
**ISSN Print:** 2394-7500
**ISSN Online:** 2394-5869
**Impact Factor:** 5.2
IJAR 2018; 4(5): 12-18
www.allresearchjournal.com
Received: 15-03-2018
Accepted: 17-04-2018

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# Risk of fall by using Morse scale and fall risk assessment tool among patients

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**Abstract**
The objectives of the study were to assess risk of fall using Morse scale and fall risk. Assessment tool and to assess the correlation between Morse scale and fall risk assessment tool among patients admitted in hospital and to determine the association of risk of fall with selected clinical and demographic variables.

**Material and Methods:** Quantitative non experimental approach and descriptive research design was used in the study. 100 patients from ICU, ICCU and emergency unit were selected by convenience sampling. The tool for data collection are Morse scale and fall risk assessment tool (FRAT) i.e. which were for assessing the risk of fall. The data obtained was analysed using both descriptive and inferential statistics.

**Result:** Result showed that the mean percentage of Morse scale (45) and FRAT (9.18) and R value (R=0.857*, p=0.02) was statically significance at 0.05 level. Computed Chi square value with Morse score and no. of lines (31.695) found to be statistically significance and other clinical variables were not statistically significance at 0.05 level. Computed Chi square value of FRAT score and BMI (14.586), no.of lines (31.695), Systolic blood pressure (14.732) were statistically significance and other variables were not statistically significance at 0.05 level.

**Conclusion:** Use of Morse scale and fall risk assessment tool (FRAT) is effective in identifying and reducing risk o fall in hospital.

**Keywords:** fall risk assessment tool, Morse scale, risk of fall

## Introduction

Falls means suddenly go down onto the ground or towards the ground unintentionally or accidently (WHO, 2007). Falls have multiple precipitating causes and predisposing risk factors. A fall in the critical area of the hospital like emergency and ICU. Moreover, most predisposing and precipitating causes (poor vision status, gait disorder and medication effect). Falls in hospitals sometimes leads to minor injury and sometimes death. Falls are the most common adverse event reported in hospitals. According to WHO types of fall are Slip fall, Trip fall, Stump fall, Step down fall, Forceps-rotation fall. Research studies have shown that factors with increased risk of falling among adults are classified under: 1. Biological (impaired mobility, balance deficit, gait deficit, muscles weakness, chronic illness and acute illness) 2. Behavioral (history of falls, fear of falling, multiple medication and use of drug, excessive alcohol, risk taking behavior, lack of exercise ) 3. Social & Economic (social interaction, lack transportation, cultural). 4. Environmental (rest areas, slippery or uneven surface) [1].

The term fall has lot of definitions and involved risk factors. Falls can also be categorized as place of occurrence at different settings like in the home, nursing home, or hospital setting. Evidence shows that falls prevention strategies for is unique for each setting. According to Rubenstein, 2006 these falls tend to be more injurious, with 10 to 25 percent resulting in fractures or lacerations. Falls can also be classified as anticipated, unanticipated, or accidental (Morse, 1989). According to Morse, anticipated falls refer to those involving patients who have been identified as high-risk, with contributing factors such as altered mental status and abnormal gait. Unanticipated falls occur when patients have been identified as low-risk but still fall due to situations such as having a seizure or a syncopal episode [2] Falling is one of the adverse events in hospitals and it is a complex challenge that acute care hospitals face.

In acute care hospitals, inpatient falls represent the largest category of reported incidents.

Falls account for at least 40% of all accidents in hospitals. Risk of fall in hospital is unpredictable it can be occur any time due to these variables like drugs, associated illness, vision impairment, gait. The study needs to be identified the risk of fall with selected variables and the patients falls have been identified as one of the largest liabilities for health care facilities. A patient chances of fall are increased with extends length of stay into the hospital. For patients, the negative consequences of falls can be physical, pharmacological, psychological, or economic. For example, if the patient is highly drug there is a chance to be fall and they can be injured such as fractures or even death may occur. Possible psychological outcomes can include fear, anxiety, depression and loss of confidence.

In India, there is no accurate information available about the incidence rate of falls among hospitalized patients because hospitals are reluctant to release their fall rates. According to one specific hospital incident report, falls occupied 30% of all incident reports. Fall- related injuries include fractures and head injuries, as well as post fall anxiety. These can lead to a loss of independence through disability and a fear of falling. The reductions in mobility and independence are often serious enough to result in admission to the hospital or even premature death. In addition, treatment and investigation for damage from a fall may extend the length of a hospital stay and may cause an additional economic burden for medical costs and also legal consequences. Therefore, nurses must assess the fall risk of the patient at the time of hospitalization and implement appropriate nursing intervention to prevent falls. Protecting patients from falls and ensuring a safe environment are fundamental to providing high- quality care. In order to prevent falls, the most important preventive strategy is to assess patients

Periodically using a highly predictive fall risk assessment scale. Many fall risk assessment scales, such as the MORSE Fall Scale, FRAT Scale have been used by the various hospitals for predicting the fall risk in inpatients.

A cluster randomized study was done to know that whether a use of fall prevention tool kit (FPTK) using health information technology (HIT) decreases patient's falls in hospitals. Patients fall rates in 4 urban US hospitals in units that received usual care (4 units and 5104 patients) and the units in which given intervention (4 units and 5160 patients) were compared. In the result the researcher concluded that the use of fall prevention tool kit in hospital units compared with usual care significantly reduced rate of falls [3].

The observational cohort study was conducted on the medical wards of an urban tertiary teaching hospital, and included all patients who fell in the medical wards during a 1 year period (n=140) compared to other hospitalized patients Significant correlates of falls were previous falls, impairing medical conditions, impaired mobility, and altered mental state. In multivariate logistic regression analyses, only previous falls (odds ratio 3.8 with 95% confidence interval 2.65–5.45, P < 0.0001) and acute impairing medical conditions (OR [1] 1.56, CI [2]1.06–2.29, P < 0.05) correlated independently with a higher risk for falls. Impaired mobility retained an OR of 1.46 (CI 0.95–2.24, P = 0.084).

Accordingly, defining patients with either a history of previous falls or both acute impairing medical state and impaired mobility as fall-prone patients provided a sensitivity and specificity of 67% and 63%, respectively. In a subsequent prospective validation trial on 88 patients who fell during hospitalization and 436 controls, the sensitivity and specificity of this fall-risk grouping were 64% and 68% respectively [4].

The prospective validation cohort study in four acute care medical units of two teaching hospitals in Hamilton, Ontario. In total, 620 patients over the age of 65 years admitted during a 6-month period. Five patient characteristics found to be risk factors for falls in the British STRATIFY study were tested for predictive validity. The characteristics included history of falls, mental impairment, visual impairment, toileting, and dependency in transfers and mobility. Multivariate logistic regression was used to obtain optimal weights for the construction of a risk score. A receiver-operating characteristic curve was generated to show sensitivities and specificities for predicting falls based on different threshold scores for considering patients at high risk. Results suggest that Inter-rater reliability for the weighted risk score indicated very good agreement (inter-class correlation coefficient = 0.78). History of falls, mental impairment, toileting difficulties, and dependency in transfer / mobility significantly predicted fallers. In the multivariate model, mental status was a significant predictor (P; 0.001) while history of falls and transfer / mobility difficulties approached significance (P = 0.089 and P = 0.077 respectively). The logistic regression model led to weights for a risk score on a 30-point scale. A risk score of 9 or more gave a sensitivity of 91% and specificity of 60% for predicting who would fall [5].

Worldwide, many studies have conducted to investigate fall risk factors and predictive value of fall risk assessment scales for the elderly and long term care or home care setting. However, only limited studies have addressed the fall risk factors and predictive value of fall risk assessment scales for adults and acute care hospitals. Therefore, it is very difficult to predict the occurrence of fall in adult patient admitted to acute care hospitals. Due to absence of reliable findings and evidence of fall in acute care hospitals, there is need of easy and effective fall risk assessment tool with high value of validity and reliability. MFS is the most widely used scale in India in many cooperate hospitals, although the validity reliability. MFS is the most widely used scale in India in many cooperate hospitals, although the validity of this tool had not been tested on patients in India acute care hospitals. Thus further research was suggested to assess the validity of these scales for the patients in acute care hospitals. For this reason, accurate assessment of fall risk factors and implementation of effective nursing interventions for fall prevention are lacking for the patients admitting to acute care hospitals in India. Therefore, nursing research studies that provide an important resource to develop the fall prevention nursing strategies including fall risk assessment with valid and reliable scales are needed. So the investigator found it relevant to develop the fall risk assessment tool and to recommend the most appropriate fall risk assessment tool with a high validity for Indian patients in acute care hospitals.

Y Nilsagard *et al*. (2014) has conducted a prospective study to examine fall rates across a broad range of age and disease severity and to definitively assess the extent to which MS (multiple sclerosis) - associated and demographic factors influence fall rates. The data was collected for 3 months with 537 patients. The study reveals that total number of

537 participants reported 172 falls: 56% were fallers and 37% frequent faller most falls occurred indoors (65%) between 6am to 6 pm (75%) [6].

Si.ching lim *et al.* (2014) has conducted a comparative study between elderly inpatient fallers with and without dementia. This was a retrospective one-year study using data collected from Singapore General Hospital's electronic reporting system for inpatient falls. The study showed that 298 patients aged > 65 years fell during their hospital stay. The majority of the inpatients (n= 248) did not have dementia. In their study, fallers with dementia were more likely to use ambulatory aids, be visually impaired and have urinary incontinence. More patients with dementia than those without had a history of previous falls, and were placed on fall precaution with restricted freedom of movement, which at times, included restraints. However, the difference between patients who were put on restraints and those who were allowed to move freely was not statistically significant. The majority of falls in both groups occurred at the bedside. They found that fallers without dementia were more likely to fall during the morning shift, whereas fallers with dementia were more likely to fall during the night shift. Fallers with dementia were more likely to be confused at the time of fall [7].

Hiroyuki Shimada *et al*. (2011) has conductive a comparative study between subjective fall risk assessment and fall related fracture in frail elderly people. The sample was collected from 5062 individuals who were utilized day care services in SRRST (subjective risk rating of specific tasks) comprised. Dichotomous questions to screen for fall risk during movements and behaviors such as walking, transferring and wondering. The study reveals that all SRRST items showed significant differences between the participants with and without falls and fall related fractures. These results suggested that subjective ratings by care staff can be utilized to determine the risk of falls and for related fractures in the frail elderly [8].

Other prospective observational study to assess accidental falls in hospital inpatients and to evaluate the sensitivity and specificity of two risk assessment tool. The sample was collected from October 2007 to January 2008. 1148 patients were assessed with both instruments subsequently making the occurrence of fall. The study showed that the number of patients correctly identify with the cloney scale was higher than with the Hendrich model. The cloney scale gave sensitivity and specificity values of 69.49% and 61% respectively. The Hendrich model gavea sensitivity value of 47.76% and a specificity value of 71% positive and negative predictive values are were comparable [9].

Anne-Marie *et al.* (2009) has conducted a descriptive study to evaluate the effect of patient education on rate of falls in older hospital patients. The sampling was done through randomized control technique (n= 1206) of two hospitals in Australia. The study showed that knowledge of falls prevention strategies and motivation to engage in falls prevention activities after discharge [10].

A study to Assess Risk of fall by Using Morse Scale and Fall Risk Assessment Tool Among Patients Admitted in Hospital with aim to assess risk of fall using Morse scale and fall risk assessment tool (FRAT) among patients admitted in hospital and to assess the correlation between Morse scale and fall risk assessment tool (FRAT) among patients admitted in selected hospital, also to determine the association of risk of fall with selected clinical and demographic variables. Hypotheses were tested at 0.05 level of significance that here will be significant relationship in scores of Morse and FRAT on risk of fall and there will be significant association of level risk of fall with selected variables

**Method and Material**

Quantitative non experimental approach and Descriptive Research Design was used to assess risk of fall by using Morse scale and FRAT. Research variable is risk of fall. The study assumes that; Risk of fall can be identified by using Morse scale and fall risk assessment tool and study is delimited to Patients admitted in Emergency, I.C.U and I.C.C.U in selected hospital. Morse scale is operational defined as the Morse Scale is rapid and simple method of assessing a patient likelihood of falling. FRAT is an instrument that quickly identify and predicts patient at risk for fall.

Patient - Those who are above 18 years of age and admitted in ICU, ICCU and emergency selected Hospital, fall can be defined as sudden uncontrollable downward of the body to the ground that may or may not be result in injury

The research variable in the study is categorised as Demographic variables - Refer to variables of study subjects like age, gender and Clinical variable-Refer to variables of study subjects like BMI, vision status, number of lines, blood pressure.

Sample population were patient admitted in selected hospital and the sample of the study was patients admitted in Emergency and Intensive care unit of Hospital. Convenience sampling Technique was used to select the sample with Inclusion Criteria that sample should be age of 18 years or above and should be present at the time of data collection and Exclusion Criteria was Unconscious client or present with Foot abnormality Total 100 samples of patient admitted were assesses for risk of fall.

To ensure content validity of the tool, it was submitted to seven experts from the field of nursing

Presenting of the tool (Observational checklist for assessing risk of fall) was done on 4 Feb 2016 on 10 patients to check the clarity of the items, there feasibility and practicability. It was found that both scales took approximately 3-5 minutes for assessing the practice regarding risk of fall. It was found that the items were cleared and unambiguous

After administrating the tool to the fall risk assessment was established by inter rater reliability method and is found to be 0.80 in MORSE and also the reliability was found to be 0.70 in FRAT.

Structured, observation and bio physiological measure method was used to collect data related to risk of fall. Morse scale and FRAT were used for data collection. The Morse scale consisted of 6 items and FRAT consisted of 4 items to assess the risk of fall in hospitalized patients. Opinion from seven experts from the field in which 3 of Medical Surgical Nursing, 2 from paediatrics, 1 from psychiatric dept. and 1 from OBs gyne were obtained to establish the content validity of tools. The reliability of the tools is checked through inter rater reliability approach and was found to be 0.80 of Morse scale and 0.70 of FRAT, the tools were found to be reliable.

**Result**

After obtaining permission from the concerned authorities, final study was conducted in month of March 2016.

The data was tabulated, analyzed and interpreted using descriptive and inferential statics on the basis of objectives of the study. The parameters used were range, mean, median, standard deviation, chi square. It describe the sample characteristic of fall risk patients information on demographic and clinical variables on fall risk patients was describe as- age, gender, BMI, vision status, number of lines, blood pressure; systolic & diastolic

**Table 1:** Frequency and Percentage Distribution of Patients on Risk of fall in term of demographic and clinical variables N = 100

| S No. | Variables | f | % |
|---|---|---|---|
| **1** | **Age** | | |
| | 18-40 years | 37 | 37 |
| | 41-60 years | 32 | 32 |
| | 61-80 years | 28 | 28 |
| | >80 years | 3 | 3 |
| **2** | **Gender** | | |
| | Male | 73 | 73 |
| | Female | 27 | 27 |
| **3** | **BMI** | | |
| | Under weight (<18) | 11 | 11 |
| | Normal (18-25) | 73 | 73 |
| | Over weight (25-30) | 14 | 14 |
| | Obese (>30) | 2 | 2 |
| **4** | **Vision status** | | |
| | With glasses | 22 | 22 |
| | Without glasses | 78 | 78 |
| **5** | **No. of lines** | | |
| | 0 | 3 | 3 |
| | 1 | 50 | 50 |
| | 2 | 34 | 34 |
| | 3 or >3 | 13 | 13 |
| **6** | **Blood pressure systolic** | | |
| | Hypotension | 1 | 1 |
| | Normal | 31 | 31 |
| | Pre hypertension | 52 | 52 |
| | Hypertension | 16 | 16 |
| | **Diastolic** | | |
| | Hypotension | 6 | 6 |
| | Normal | 60 | 60 |
| | Pre hypertension | 28 | 28 |
| | Hypertension | 6 | 6 |

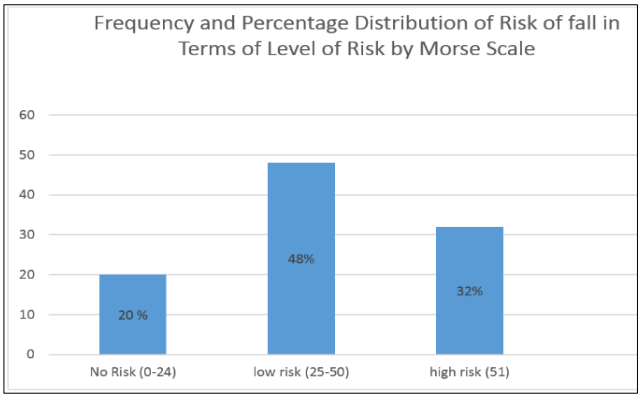
**Table 2:** The finding related to risk of fall of patients score obtained through the Morse scale N = 100

| S No. | ITEMS | f | % |
|---|---|---|---|
| **1** | **History of falling** | | |
| | No | 66 | 66 |
| | Yes | 34 | 34 |
| **2** | **Secondary diagnosis** | | |
| | No | 61 | 61 |
| | Yes | 39 | 39 |
| **3** | **Ambulatory aid** | | |
| | Bed rest/nurse assist | 77 | 77 |
| | Crutches/cane/walker | 15 | 15 |
| | Furniture | 8 | 8 |
| **4** | **IV/Heparin lock** | | |
| | No | 3 | 3 |
| | Yes | 97 | 97 |
| **5** | **Gait/Transferring** | | |
| | Normal/bed rest/immobile | 47 | 47 |
| | Weak | 47 | 47 |
| | Impaired | 6 | 6 |
| **6** | **mental status** | | |
| | Oriented to own ability | 88 | 88 |
| | Forgets limitations | 12 | 12 |

Result reveals that range of risk of fall score in Morse scale was between 10-95 and the mean risk of fall was 45, median was 45 and standard deviation of risk of fall was 21.273. Whereas in finding related to risk of fall of patients score obtained through the FRAT it showed that that risk of fall score in FRAT was between 5-18 and the mean risk of fall was 9.18, medium was 8 and standard deviation of risk of fall was 3.788.

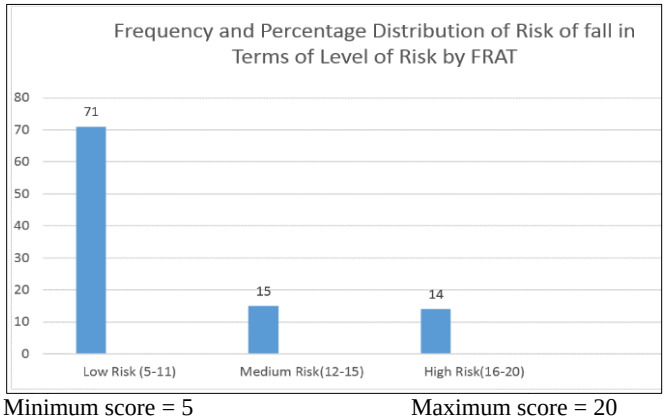
**Table 3:** Findings Related to Risk of fall of Patients score with FRAT N=100

| S No. | Items | f | % |
|---|---|---|---|
| **1** | **Recent Fall** | | |
| | None In Last 12 Months | 66 | 66 |
| | One Or More Between 3-12 Months Ago | 16 | 16 |
| | One Or More In Last 3 Months | 12 | 12 |
| | One Or More In Last 3 Months Whilst Inpatient/ Resident | 6 | 6 |
| **2** | **Medications** | | |
| | Not Taking Any Of These | 50 | 50 |
| | Taking One | 26 | 26 |
| | Taking Two | 23 | 23 |
| | Taking More Than Two | 1 | 1 |
| **3** | **Psychological** | | |
| | Does Not Appear To Have Any Of These | 23 | 23 |
| | Appears Mildly Affected By One Or More | 40 | 40 |
| | Appears Moderately Affected By One Or More | 30 | 30 |
| | Appears Severely Affected By One Or More | 7 | 7 |
| **4** | **Cognitive Status** | | |
| | M-M Score 24 Or More | 47 | 47 |
| | M-M Score 24-15 | 26 | 26 |
| | M-M Score 15-9 | 20 | 20 |
| | m-m score 9 or less | 7 | 7 |




Minimum score =0 Maximum score = 125

**Fig 1:** Frequency and Percentage Distribution of Risk of fall in Terms of Level of Risk by Morse Scale N=100




Minimum score = 5 Maximum score = 20

**Fig 2:** Frequency and Percentage Distribution of Risk of fall in Terms of Level of Risk by FRAT

**Table 4:** Correlation between Mean Morse Score and Mean Frat Score of Patients on Risk of fall N = 100

| Scale | Mean score | Standard deviation (S.D) | Coefficient of correlation R | p value |
|---|---|---|---|---|
| Morse | 45 | 21.273 | 0.857* | 0.205 |
| FRAT | 9.18 | 3.788 | | |

Strong positive coefficient of correlation between mean Morse score and mean frat score of patients on risk of fall is significant at 0.05 level of significance. The computed 'r' value was found to be significant at 0.05 level of significance.

Hence the null hypothesis ($H_{01}$) is rejected and research hypothesis was ($H_1$) accepted.

**Table 5:** Chi Square Showing Association of level of risk of Morse Scale with Selected Variables N=100

| S No. | Variables | No risk | Low risk | High risk | $\chi^2$ | df | p value |
|---|---|---|---|---|---|---|---|
| **1** | **Age** | | | | | | |
| | 18-40 years | 7 | 25 | 5 | | | |
| | 41-60 years | 7 | 12 | 13 | 11.651 NS | 6 | 0.070 |
| | 60-80 years | 4 | 11 | 13 | | | |
| | >80 years | 0 | 2 | 1 | | | |
| **2** | **Gender** | | | | | | |
| | Male | 13 | 37 | 23 | 0.051 NS | 2 | 0.97 |
| | Female | 5 | 13 | 9 | | | |
| **3** | **BMI** | | | | | | |
| | Under weight (<18) | 1 | 4 | 6 | | | |
| | Normal (18-25) | 12 | 41 | 20 | 11.092 NS | 6 | 0.085 |
| | Over weight (25-30) | 5 | 5 | 4 | | | |
| | Obese (>30) | 0 | 0 | 2 | | | |
| **4** | **Vision status** | | | | | | |
| | With glasses | 4 | 11 | 7 | 0.001 NS | 2 | 0.995 |
| | Without glasses | 14 | 39 | 25 | | | |
| **5** | **No. of lines** | | | | | | |
| | **0** | 1 | 2 | 0 | | | |
| | 1 | 15 | 26 | 9 | 21.274* | 6 | 0.001 |
| | 2 | 3 | 18 | 13 | | | |
| | 3 or >3 | 1 | 2 | 10 | | | |
| **6** | **Blood pressure Systolic** | | | | | | |
| | Hypotension | 0 | 0 | 1 | | | |
| | Normal | 6 | 16 | 9 | 8.611 NS | 6 | 0.196 |
| | Pre hypertension | 13 | 26 | 13 | | | |
| | Hypertension | 1 | 6 | 9 | | | |
| | **Diastolic** | | | | | | |
| | Hypotension | 0 | 3 | 3 | | | |
| | Normal | 12 | 31 | 17 | 5.517 NS | 6 | 0.479 |
| | Pre hypertension | 8 | 11 | 9 | | | |
| | Hypertension | 0 | 3 | 3 | | | |

$\chi^2(2) - 5.99$, $\chi^2(6) - 12.59$, NS- not significant

Table 5 indicates computed chi square value of Morse score and selected variables. Table shows that chi square value computed with Morse score and number of lines (31.695) found to be statistically significance.

This reveals that there was significant association of Morse score with clinical variable. So, null hypotheses were rejected and research hypotheses were accepted. Whereas other clinical variables (age, gender, BMI, vision status, blood pressure; systolic & diastolic) were not statistically significant at 0.05 level of significance. Hence the research hypothesis (H2) was partially accepted.

**Table 6:** Chi Square Showing Association of level of risk of FRAT with Selected Variables N=100

| S No. | VARIABLES | Low risk | medium risk | High risk | $\chi^2$ | df | p value |
|---|---|---|---|---|---|---|---|
| **1** | **Age** | | | | | | |
| | 18-40 years | 32 | 4 | 1 | | | |
| | 41-60 years | 20 | 5 | 7 | 10.379 NS | 6 | 0.109 |
| | 60-80 years | 16 | 6 | 6 | | | |
| | >80 years | 2 | 1 | 0 | | | |
| **2** | **Gender** | | | | | | |
| | Male | 53 | 10 | 10 | 50824 NS | 2 | 0.071 |
| | Female | 14 | 9 | 4 | | | |
| **3** | **BMI** | | | | | | |
| | Under weight (<18) | 4 | 3 | 4 | | | |
| | Normal (18-25) | 57 | 10 | 6 | 14.586* | 6 | 0.023 |
| | Over weight (25-30) | 9 | 2 | 3 | | | |
| | Obese (>30) | 0 | 1 | 1 | | | |
| **4** | **Vision status** | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | With glasses | 15 | 4 | 3 | 0.225 NS | 2 | 0.893 |
| | Without glasses | 56 | 11 | 11 | | | |
| **5** | **No. of lines** | | | | | | |
| | **0** | 3 | 0 | 0 | | | |
| | 1 | 44 | 6 | 0 | 31.695* | 6 | 0.00001 |
| | 2 | 21 | 6 | 7 | | | |
| | 3 or >3 | 3 | 3 | 7 | | | |
| **6** | **Blood pressure Systolic** | | | | | | |
| | Hypotension | 1 | 0 | 0 | | | |
| | Normal | 24 | 5 | 2 | 14.732* | 6 | 0.022 |
| | Pre hypertension | 38 | 9 | 5 | | | |
| | Hypertension | 8 | 1 | 7 | | | |
| | **Diastolic** | | | | | | |
| | Hypotension | 4 | 1 | 1 | | | |
| | Normal | 46 | 9 | 5 | 5.896 NS | 6 | 0.434 |
| | Pre hypertension | 17 | 5 | 6 | | | |
| | Hypertension | 4 | 0 | 2 | | | |

$\chi^2(2) - 5.99$, $\chi^2(6) - 12.59$, NS- not significant

Table 6 reveal that computed chi square value of FRAT score and selected variables. Table shows that chi square value computed with FRAT score and BMI (14.586), number of lines (31.695), blood pressure; systolic (14.732) were found to be statistically significance.

This reveals that there was significant association of FRAT score with selected variable. So, null hypotheses were rejected and research hypotheses were accepted. Whereas other variables (age, gender, vision status, blood pressure diastolic) were not statistically significant at 0.05 level of significance. Hence the research hypothesis (H2) was partially accepted.

## Discussion

Fall is sudden uncontrollable downward movement of the body to the ground that may or may not be result in injury which many patients experienced during hospitalization. Therefore the present study was undertaken to assess risk of fall by using Morse scale and FRAT on patients admitted in selected hospital. The purpose of study was to assess risk of fall among patients admitted in selected hospital

In present study a significant association between BP and risk of fall ($\chi^2 = 14.7325, p=0.022^*$) was found, the findings of the study was inconsistent with the study conducted by *Diana Klein et al*. (2013), in which no significant association between BP as a continuous or a dichotomous variable & fall was found.

In present study no significant association was found between DBP & risk of fall (by FRAT) ($\chi^2 = 5.517$, p = 0.47), the findings of the study was the consistent with the study conducted by *Kario* in which DBP was no related to falls. The majority of patients 52% were pre hypertension, followed by 31% were normal, 16% were hypertension and 1% were hypotension.

## Summary

### Nursing implications

A protocol should be executed for identifying patients who are at risk of fall.Nurse must assess the risk of fall by using Morse scale and FRAT.Nurse must communicate patient's status to the staff nurse on designated.

Nurse should provide ongoing education to the family and other staff member regarding prevention of fall. Nurse must ensure the safety measures for prevention of fall during hospitalization.

In service education should be planned for the nurses to upgrade their knowledge about current and acceptable practices for preventing fall In clinical area risk of fall assessment should be assigned to students and they should be involved in assessment of risk of fall of patients with the help of Morse scale and FRAT. Use of fall risk tool should be monitored and evaluated as part of the organizations quality management program Nurses can provide bell to the patients under risk of fall so that they can give indication regarding their fall injury. The study was confined to small group that is not according to power analysis this limit the generalization of study. The study was restricted to 100 patients due to time constraint.

## Conclusion

Final study was conducted in emergency unit, I.C.U. & I.C.C.U. 100 patients data was collected through convenience sampling. The data shows that mean score of Morse 45, mean score of FRAT 9.18.

32% of patients were in high risk according to Morse scale and 71% of patients in low risk by FRAT.

There was the association of risk of fall with selected clinical variables like BMI, number of lines & blood pressure systolic

There was significant correlation between Morse and FRAT score of patients on risk of fall.

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