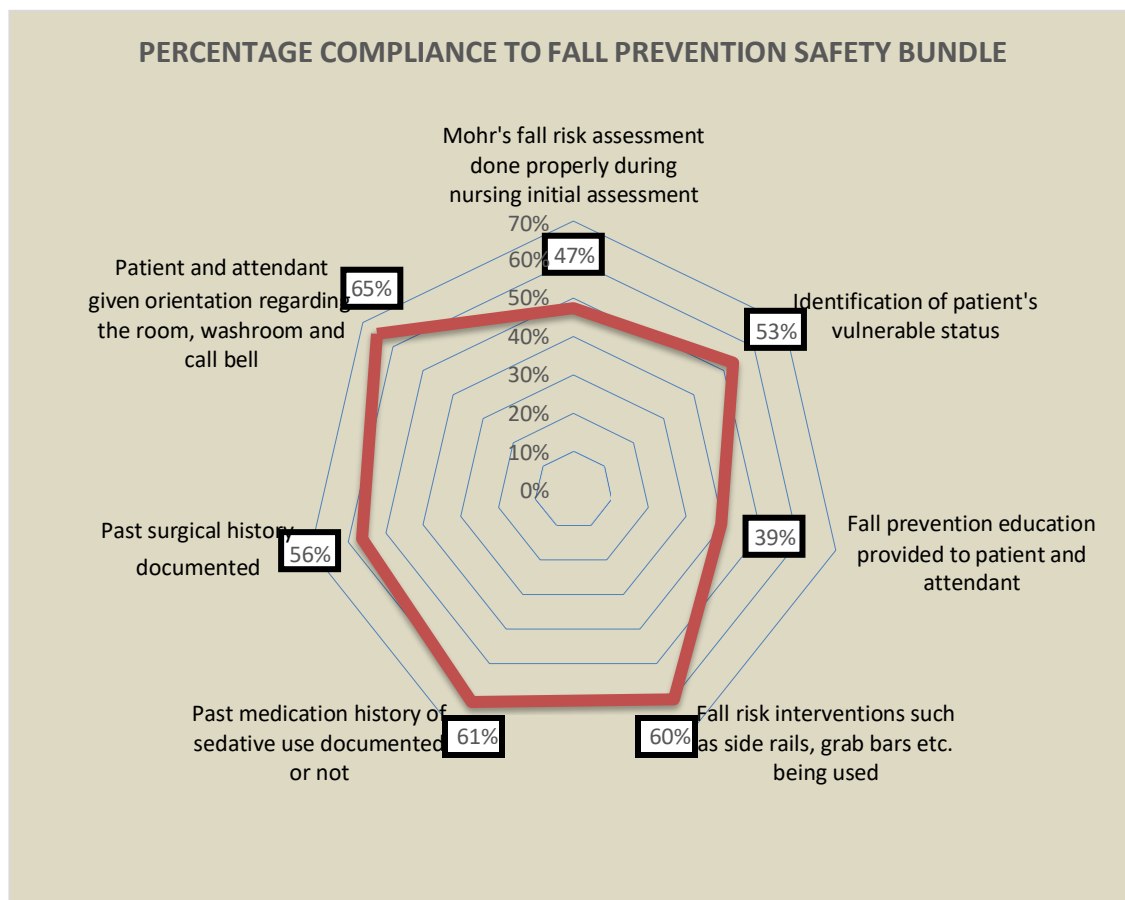


Figure 4.4

The maximum compliance was seen with respect to orientation given to patient and attendant regarding the room, washroom and call bell (65%) and the minimum compliance was seen with respect to fall prevention education and training given to patient and their attendants (39%). Another factor with very less compliance was proper documentation and completion of Morse fall risk assessment (47%). Other factors of the fall prevention safety bundle were use of fall risk intervention such as bed rails and brag bars (60%), documentation of sedative medication history (61%), documentation of past surgical history (56%) and identification of patient's vulnerable status (53%).

- REASONS FOR NON-COMPLIANCE

Reasons for non-compliance by the nursing staff were analyzed through brainstorming session, visual observation and asking questions during audits. The answers in brainstorming sessions were as follows:

“There is no time to focus on fall risk assessment and documentation. We already have a lot of work. So we just document the entire initial assessment later”

“I have not been provided adequate training to correctly do fall risk assessment”

“Patient is only considered vulnerable if they are above 70 years of age”

“I forgot to brief the patient and attendant regarding the call bell and their fall risk”

“I was not informed by the preceding staff during the handover, that the patient has high fall risk”

“I do not know how to classify different types of gaits”

“I didn’t know that past surgical history increases chances of fall”

“The wheelchairs do not have seatbelts and bathrooms in some single and double rooms do not have grab bars. What can we say to the patient to provide them education? Some rooms do not have functioning call bells.”

The reasons for non-compliance found through visual observation, field notes, brainstorming session were compiled in a Fishbone diagram to analyze the primary and main contributory causes to non-compliance.

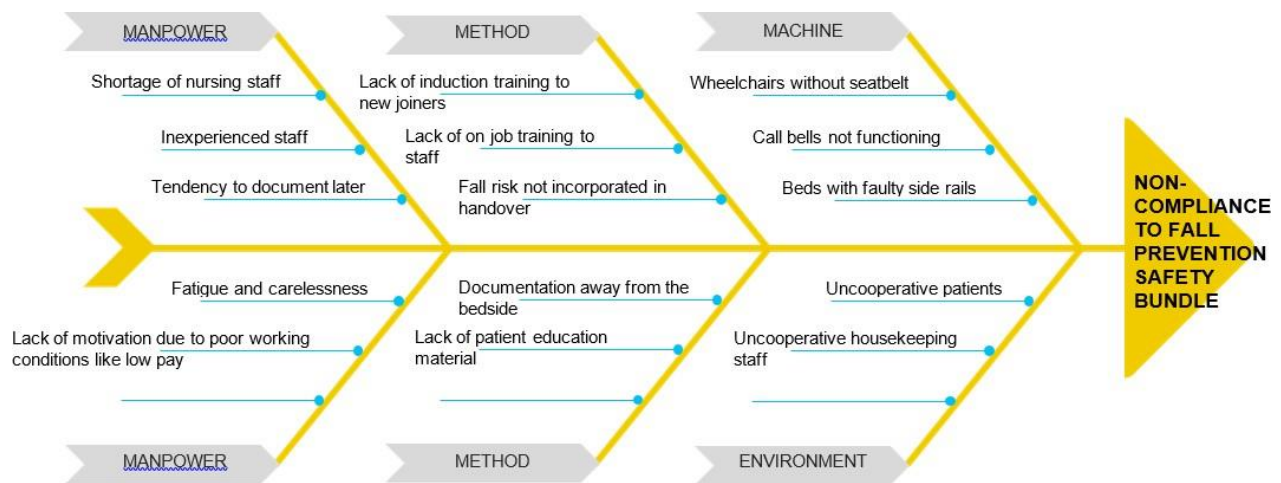


Figure 4.5

The reasons for non-compliance were analyzed using a pareto chart, to understand the major vital factors contributing the most to non-compliance.

COMPONENT	FREQUENCY OF NON COMPLIANCE	CUMULATIVE FREQUENCY	CUMULATIVE PERCENTAGE
Fall prevention education provided to patient and attendant	115	115	19%
Mohr's fall risk assessment done properly during nursing initial assessment	100	215	36%
Identification of patient's vulnerable status	89	304	50%
Past surgical history documented	83	387	64%
Fall risk interventions such as side rails, grab bars etc. being used	75	462	77%
Past medication history of sedative use documented or not	74	536	89%
Patient and attendant given orientation regarding the room, washroom and call bell	66	602	100%

Table 4.2

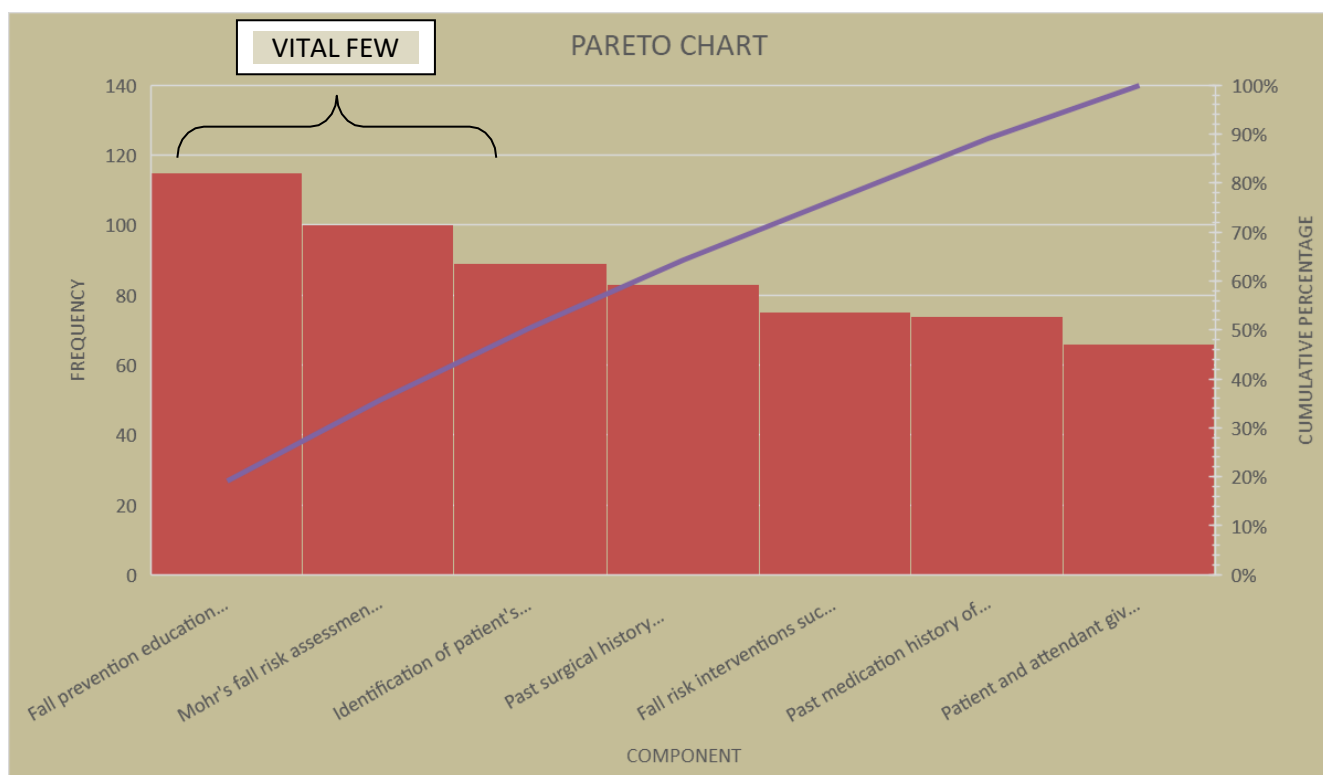


Figure 4.6

As per a study conducted by Turner, leadership affects fall prevention efforts, education efforts amongst other preventive measures.¹⁹ An overview of these factors in Primus Super Specialty Hospital is presented as below.

	FALL PREVENTION APPROACHES	STATUS
ORGANISATIONAL COMMITMENT	Fall prevention policy updated and reviewed in regularly	Yes
	Hospital level falls committee exists	No All incidents of fall reported to safety committee
	High level leaders chair the committee (MD, MS, NS)	Yes
	QI of fall and preventive strategies reviewed regularly (quarterly)	Yes Incident reporting system not functioning properly
EDUCATION	Fall prevention education provided during orientation	Not done
	Regular training for fall prevention	Not done
	Printed fall prevention education material provided to patient/attendant	Not done
	Nurses provide individual education to all patients and attendants	Provided (Not fully compliant)
FALL PREVENTION RESOURCES	Call bells/alarms in all rooms	Provided; functioning to be checked
	Specially low floor beds (6 to 12 feet)	Not provided
	Bed rails	Provided
	Side rails	Provided
	Anti skid mats	Provided

Table 4.3

DISCUSSION

The world has seen an increasing focus on patient safety since the year 2000. The WHO along with various other global organizations have implemented programs and policies for increasing patient safety in hospitals. Patient safety is endangered by various aspects of hospital functioning like radiation, medication, fire, electrical amongst others. It becomes the responsibility of the hospital to provide a safe environment to its patients and employees. Patient fall is a common safety incident that happens in all hospitals. It leads to dire negative consequences both physical and psychological. The effect is not limited to the patients alone. Nurses and healthcare workers are also affected by patient falls. Patient fall also increases both the direct and indirect costs to both the patients and the hospitals. Such adverse events may lead to increase in length of stay and additional procedures which increase the risk of hospital acquired infections. Increased period of recovery may lead to muscular fatigue and heightens the chances of falls.

To tackle and reduce the burden of patient fall, a number of measures are instituted in hospitals. Even though an optimum mix of preventive measures has not been identified, hospitals make use of different types of interventions, based on their own requirement.

In this study, all relevant strategies and interventions used for prevention of patient fall have been included under an overarching term of fall prevention safety bundle. This includes the following:

- Morse fall risk assessment done properly during nursing initial assessment
- Identification of patient's vulnerable status
- Fall prevention education provided to the patient and attendant
- Fall risk interventions such as bed rails, grab bars etc. being used
- Past medication history of sedative use documented or not
- Past surgical history documented or not
- Patient and attendant given orientation regarding room, washroom and call bell

Nurses are at the forefront of fall prevention and implementation of the fall prevention safety bundle. The objective of this study was to check the compliance of nurses in implementation of the fall prevention safety bundle and the reasons for any non-compliance. The same was done using a checklist and by performing daily audit in different

IPD areas. During the audit, files were audited, patients were interviewed and nurses were observed. The following compliance percentage was obtained:

Morse fall risk assessment done properly during nursing initial assessment

The compliance to this particular element was found to be 47%. Numerous errors in completion and documentation were found. The most common of this was improper documentation in terms of secondary diagnosis. The nurses overlooked secondary diagnosis in their initial nursing assessment and thus did not score the fall risk properly. Another error was in assessment of the gait of the patient. Most nurses did not know how to do the same, while some others did not visually observe the gait of the patient. Documentation of the fall risk assessment was done later, away from the bedside and hence the gait of the patient was not recorded properly. Also, some doubts regarding the previous history of fall were also noticed, wherein, a positive history of fall was considered only if the fall had immediately preceded the hospital admission and not within 3 months. In few other cases, a proper history taking was not done from the patient and thus, the nursing staff missed a positive history of fall. Few cases of incorrect scoring and totaling were also seen. Two to three instances where the fall risk assessment was completely empty and was not filled were also noticed.

Identification of patient's vulnerable status:

Correct identification of a patient's vulnerable status was found to be only 53%. A patient's correct identification is an important aspect of not only fall risk assessment, but overall patient care. Proper identification of a patient's vulnerable status means that the reassessment of the patient takes at quicker intervals and is protected from incidents at the hospital. The nurses were not able to correctly identify patients who were vulnerable. Most nurses complained that they had received comprehensive training regarding this. The criteria in Primus Super Specialty Hospital to consider a patient vulnerable is:

- Above 65 years and below 15 years
- Immunocompromised conditions
- Critical patients and surgery patients

- Pregnant women

- Mentally handicapped
- Inability to perform activities of daily living

It was also noticed that there was no particular way to denote a vulnerable patient, apart from documentation, which could easily be overlooked. In some instances, even though the vulnerable status was correctly identified, the same had not been correctly noted during handover. This was also counted as non-compliance.

Fall prevention education provided to the patient and attendant

Compliance percentage to this element was found to be the least. It was found to be 39%. This was a concerning finding, since it is important for the patient and attendant to be educated and involved in fall prevention. Since the documentation is done away from the bedside, education could not be provided. The nursing initial assessment has a column for patient/attendant signature signifying that they have received fall prevention education. In some cases, this was signed, however, when the patient was interviewed, it was revealed that they had not been provided any education. Education was also to be provided in a language that they understood. The nurses also overlooked this factor many times.

Fall risk interventions such as bed rails, grab bars etc. being used

The compliance percentage was 60%. The main issues with compliance to this element was the lack of proper functioning interventions. Most wheelchairs were not provided with a seatbelt, and the ones that had seatbelts were not being used. In some single and double rooms on the 2nd floor ward, grab bars were not provided in the washroom. This was a troublesome finding. It was a habit amongst the nursing staff, to only put up bed rail on 1 side of the bed, and leave the one on the other side down. This was also a major cause for this non-compliance. Many patients complained that the call bell in their rooms were not working and they had to wait for long durations to receive attention from the nursing staff or the housekeeping staff

Past medication history of sedative use documented or not

The compliance was found to be 61%. Reconciliation of medication was found to be a general issue. Most nurses noted the medicines being taken currently for diabetes, hypertension and asthma, but little attention was given to other types of medication. However, since the hospital has an ongoing program for improvement of medication management, this non-compliance was less serious than others were.

Past surgical history documented or not

The compliance was found to be 56%. This points towards the lack of communication between doctors and the nurses. Numerous instances were found in which surgical history had not been documented in the nursing files. The nurses focus on taking history related to other comorbidities like diabetes and hypertension, but overlook surgical history. Not only is it not documented in the nursing initial assessment, nurses also do not document it in their daily nursing notes and care plan. This accounts for a serious lapse in the compliance of the fall prevention safety bundle.

Patient and attendant given orientation regarding room, washroom and call bell

The compliance to this element was found to be 65%. Most patients reported that they had been given orientation regarding the room and the call bell. Unfortunately, they further added that many times the staff did not respond to the call bell. They had to wait for long durations for the nursing or the housekeeping staff to attend to them. Most non-compliance was observed in the 4th floor ward.

Other studies have also shown major non-compliances in the practical implementation of fall prevention strategies. The National Audit of Inpatient Falls showed the compliance to several fall risk factors such as assessment of delirium, measurement of blood pressure, assessment for medications increasing fall risk, vision, presence of mobility aid, continence care plan and whether call bell is within sight and reach of the patient. The study showed the following compliance percentage; 46%, 31%, 58%, 67%, 70% and 80% respectively.²⁰

The average compliance was calculated to be 58%. Another study based in nine Australian hospitals also assessed the percentage of fall prevention practices. The baseline compliance was found to be 50.4%. The study implemented education sessions for the staff and saw a subsequent increase and sustenance in compliance in two follow up sessions (74.5%).²¹

The reasons for non-compliance was plotted as a fishbone diagram. The major reasons were found to be related to the staff and machines. The most prominent reason was found to be the lack of staff training regarding fall risk assessment and fall prevention. This included both induction and ongoing regular on job training. While the experienced staff knew how to score Morse Fall Risk Assessment, the newly joined staff was not aware of the same. Even the experienced staff did not have the motivation to properly assess and document the fall risk. Further, the shortage of manpower and poor working conditions (less salary and lack of rewards and recognition) also decreased the overall compliance. Certain working methods such as documentation away from bedside, absence of fall risk in handover and lack of patient education material also contributed to the lack of compliance. In some instances, issues with the material and equipment (beds, wheelchairs, call bells and grab bars) also led to con-compliance. A study by Stephenson stated that the most common reason for non-compliance was a lack of training.²¹ The study also showed that the implementation of a staff education program led to an increase in compliance from baseline level.

This study has several limitations such as a short time duration. Due to the short time span of the study, the effect of the recommendations could not be evaluated. Also, the study only focuses on nursing compliance. A successful fall prevention bundle requires participation from doctors, housekeeping staff and all healthcare personnel. This study does not evaluate their compliance to the fall prevention safety bundle.

RECOMMENDATIONS

There are a number of interventions that could be implemented to increase compliance to fall prevention safety bundle. As per the Pareto chart, the study focused on a the following few factors

- Fall prevention education provided to patient and attendant
- Morse fall risk assessment documented properly
- Identification of patient's vulnerable status

As per previous studies, researcher observations and brainstorming sessions, the primary recommendation is to establish an extensive training program. This includes both induction training for new joiners and regular on job trainings for the rest of the staff. Nursing staff and quality department should jointly do the training session. At a minimum, the training sessions should include the following:

- Importance of fall prevention safety bundle
- All elements in detail
- Vulnerable status of patients
- Detailed session on Morse fall risk assessment
- Importance of involving patient and attendant in the program by providing them education and knowledge
- Importance of past surgical history and sedative medication in fall risk

A training schedule was prepared and the first training session was taken on 13.6.22. Since the study was conducted over a short period, the result of the implemented recommendations could not be assessed.



Use of patient education material in the form of handouts can also be implemented. These can elaborate the role of the patient in protection from fall. This can be attached with the nursing initial assessment in an easy to tear format. It will also serve as a reminder to the nurse that patient education needs to be provided (Poka Yoka Technique). It will also be a ready guide for the patient to consult and learn when in doubt. The education material should be prepared in a bilingual format. It should be handed over to the patient and subsequently a signature should be obtained from patient/attendant.



CALLING IS BETTER THAN FALLING



SHARE INFORMATION WITH YOUR NURSE.

- If you have a history of falling
- If you are dizzy or weak
- If you use a walker

FALL PREVENTION TIPS DURING HOSPITAL STAY

- Make sure the nurse call button is within reach and you know how to use it
- If you have an IV line, ask for help
- Keep your room clutter free
- Keep the top two side rails up.
- Make sure lighting is adequate.
- Make sure floor is not wet
- Make sure slipper is of appropriate size and is comfortable.
- Use Grab bars & nurse call bells in wash room when required.




ASK FOR HELP

- Ask someone to assist you whenever you get up, Call for help before the need to get to the bathroom becomes urgent.
- Most hospital falls occurs when patient tries to get out of bed to go to the washroom without assistance. Consider asking a family member to stay with you if you are at a high risk of falling.













Surprise audits can be conducted at times to check the compliance. Nursing staff found to be fully compliant may be rewarded to increase motivation of the staff.

Few other recommendations that may be implemented are:

- Incorporation of fall risk in handover
 - Corrective and preventive maintenance for biomedical equipment such as call bells and installation of seatbelts in all wheelchairs.
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ANNEXURES:

1. Daily audit checklist

COMPLIANCE TO FALL PREVENTION MEASURES - AUDIT CHECKLIST							
Date							
S.No.	Parameter	Evidence	UHID Location	UHID Location	UHID Location	UHID Location	UHID Location
1	Mohr's fall risk assessment done properly during nursing initial assessment	Nursing initial assessment documentation					
2	Identification of patient's vulnerable status	Nursing handover sheet					
3	Fall prevention education provided to patient and attendant	Nursing file, directly asking the patient					
4	Fall risk interventions such as side rails, grab bars etc being used	Visual observation					
5	Past medication history of sedative use documented or not						
6	Past surgical history documented	Nursing file					
7	Patient and attendant given orientation regarding the room, washroom and call bell	Directly ask the patient					
8	Remarks						