Original Article

"Research to determine the likelihood that hospitalized patients may fall and the preventative measures used in the chosen hospitals in the state of Gujarat"

Dr Manjunath Beth[1], Dr Ambily V V[2], Dr Padmakumar S[3], Dr Prasanna Deshpande[4]

[1]Associate professor, Uka Tarsdia University, India

[2,3]Assistant professor, Komar University, Kurdistan, Iraq

[4]Professor, SDM University, India

Email: manjunath.beth2019@gmail.com

DOI: 10.47750/pnr.2022.13.S06.175

Abstract

Patient falls are the most common patient safety accidents in hospitals, which have an effect on the patient's rehabilitation and extend the patient's stay. By screening and evaluating patients, nurses and other healthcare professionals can determine who is at risk of falling. The cost of injuries brought on by falls is considerable. The average cost to the health system in the Republic of Finland and Australia for a fall injury among those 65 and older is 3611 and 1049 USD, respectively. The conceptual framework used in this inquiry was built on the modified General System model.

A survey design was employed in conjunction with a quantitative research technique. The Purposive non-probability sampling approach is accustomed to choosing the instance. 110 nurses and 121 patients from 4 hospitals were chosen for the research. Out of 121 patients tested, 9 (7.44 per cent) were found to be at high risk for falls, 22 (18.18 per cent) were found to be at moderate risk, and the remainder (74.38 per cent) were found to pose little danger.

The research remained conducted to switch which hospitalized patients were more at risk for falling and to determine the preventive measures implemented in particular Surat hospitals. The study's goals were accomplished by the researcher.

Keywords: Fall, risk of falls among hospitalized patients, and hospital preventative measures.

INTRODUCTION

Patient falls are the most common patient safety accidents in hospitals, which have an effect on the patient's rehabilitation and extend the patient's stay. By screening and evaluating patients, nurses and other healthcare professionals can determine who is at risk of falling. The cost of injuries brought on by falls is considerable. The average cost to the health system in the Republic of Finland and Australia for a fall injury among those 65 and older is 3611 and 1049 USD, respectively. The conceptual framework used in this inquiry was built on the modified General System model.

A survey design was employed in conjunction with a quantitative research technique. The Purposive non-probability sampling approach is accustomed to choosing the instance. 110 nurses and 121 patients from 4 hospitals were chosen for the research. Out of 121 patients tested, 9 (7.44 per cent) were found to be at high risk for falls, 22 (18.18 per cent) were found to be at moderate risk, and the remainder (74.38 per cent) were found to pose little danger.

The research remained conducted to switch which hospitalized patients were more at risk for falling and to determine the preventive measures implemented in particular Surat hospitals. The study's goals were accomplished by the researcher.

OBJECTIVES

1. To pinpoint the proportion of hospitalized patients who are at high risk for falling.

2. To list the fall prevention strategies used at particular hospitals.

3. To develop and verify a technique for assessing fall risk.

4. To examine how the fall risk assessment tool's deployment fared.

CONCEPTUAL FRAMEWORK:

The conceptual framework used in this inquiry was built on the modified General System model.

METHODOLOGY

The Research strategy, design, environment, population, sample, and sampling method are all covered in this chapter on methodology. Additionally, the creation and explanation of the instrument, the process then techniques of data gathering, an analytical strategy, pilot research, and are covered. Regarding falls among hospitalized patients and preventative measures implemented in certain hospitals, 18 different types of literature were studied. The creation of four tools: a) a screening tool for patients who are at a high risk of falling while hospitalized; b) a tool for detecting actions/measures taken by the hospital; c) a tool for identifying actions/measures taken by nurses. Tool validation through 13 exports. Reliability is checked by the split-half method. This study employs a quantitative technique to determine the likelihood that hospitalized patients may fall and the preventive measures used in certain Surat hospitals. For this investigation, a descriptive survey approach was chosen. The risk for falls and their prevention served as the research variable in this study. The primary study was carried out at several hospitals in Surat, with the pilot trial taking place in Sardar Hospital Bardoli. The population of this study consisted of nurses employed by private hospitals, patients admitted to these hospitals, and patients themselves. The research sample included nurses working in certain private hospitals and patients admitted to such hospitals on the study day. In this investigation, a non-probability Specified Sampling approach remained applied using a 100-person sample of patients. Data collection was chosen from the neighbourhoods, of Surat. Utilizing a standardized observational checklist, data is collected daily. Each hospital received a fall risk assessment instrument, and nurses were instructed on how to complete it. The frequency, percentage, mean, and SD were used to examine the data.

RESULTS:

With regards to the point prevalence of fall risk, out of 121 patients assessed 9 (7.44%) were at high risk, 22 (18.18%) were at moderate risk, and the majority (74.38%) were at low risk for falls.

With regards to the preventive measures adopted by hospitals, adequate measures in the physical environments were ‘light in rooms, corridors, and bathrooms, ‘railings were available at windows and stairs’, ‘door lock and grab bar in bathrooms’, and bedside rails. All hospitals were maintaining adequate nurse-patient ratios in ICU/emergency rooms, special wards, and general wards. All hospitals’ stretchers had safety belts/side rails. But no hospital had the room floor with Carpet/Matte Tiles, a call bell in the bathroom and slippers with good grip given to the patients. Inpatient care environment 39 (32.2%) of beds had ampules/vials/syringe covering and rappers, 51 (42.1%) of beds had IV cannula’s white cap, 59 (48.8%) beds had needle’s caps, and 47 (38.8%) beds had other waste items. Hospital C found a 100% clustered patients care environment. In transportation services and rehabilitative services hospitals, A and hospital D had transfer boards available, no hospital had wheelchairs with safety belts and the rehabilitation department had assistive devices found in hospitals in preventive measures adopted by hospitals.

With regards to the preventive measures adopted by nurses most of the hospitals had light switches on at stairs, rooms (day/night when required), corridors, and bathrooms. Most of the hospitals had the bedside rails up 100% while sleeping and 98.3% while awake, all hospitals maintained an adequate distance from window/stairs during mobilization. All hospitals had the walkers and wheel's rubber cushion in working condition. Only 44.6% had the waste properly disposed of according to bio-medical waste management policy, remaining 55.4 % of waste was not properly disposed of according to bio-medical waste management policy. The bed wheels were locked in 92.6% of hospitals. 48.8% of bed alarms in hospitals were working and given to patients and relatives in reachable areas, and nurses in any of the four hospitals do not use of wheelchair/stretcher's safety belt while transferring the patients.

This tool consisted of 11 questions for fall risk assessment of hospitalized patients which is filled by nurses. These questions are selected on basis of some fall risk assessment tools and other research reviews. In this tool, every question had separate points. The item with a yes mark is given points in the brackets at the end of that question and a total score- of 66. In this tool scoring key for risk level stratification, it was divided into three levels; if the patient got points below <2, it was a first-level low risk of fall, if the patient got points between 3-20, it was a second-level moderate risk of fall and if the patient got points above >21, it was a third-level high risk for fall.

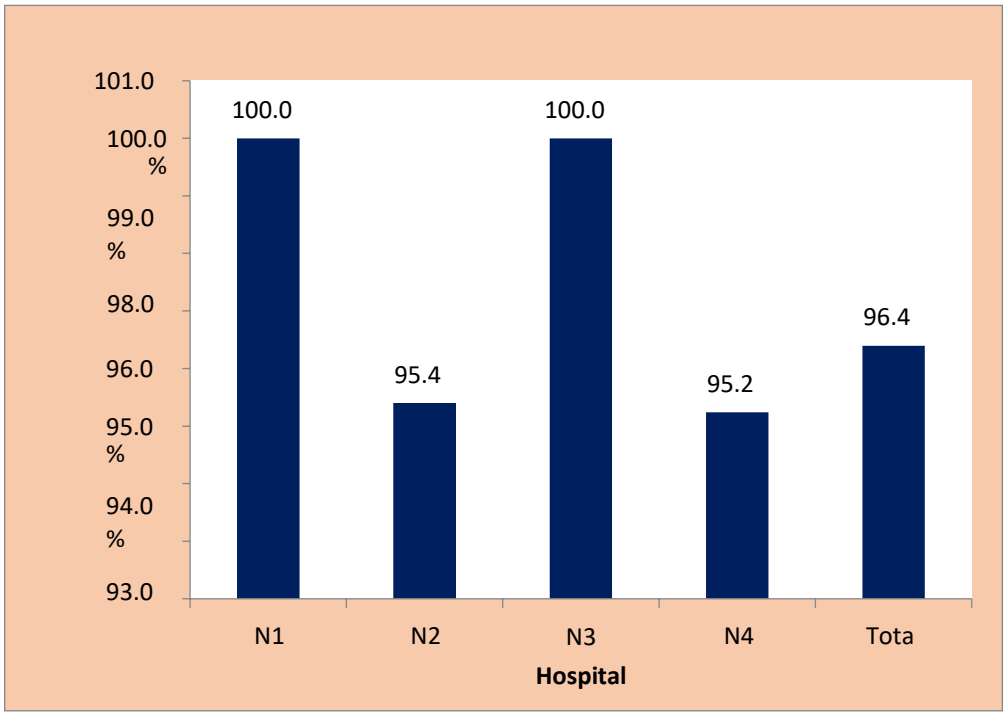

Figure 1: Distribution of compliance to implementation of fall risk assessment tool among nurses

About implemented fall risk assessment tool on 110 nurses among four hospitals, Hospital A included 7 nurses, hospital B included 43 nurses, hospital C included 18 nurses and hospital D included 42 nurses. Compliance with the fall risk assessment tool implementation among nurses the researcher identifies the percentage of compliance obtained was 96.36. Two out of four hospitals had 100 % compliance to implementation of fall risk assessment tool among nurses and a total 4 non-compliant; 2 from Hospital B and 2 from Hospital D. In this compliant researcher found total 4 variants; 1 variant in fall history, 1 variant in the level of consciousness and 2 variants in patients' strength and balance, in this items nurses have wrongly done the tool. Compliance to identify risk level stratification into fall risk assessment tool among nurse's the researcher identified the percentage of compliance obtained was 96.36. Three out of four hospitals had 100 % compliance to identify risk level stratification into fall risk assessment tool among nurses and a total 4 non-compliant; all 4 are from Hospital D. In this compliant researcher found total 4 variants; 2 nurses wrongly identify risk level stratification and 2 nurses didn't fill risk level stratification.

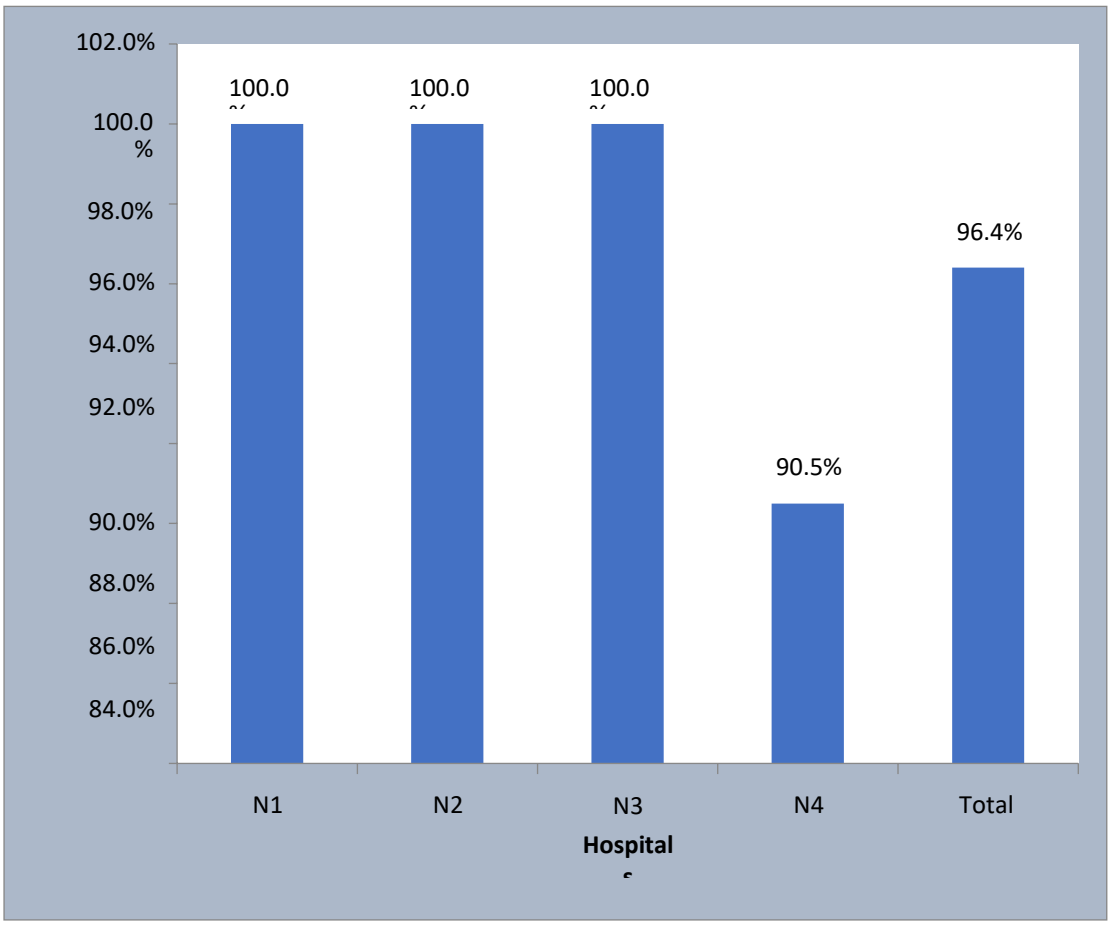

Figure 2: Distribution of compliance to identify risk level stratification into fall risk assessment tool among nurses

RECOMMENDATIONS FOR FURTHER STUDY

The following suggestions are made in light of the current investigation have been made for further study.

- A similar study can be undertaken for a larger sample for a longer period thus broad generalization can be made.
- A similar study can be replicated in different settings.
- A comparative study may be conducted with other fall risk assessment tools to find out the similarities or differences between risk level identification and measures taken for the prevention of falls.
- A follow-up study can be done to determine the effectiveness of the fall risk assessment tool.

CONCLUSION

A study was done to identify the high risk for falls among hospitalized patients and preventive measures adopted in selected hospitals in Surat. The researcher was able to meet the objectives of the study.

CONFLICT OF INTEREST

There are no declared conflicts of interest by the authors that would affect this study.

REFERENCES

1. Mitra M, Basu M, Karmakar A, Saha R, Panda S. Patient Falls In a Multispecialty Tertiary Care Hospital in Kolkata: A Discussion on the Risk Factors and the Fall Reduction Strategies. International Journal of Research and Review. 2019;6(12):595-604.
2. Sato N, Hase N, Osaka A, Sairyo K, Katoh S. Falls among Hospitalized Patients in an Acute Care Hospital: Analyses of Incident Reports. The Journal of Medical Investigation. 2018;65(1.2):81-4.
3. Najafpour Z, Godarzi Z, Arab M, Yaseri M. Risk factors for falls in hospital in- patients: a prospective nested case control study. International journal of health policy and management. 2019 May;8(5):300
4. Gringauz I, Shemesh Y, Dagan A, Israelov I, Feldman D, Pelz-Sinvani N, Justo D, Segal G. Risk of falling among hospitalized patients with high modified Morse scores could be further Stratified. BMC health services research. 2017 Dec 1;17(1):721.
5. Pitchai P, Dedhia HB, Bhandari N, Krishnan D, D'Souza NR, Bellara JM. Prevalence, risk factors, circumstances for falls and level of functional independence among geriatric population-A descriptive study. Indian journal of public health. 2019 Jan 1;63(1):21.
6. Morello RT, Barker AL, Watts JJ, Haines T, Zavarsek SS, Hill KD, Brand C, Sherrington C, Wolfe R, Bohensky MA, Stoelwinder JU. The extra resource burden of in-hospital falls: a cost of falls study. Medical journal of Australia. 2015 Nov;203(9):367-.
7. McGibbon CA, Slayter JT, Yetman L, McCollum A, McCloskey R, Gionet SG, Oakley H, Jarrett P. An analysis of falls and those who fall in a chronic care facility. Journal of the American Medical Directors Association. 2019 Feb 1;20(2):171-6.
8. Kisacik OG, Cigerci Y. Characteristics of Inpatient Falls in a Hospital Setting: A Retrospective Study from Turkey. International Journal of Caring Sciences. 2019 May;12(2):768.
9. Chiu MH, Lee HD, Hwang HF, Wang SC, Lin MR. Medication use and fall- risk assessment for falls in an acute care hospital. Geriatrics & gerontology international. 2015 Jul;15(7):856-63.
10. Rau CS, Lin TS, Wu SC, Yang JC, Hsu SY, Cho TY, Hsieh CH. Geriatric hospitalizations in fall-related injuries. Scandinavian journal of trauma, resuscitation and emergency medicine. 2014 Dec 1;22(1):63.
11. Zhao YL, Kim H. Older adult inpatient falls in acute care hospitals: intrinsic, extrinsic, and environmental factors. Journal of gerontological nursing. 2015 Jul 21;41(7):29-43.