



PATIENT SAFETY: FALL RISK IN HOSPITAL INTERVENTION UNITS

¹Micaela Knebel Sides, ²Cleci Lourdes Schmidt Piovesan-Rosanelli, ^{3,*}Marinês Tambara Leite, ⁴Leila Mariza Hildebrandt, ⁵Eliane Roseli Winkelmann, ⁶Cíntia Cristina Oliveski, ⁷Elisângela Oleiniczak, ⁸Sandra da Silva Kinalski and ⁹Susane Flôres Cosentino

¹Nurse, Graduated from the Nursing Course of the Regional University of the Northwest of the State of Rio Grande do Sul UNIJUÍ, (RS). Brazil

^{2,3,4}Nurse, Professor, PhD. Federal University of Santa Maria, UFSM. Palmeira das Missões (RS), Brazil

⁵Physiotherapist, Professor, PhD. Regional University of the Northwest of the State of Rio Grande do Sul UNIJUÍ, (RS). Brazil

⁶Nurse, Specialist, Professor, Federal University of Santa Maria, UFSM, Palmeira das Missões (RS), Brazil ⁷Nurse, Specialist, Association of Charity Hospital of Ijuí, HCI. Ijuí (RS), Brazil

⁸Nurse. Master's student in the Master's Degree in Integral Health Care, Professor at the Federal University of Santa Maria, Campus Palmeira das Missões, Ijuí, RS, Brazil

⁹Nurse, Professor, PhD, Federal University of Santa Maria, UFSM, Palmeira das Missões (RS), Brazil

ARTICLE INFO

Article History:

Received 29th December, 2017
Received in revised form
10th January, 2018
Accepted 22nd February, 2018
Published online 30th March, 2018

Key Words:

Nursing; Patient safety;
Accidents by falls; Risk factors.

ABSTRACT

Objectives: to identify the risk of falls in hospitalized patients in open hospitalization units; to compare the risk of falls among different open hospitalization units; to classify patients regarding the risks of hospital stay.

Method: cross-sectional, quantitative study using Morse Fall Scale (MFS). A total of 105 individuals participated. The data were submitted to statistical analysis with the aid of the Statistical Package for the Social Sciences (SPSS) version 18.0, presented in absolute and relative frequencies, mean and standard deviation.

Results and discussions: The elderly had a mean age between 71 and 80 years old, with predominance of married, with children, retired, incomplete elementary school, Catholics and attended by the Unified Health System. There was no differentiation for risk of falls when compared to the sexes, with similar results among the six items on the scale. The total score of the sample presented moderate risk for falls.

Conclusion: the results are fundamental indicators for the prevention of diseases and health promotion with higher quality in the care provided.

Copyright © 2018, Micaela Knebel Sides et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Micaela Knebel Sides, Cleci Lourdes Schmidt Piovesan-Rosanelli, Marinês Tambara Leite et al., 2018. "Patient safety: fall risk in hospital intervention units", *International Journal of Development Research*, 8, (03), 19638-19643.

INTRODUCTION

Patient safety consists in minimizing the risk of unnecessary harm associated with health care actions. This is because, given the complexity of procedures and treatments to which the patient is commonly subjected, there is a real potential for damages to his health condition (Brazil, 2014).

*Corresponding author: Marinês Tambara Leite, Nurse, Professor, PhD. Federal University of Santa Maria, UFSM. Palmeira das Missões (RS), Brazil.

The damages to the health are denominated of unintentional, since they can result from the care given to the patient and are not associated with the natural course of the underlying disease. Such events can result in injury, death, or prolongation of hospital stay. Out of every ten people who need health care, at least one suffers from the treatment or procedure received (WHO, 2006-2007). Thus, the occurrence of adverse events indicates failures in patient safety, reflecting the marked distancing between actual and ideal care. In view of the high number of damages associated with the interventions performed in the different health care spaces, we have now worked on the perspective of reducing them.

The World Health Organization (WHO) recommends that the risk of harm be reduced to the "minimum acceptable". It considers actions that consider the present knowledge, the availability of resources and the context in which the attention is given. This means that patient safety involves the reduction of unsafe interventions in the care process and the use of practices that make it possible to achieve the best possible outcomes for the person receiving the care (WHO, 2007). Thus, the patient's safety aims to benefit him through the application of protocols and assistance practices, which seek to reduce the number of interurrences and damages to patients. To this end, WHO establishes the use of different protocols and among them is the prevention of falls, especially to patients who are hospitalized. The implementation of a protocol with such characteristics aims at reducing the frequency of falls and their complications, by adopting measures that include risk assessment, multi professional care, safe environment and provide education to the patient, family and professionals, paying attention to the maintenance of the dignity of the patient (Brazil, 2013).

The fall consists of an abrupt displacement of the body to a position lower than the initial one, caused by different multi factorial situations, resulting or not, in injury (WHO, 2007). Falls in all health settings are considered to be adverse events of preventable causes. Hospitalization increases the chances of this occurrence in adults. The elderly are more likely to suffer damage related to them, which increase hospital costs and length of stay in institutions (Abreu, 2012; Dykes *et al.*, 2012). It is also worth noting that other factors contribute to the increase in the possibility of falls: the hospital environment, in which the patient recognizes him as strange; the presence of pathologies, which compromise balance, motor coordination and cognitive functioning; and the use of medicines that alter the balance. It is worth noting that the fall event has a negative impact on patient mobility, resulting in fear of falling, anxiety, depression. These feelings, in turn, increase the chances of a new occurrence of falls (Brazil, 2013).

The Morse Fall Scale (MFS) is one of the validated instruments that assess the risk of fall. It was constructed by Janice Morse in 1989, based on a study carried out in 16 care units of two institutions evaluating the risk of falls (geriatrics and rehabilitation, acute medical and surgical areas in the long term), with 2,689 patients during a period of four months, performing daily evaluation with the MFS. The differences in mean fall scores were evident between the acute and long term care areas in the rehabilitation areas. The analysis of the scores in the acute care area showed different patterns of risk of falls. The mean score of long-term patients presented lower variation and higher scores. The falls were analyzed by punctuation and fall type.

As the unexpected and accidental physiological falls and the severity of the injuries increased, consequently there was an increase in the score, indicating clinical validity of the scale (Morse, 1997). In this way, the importance of the development of this study that addresses the theme in question is highlighted, which may serve as a subsidy for the planning of actions aimed at preventing falls in the hospital setting. In this context, the objectives of this investigation were: to identify the risk of falling in patients hospitalized in open hospitalization units; to compare the risk of falls among different open hospitalization units; to classify patients regarding the risks of falling in the hospital setting.

MATERIALS AND METHODS

A cross-sectional, quantitative study performed in a general hospital of burden IV, located in a municipality in the northwest region of Rio Grande do Sul. 105 patients, who were hospitalized in units of Clinical Surgery, Medical Clinic and General Clinic participated. The subjects were selected from the registry of patients hospitalized in the respective units. To calculate the sample and verify its representativeness, the formula:

$$n = \frac{Z_{\alpha/2}^2 \cdot \hat{p} \cdot \hat{q} \cdot N}{e^2 (N-1) + Z_{\alpha/2}^2 \cdot \hat{p} \cdot \hat{q}}$$

In which:

" $Z^2(\alpha/2)$ " is the tabulated value (1,96)

"p" is the estimated percentage

"q=1-p" is the complement of p

"e" is the sampling error

" α " is the level of significance.

Based on an estimated percentage of 0.5%, a sampling error of 0.05 and a 95% confidence interval, a sample of 105 patients was estimated. The Morse Fall Scale (MFS), translated and adapted to the Portuguese language of Brazil by Urbanetto *et al.*, (1), and the risk criteria are as follows: history of falls, secondary diagnosis, ambulatory assistance, intravenous therapy / saline or heparinized endovenous device, gait and mental state (Rocha *et al.*, 2013). Each criterion evaluated receives a score varying from 0 to 30 points, totaling a risk score, classified as: low risk of 0 - 24; mean risk of 25-44; high risk ≥ 45 (Morse, 1997). It is noteworthy that the use of this instrument was authorized by the authors who translated it and adapted it into the Portuguese language of Brazil. An instrument developed by the researchers was also used to obtain sociodemographic data such as sex, age, marital status, occupation, schooling and religion. The inclusion criteria of the participants in the study were: to be older than 18 years; both sexes; be hospitalized in one of the open units within the first 24 hours, regardless of the diagnosis that led to hospitalization; have a cognitive and verbal condition to be interviewed and, if it is not possible, have a person who has been accompanying him for at least three months to respond to the research instrument.

The data collection took place in August and September 2014. The research was approved by the Research Ethics Committee, by means of consolidated opinion n° 784.232 of 09/03/2014. The data was typed in excel spreadsheet, errors and appropriate inconsistencies. The Statistical Package for the Social Sciences (SPSS) version 18.0 was used for analysis and presented in absolute and relative frequencies, mean and standard deviation. In the evaluation of the normality of the variables the Kolmogorov-Smirnov test was applied. Pearson's test (parametric variables) and Spearman's test (non-parametric variables) were used to correlate the variables, being considered statistically significant $p \leq 0.05$.

RESULTS

The sample consisted of 105 patients, 52.38% male and 47.62% female. The male age range was 61 to 80 years and the female age was between 41 and 80 years old. The level of schooling presented a higher percentage in elementary school

incomplete, with 60.95%. The retirees made up the largest percentage, 48.57% in relation to the other occupations. They were married 37.13% of the male patients and 30.48% of the female sex, constituting 67.61% of the total participants. The Catholic religion prevailed in 68.57% among the participants. In relation to the children, both men and women reported having, constituting 82.86% of the sample surveyed. Access to the health service was performed through the Unified Health System (SUS) by 88.57% of the participants, in both sexes. This condition is due to the fact that the Clinical Surgical Unit I, with 24 beds, and the Clinical Medical Unit IIB, which has 33 beds, are accredited to exclusively meet the SUS demands.

In addition, the General Inpatient Unit, 5th floor, 26 hospital beds and six hospital beds, also attends other agreements, such as: State Pension Institute (IPE), Caixa do Brasil (CASSI) Private, Unimed Cooperative Business System (Unimed), Army Health Fund (Fusex), Assistance Box for Employees of the Regarding the risk of falls, the male sample presented a higher history for falls (20.4%), with the highest percentage occurring in the Medical Clinic Unit (18.6%) in both sexes. Regarding the presence of associated secondary diagnosis, 58.4% of the patients had one or more comorbidities and 7% had some alteration in their mental state.

Table 1. Distribution of study participants, according to sociodemographic characteristics, Ijuí/Rio Grande do Sul - Brazil, 2014

Age group	Male(n=55-52,38%)	Female(n=50-47,62%)	Total (n=105-100%)	P
18 – 60	21 (20.01)	29 (27.62)	50(47.63)	-
61 – 70	13 (12.38)	9 (8.57)	22(20.95)	-
71 – 80	16 (15.23)	9 (8.57)	25(23.80)	-
81 – 90	5 (4.76)	3 (2.86)	8(7.62)	-
	60.36±19.11	54.54±18.06	53.59±18.76	0.048£*
Education				
Complete/incomplete Elementary	42(40.01)	29 (27.61)	71(67.62)	-
Complete/incomplete Highschool	7 (6.67)	12 (11.43)	19(18.1)	-
Complete/incomplete Higher education	4 (3.80)	3 (2.85)	7(6.65)	-
Illiterate	2 (1.90)	3 (2.86)	5(4.76)	-
Tecnical education	0 (0)	3 (2.86)	3(2.86)	-
Occupation				
Retired	32 (30.48)	19 (18.09)	51 (48.57)	-
Clerk	4 (3.81)	10 (9.52)	14 (13.33)	-
Liberal professional	9 (8.57)	3 (2.86)	12 (11.43)	-
Public worker	1 (0.95)	4 (3.81)	5 (4.76)	-
Farmer	9 (8.57)	3 (2.86)	12 (11.43)	-
Housewife	0 (0)	11 (10.48)	11 (10.48)	-
Marital Status				
Single	6 (5.72)	5 (4.76)	11 (10.48)	0.261†
Divorced	3 (2.86)	3 (2.86)	6 (5.72)	-
Married	39 (37.13)	32 (30.48)	71 (67.61)	-
Widower	3 (2.86)	9 (8.57)	12 (11.43)	-
Stable union	4 (3.81)	1 (0.95)	5 (4.76)	-
Religion				
Catholic	38 (36.19)	34 (32.38)	72 (68.57)	0.862*
Evangelical	12 (11.43)	11 (10.47)	23 (21.90)	-
Other religion	5 (4.76)	5 (4.76)	10 (9.52)	-

†: Fisher exact test; £: U Test– Mann Whitney; *: p≤0,05, statistically significant.

±: Mean and standard deviation.

°: Pearson's Qui-Square test.

Table 2. Distribution of the participants, according to the risk of fall, based on the MFS, Ijuí/Rio Grande do Sul - Brazil, 2014

Morse Fall Scale	Points	Male n(%)	Female n(%)	Total (%)	P
History of falls					0.155°
No	0	43 (79.6)	44 (89.8)	87 (84.5)	
Yes	25	11 (20.4)	5 (10.2)	16 (15.5)	
Secondary Diagnosis					0.109°
No	0	26 (49.1)	16 (33.3)	42 (41.6)	
Yes	15	27 (50.9)	32 (66.7)	59 (58.4)	
Ambulation Help					0.089†
None / Bedridden / Helped by Health Professional	0	34 (73.9)	40 (87)	74 (80.4)	
Crutch / Bengal / Walker	15	9 (19.6)	2 (4.3)	11 (12)	
Furniture / Wall	30	3 (6.5)	4 (8.7)	7 (7.6)	
Endovenous therapy - salinized or heparinized endovenous device					
No	0	2(3.7)	2(4)	4(3.8)	1000 T
Yes	20	52(96.3)	48(96)	100(96.2)	
March					
Normal / no ambulation, bedded, wheelchairs	0	29 (61.7)	34 (73.9)	63 (67.7)	0.408°
Weak	10	12 (25.5)	7 (15.2)	19 (20.4)	
Committed, Wavering	20	6 (12.8)	5 (10.9)	11 (11.8)	
Mental state					0.439†
Oriented / able as its capacity / limitations	0	49 (90.7)	48 (96)	97 (93.3)	
Overestimate Capacity / Forget Limitations	15	5 (9.3)	2 (4)	7 (6.7)	

°: Pearson's Chi-Square test; †: Fisher exact test; §: Tukey test; £: K independent; *: p≤0,05, statistically significant. Morse Fall Scale (Morse, 1997; Urbanetto et al. 2013).

Table 3. Distribution of the participants according to classification by units regarding the risk of fall. Ijuí/Rio Grande do Sul – Brazil, 2014

Inpatient Units	Points	Surgical clinic (n=38)	Medical clinic (n=44)	General Clinic (n=23)	Total (n=105)	P
History of falls						0.562 ^e
No	0	34 (89.5)	35 (81.4)	18 (81.8)	87 (84.5)	
Yes	25	4 (10.5)	8 (18.6)	4 (18.2)	16 (15.5)	
Secondary Diagnosis						0.405 ^e
No						
Yes	0	16 (47.1)	15 (34.1)	11 (47.8)	42 (41.6)	
	15	18 (52.9)	29 (65.9)	12 (52.2)	59 (58.4)	
Ambulation Help						0.265 [†]
None / Bedridden / Helped by Health Professional						
Crutch / Bengal / Walker	0	25 (86.2)	33 (76.7)	16 (80)	74 (80.4)	
Furniture / Wall	15	4 (13.8)	6 (14)	1 (5)	11 (12)	
	30	0 (0)	4 (9.3)	3 (15)	7 (7.6)	
Endovenous therapy - salinized or heparinized endovenous device						1.000 [†]
No	0	1 (2.6)	2 (4.7)	1 (4.3)	4 (3.8)	
Yes	20	37 (97.4)	41 (95.3)	22 (95.7)	100 (92.2)	
March						0.414 [†]
Normal / no ambulation, bedded, wheelchairs						
Weak	0	22 (75.9)	26 (60.5)	15 (71.4)	63 (67.7)	
Committed, Wavering	10	3 (10.3)	11 (25.6)	5 (23.8)	19 (20.4)	
	20	4 (13.8)	6 (14)	1 (4.8)	11 (11.8)	
Mental state						0.784 [†]
Oriented / able as its capacity / limitations						
Overestimate Capacity / Forget Limitations	0	36 (94.7)	39 (90.7)	22 (95.7)	97 (93.3)	
	15	2 (5.3)	4 (9.3)	1 (4.3)	7 (6.7)	
Total		34.47±18.67	44.43±20.86	39.67±21.10	39.76±20.43	0.069 [£]

Regarding the question of progress, in the comparative analysis between hospitalization units, the Medical Clinic Unit had the highest number of patients with some impairment or reeling gait. Regarding the use of intravenous devices, 92.2% of the patients used intravenous or intermittent therapies. Regarding the history of falls, it was identified that 84.5% of the interviewees, of both sexes, did not report falls in the last three months. For the secondary diagnosis, 41.6% of the patients did not present more than one medical diagnosis. The other investigated patients (58.4%) had a score equal to 15 points, that is, more than one medical diagnosis. In relation to walking aid, 80.4% used auxiliary equipment (walking stick, walker or crutches), help of health professionals to wander, wheelchair or bed rest and not leave the bed alone. Regarding the use of intravenous therapy or heparinized / salinized endovenous device, it was identified that 96.2% used it. Regarding the mental state, 93.3% of the investigated ones were oriented about their capacity / limitation to wander alone.

DISCUSSION

In this research, the sum of all MFS items resulted in a score of 39,76± 20,43, receiving the moderate risk classification for fall. The results for the different evaluated items differ little from one hospitalization unit to another, among those surveyed. The Surgical Clinic unit had an average of 34,47±18,67, the Medical Clinic unit 44,43±20,86 and the general hospitalization unit 5th Floor 39,67±21,10. The total average of all of them scored 39,76±20,43. There are several risk factors that can cause a fall. Morris (2004) attributes recurrent falls to intrinsic factors, while sporadic ones are more associated with environmental factors and / or decreased attention. The intrinsic factors are related to the subject itself, age, schooling and, also, to be associated with a reduction of the function of the systems that make up the postural control,

diseases, behavioral and cognitive disorders, that make it impossible to maintain or recover the balance when necessary. The environment, such as lighting, irregular or smooth surface to roam, loose carpets, high and / or narrow steps, are related to extrinsic factors (Morris, 2004; Almeida *et al.*, 2012). The mean age of the participants in this study was 53,59±18,76. Most of them were elderly, that is, over 60 years old (52.37%). As for sex, it was identified that there is similarity in relation to the incidence of falls between men and women. These data differ from other studies (Trindade, 2014; Remor *et al.*, 2014). One of them evaluated the causes of hospital admission of adult patients and the authors found a percentage of 40% of female inmates and 60% of males and the age ranged from 18 to 59 years, with a prevalence (51.6%) of those in the age group of 18 to 39 years (Trindade, 2014). The other study, conducted by Remor *et al.* (2014), also identified that the highest percentage of falls was among male patients. Already in research, conducted by Kalsing *et al.* (2016), who analyzed the risk factors for falls in the elderly hospitalized in a tertiary hospital in southern Brazil, showed that the higher the age, the higher the risk of falls, and the risk of falling to 87% among those aged over 80 years. Regarding schooling, it was identified that 60.95% of the participants reported having attended elementary school incomplete. Such evidence is associated with the history of falls in 15.5% of the patients studied. Although it does not seem to have an interface with falls, this condition may contribute to the occurrence of this event. Carneiro *et al.* (2016) in his research interviewed the elderly in the 60 and 98 age group and found a representation of 50.2% who studied for a period of less than 4 years, and of these, 71.7% reported being afraid of suffering a fall. In addition, aspects related to cognitive deficit are also associated. A study by Cruz *et al.* (2015), points out that the occurrence of falls was greater in people who had some cognitive deficit. In addition, people with lower educational

level have lower values in the exam, which can be associated with the occurrence of falls, explained by the decrease in executive function, attention and memory. A study by Abreu *et al.* (2012), the falls with physiological antecedents predominated, since the causes were mostly due to intrinsic factors, namely confusion, agitation, decreased muscle strength, gait limitations and lipothymia, which were considered relevant aspects for the risk of falling. Regarding gait, 67.7% of the patients presented within normal parameters (with an upright head, arms swinging freely at the side of the body and wide steps without hesitation). Although in a study by Abreu *et al.* (2015) compromised equilibrium and gait conditions were predictive variables for falls. Severo *et al.* (2014) performed an integrative review of the risk factors for falls and verified that the studies indicate extrinsic, environmental or work-related risk factors and intrinsic risk factors related to the patient. The predictors of patient-related falls identified in the studies are mostly relative to the level of consciousness, such as confusion, dementia, disorientation, cognitive disorders, and delusions. In addition, aspects related to patient mobility, such as loss of balance, gait difficulty and sensory impairment. However, these authors point out that there are still no studies that point out and characterize in a concrete way the predictive factors of falls. Several factors are considered to be extrinsic factors that contribute to the occurrence of falls in hospitalized patients.

Among them are the environment and those linked to the work process. In this study, the presence of intravenous / saline / heparinized therapy was present in most patients (92.2%), constituting an extrinsic risk factor. A study by Pasa *et al.* (2017), when assessing the risk for falls in hospitalized adult patients and to verify the incidence of the event in this environment during a 30-day follow-up, identified that 92.8% presented device use on at least one of the days of investigation. Also, factors such as: use of medications (antidepressants, benzodiazepines, antihypertensives), syncope, postural hypotension, bladder and / or intestinal incontinence, balance disorders, motor and sensory deficit, lack of safety in the environment and previous occurrence of falls, are responsible if they constitute risk of falls (Rubenstein, Josephson, 2006; Diccini *et al.*, 2008). The elderly and residents in specific institutions and communities are the most predisposed individuals to falls. Attempts to perform unassisted activities, especially those related to elimination, were responsible for a high proportion of falls during a hospital stay (Hitcho *et al.*, 2004). Many falls occurred as a result of the patient having no assistance to leave the bed and, also, in the bathroom space Bortoli *et al.* (2015). Urinary problems and use of diuretics were not associated with the presence of falls due to the need for elimination. However, age above 65 years was considered a predisposing factor (Hitcho *et al.*, 2004), being in line with the mean age found in this study, which focused on the age group of 71-80 years.

According to Dykes *et al.* (2012), based on the number of patients discharged from US hospitals in 2008, the drop rate during hospitalization was approximately 2.5 million elderly people, and of these, about 200,000 suffered some injuries. A study that sought to identify the incidence and characteristics of falls of hospitalized adult patients in hospitalization and emergency units found that the physiological changes associated with advanced age are one of the main risk factors for falls and for injuries resulting from these events. In addition, impaired physical mobility, postural instability,

reduced functional, cognitive and visual capacity and the concomitant use of several drug classes are indicated as important predictors of falls (Prates *et al.*, 2014). In the present study, it was identified that falls of greater occurrence were in the morning shift, but there were significant values also at night, in which the number of professionals was reduced. During the night, the number of professionals is usually reduced and with this, vigilance and visits to the beds decrease, resulting in an increase in susceptibility to fall. The unknown location and the fact that the night shift is seen as a period of silence and darkness, the patient feels embarrassed to ask for help from the professionals, resulting in an increased chance of falling (Abreu *et al.*, 2012). The physical structure can be a factor that contributes to the risk of falling. Vaccari *et al.* (2014) carried out a study in three hospitalization units of a hospital that found that 100% of the beds had protective grids and lockable wheels, being in conformity standard for this equipment. However, 1.6% of them were unlocked. In all environments there was individual head light, but the location of the light was not easily accessible to the patient, both in the height and in the positioning of the switch. And yet, 11% of bedside spots did not work, either for lack of light bulb or electrical problems. The bell was identified in all beds and toilets, however, 18.1% were not close to the patient, which made it impossible to reach for care.

The space of circulation and organization of the environment also contributes to patient safety. However, a survey that evaluated hospitalization units identified that 96.1% of the rooms had sliding furniture without locks (bedside table), that 10.2% of patients did not have easy access to their belongings and 19.7% of them access to the bathroom was not free of objects, since there were presences of armchairs, sinks and garbage containers (Vaccari *et al.*, 2014). A study carried out in a surgical clinic of a university hospital in Goiânia analyzed from the systematic reading of nursing notebooks, records that showed the occurrence of an adverse event in five years. In the analyzed period indicated a prevalence of 19.05% of adverse events, in which 100% of them were falls. Among them, 75.51% occurred from bed, 12.24% from height, 10.20% occurred in the bathroom and 2.04% from maca (Carneiro *et al.*, 2011). Meeting the needs of patient safety and comfort are some of the actions that should be observed during hospitalization. To that end, managers of health institutions must accept such a challenge and satisfy their clientele in a satisfactory way. In this scenario, management is based on indicators of quality of care that can be evaluated, allowing a comparative analysis of the real facts and the goals (Meneguim *et al.*, 2014). Thus, using tools to identify risk of falls in hospitalized patients such as MFS is preponderant, since from the results, nurses can propose / implement strategies to prevent them in order to promote patient safety in the hospital environment. These strategies need to involve all health professionals, especially nursing, patients and family members, as well as being aware of the risk factors that predispose falls.

Conclusion

In our study, the incidence of falls was moderate, indicating the need for health professionals, especially nursing, to raise awareness about the risks that may lead to the occurrence of this event in a hospital setting. The knowledge of the associated risks can contribute to the implementation of preventive measures, since they are, in part, factors of intervention in the search for a safe care.

REFERENCES

- Abreu, C., Mendes, A., Monteiro, J. and Santos, F.R. 2012. Queda em meio hospitalar: um estudo longitudinal. *Revista Latino-Americana de Enfermagem*, 20(3):1-7.
- Abreu, H.C.A., Reiners, A.A.O., Azevedo, R.C.S., Silva, A.M.C., Abreu, D.R.O.M. and Oliveira, A.D. 2015. Incidência e fatores preditores de quedas de idosos hospitalizados. *Rev Saúde Pública*. 49(37):1-9. Disponível em: http://www.scielo.org/pdf/rsp/v49/pt_0034-8910_rspS003489102015049005549.pdf
- Almeida, S.T., Soldera, C.L.C., Carli, G. A., Gomes, I. and Resende, T.L. 2012. Análise de fatores extrínsecos e intrínsecos que predispõem a quedas em idosos. *Rev. Assoc. Med. Bras*. 58(4): 427-33.
- Bortoli, C.G., Piovezan, M. R., Piovesan, E. and Juliato, Z.M.B. 2015. Equilíbrio, quedas e funcionalidade em idosos com alteração da função cognitiva. *Rev. bras. geriatr. gerontol.* 18(3): 587-597. Disponível em: <http://dx.doi.org/10.1590/1809-9823.2015.14057>.
- BRASIL. Ministério da Saúde. Documento de referência para o Programa Nacional de Segurança do Paciente. Brasília/DF, 2014.
- BRASIL. Ministério da Saúde. Protocolo prevenção de quedas. Brasília/DF, 2013.
- Carneiro, F.S., Bezerra, A.L.Q., Silva, A. L. B., Souza, L. P. and Paranaguá, T. T. B. 2011. Eventos adversos na clínica cirúrgica de um hospital universitário: instrumento de avaliação da qualidade. *Rev. enferm. UERJ*. 19(2):204-211.
- Carneiro, J.A., Ramos, G.C.F., Barbosa, A.T.F., Vieira, E.D.C. and Silva, J.S.R. 2016. Quedas em idosos não institucionalizados no norte de Minas Gerais: prevalência e fatores associados. *Rev. Bras. Geriatr. Gerontol.* 19(4):613-25.
- Coutinho, E.S.F. and Silva, S.D. 2002. Uso de medicamentos como fator de risco para fratura grave decorrente de queda em idosos. Medication as a risk factor for falls resulting in severe fractures in the elderly. *Cad. Saúde Pública*. 18(5):1359-1366.
- Cruz, T.C., Cruz, F.M., Ribeiro, A.L., Veiga, C.L. and Leite, I.C.G. 2015. Associação entre capacidade cognitiva e ocorrência de quedas em idosos. *Rev. Cad. Saúde Colet.* 23(4):386-393.
- Dicini, S., Pinho, P.G. and Silva, FO. 2008. Avaliação de risco e incidência de queda em pacientes neurocirúrgicos. *Rev. Latino-Am. Enfermagem*. 16(4):752-757.
- Dykes, P.C., I-Ching, E.H., Soukup, J.R., Chang, F. and Lipsitz, S.A. 2012. Case Control Study to Improve Accuracy of an Electronic Fall Prevention Toolkit. *AMIA Annu Symp Proc*. 3:170-179.
- Hitcho, E.B., Krauss, M.J., Birge, S., Dunagan, W.C. and Fischer, I. 2004. Characteristics and circumstances of falls in a hospital setting: a prospective analysis. *J Gen Intern Med*. 19(7):732-739.
- Kalsing, A., Oliveira, G.G., Silva, I.S., Neris, J.C.D. and Knorst, M. R., et al. 2016. Análise de fatores de risco de queda em idosos internados em um hospital terciário no sul do Brasil. *RBCEH*. 13(1): 48-60.
- Moreira, M.D., Costa, A.R., Rodrigues, F.L. and Caldas, C.P. 2007. The association between nursing diagnoses and the occurrence of falls observed among elderly individuals assisted in an outpatient facility. *Rev Lat Am Enfermagem*. 15(2): 311-317.
- Morris, M. et al. 2004. Predisposing factors for occasional and multiple falls in older Australians who live at home. *The Australian Journal of Physiotherapy*. 50(3): 153-159.
- Morse, J. 1997. Preventing patient falls. Thousand Oaks: Sage.
- Pasa, T.S., Magnago, T.S.B.S., Urbanetto, J.S., Baratto, M.A.M., Morais, B.X. and Carollo, J.B. 2017. Risk assessment and incidence of falls in adult hospitalized patients. *Rev. Latino-Am. Enfermagem*. 25: 2862. doi: <http://dx.doi.org/10.1590/1518-8345.1551.2862>.
- Prates, C.G., Luzia, M.F., Ortolan, M.R., Neves, C.M. and Bueno, A.L.M. 2014. Guimarães, F. Quedas em adultos hospitalizados: incidência e características desses eventos. *Cienc Cuid Saude*. 13(1): 74-81.
- Remor, C.P., Cruz, C.B. and Urbanetto, J.S. 2014. Análise dos fatores de risco para queda de adultos nas primeiras 48 horas de hospitalização. *Rev Gaúcha Enferm*. 35(4): 28-34.
- Rocha, F.L.R. and Marziale, M.H.P. 1998. Perception of Nurses about falls of hospitalized patients. *R. Gaúcha Enferm*. 19(2): 132-141.
- Rocha, H.B., Samuel, R.C.F., Lahti, A.L. and Azevedo, R.C. et al. 2013. Avaliação do risco de quedas em adultos hospitalizados conforme a *Morse Fall Scale* traduzida para a língua portuguesa. *Revista da Graduação*. 6(1): 1-7.
- Rubenstein, L.Z. and Josephson, K.R. 2006. Falls and their prevention in elderly people: what does the evidence show? *Med Clin North Am*. 90(5): 807-824.
- Severo, I.M. et al., 2014. Fatores de risco para quedas em pacientes adultos hospitalizados: revisão integrativa. *Rev. esc. enferm. USP*. 48(3): 540-554.
- Trindade, N.R.N., Menandes, A.S., Toledo, O.R., Moraes, E.V. and Ferrari, C.K.B. 2013. Causes of hospital admission in adults from municipality of Legal Amazon, Brazil. *J Manag Prim Health Care*. 4(2): 70-76.
- Urbanetto, J.S., Creutzberg, M., Franz F., Ojeda B.S., Gustavo, A.S. and Bittencourt, H.R. 2013. *Morse Fall Scale*: tradução e adaptação transcultural para a língua portuguesa. *Rev Esc Enferm USP*. 47(3):569-75. Disponível em: http://www.scielo.br/pdf/reeusp/v47_n3/0080-6234reeusp-47-3-00569.pdf.
- Vaccari, E., Lenardt, M.H., Willig, M.H., Betiolli, S.E. and Oliveira, E.S. 2014. Safety of the hospital environment in terms of preventing falls on the part of the elderly: a descriptive study. *Online braz j nurs*. 13(3): 271-281.
- Vieira, K.F.L., Baiá, R.V., Lucena, A.L.R., Delgado, A.R.T. and Oliveira, L.B. 2017. Prevalência e preocupação com o risco de quedas em idosos comunitários. *Rev enferm UFPE on line*. 11(1): 351-357.
- WHO. 2002. Quality of care: patient safety. Geneva: WHO.
- World Health Organization, 2007. World Alliance for Patient Safety. Forward program 2006-2007: WHO.
- World Health Organization. 2007. Global report on falls prevention in older age. Geneva: WHO.
- Zordan, E.P., Falcke, D. and Wagner, A. 2009. To marry or not to marry? Motives and expectations in relation to marriage. *Psicologia em Revista*, 15(2): 56-76.