Future Academy®'s Multidisciplinary Conference

Improving the evaluation of risk of fall through clinical supervision: an evidence

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Abstract

Falls are frequent adverse hospital events and the second accidental cause of death worldwide. In previous research we identified that nurses have difficulties in the application of the Morse Fall Scale (MFS) and in the falls prevention protocol. A quantitative, descriptive and correlational study was conducted with the purpose to improve nurses' skills to evaluate patients' risk of fall and to improve patient safety and the quality of nursing care through the implementation of a clinical supervision (CS) model. We had a convenience sample constituted by 132 patients who were hospitalized between the 19th of March and the 19th of May 2014. We collected data through several procedures such as the application of a questionnaire to assess the risk of fall and the parameterization defined in the nursing records system. The MFS was correctly applied in 69,2% and the risk of fall was monitored each 48hours in 98,5% of the cases while in the previous research only in 33,3% and 84,1% this happened respectively. With this study we point out the improvement in the assessment and monitoring of the risk of fall with the MFS and its relationship with the implemented CS model.

Keywords: Clinical Supervision; Patient Safety; Quality of Care; Nurses; Risk of Fall; Morse Fall Scale

1. Introduction

It is undeniable that our society is constantly in cultural, financial, social and technological transformation. This demands from the health institutions changes in its dynamics in order to provide quality and safety in health care.

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Quality in healthcare can be achieved when is taken into account the technical and scientific resources, the best available evidence in order to satisfy the clients' needs and expectations and keep the service as a low cost one. So, quality is influenced by several factors and it is necessary to implement political, organizational and personal strategies in order to protect clients and develop a culture of quality and safety in healthcare. Therefore, clinical supervision (CS) for health professionals, such as nurses, is in agenda because as it is a formal process that enables professionals to have more knowledge and skills in their professional field could have impact on quality in health care. Through CS, nurses develop reflection and critical thinking and progressively becoming more autonomous in decision making.

This paper is divided into several main sections such as: methodology, results and conclusions.

2. Methodology

There are several risk factors for falls in the elderly (Kendall, Hartvigsen, French & Azari, 2015) and in the literature we can find reference that in hospitals and in long term care facilities that older people have more falls. So, preventing falls in those environments is a top priority (Stubbs, Denkinger, Brefka & Dallmeier, 2015).

Through preventing adverse events, such as falls, we improve the clients experience, increase his/her trust in the healthcare professionals and decrease costs in health (Fragata, 2011). Recently, a study showed that the cost of care after a hip fracture is $39. 507 (Woolcott, Khan, Mitrovic, Anis & Marra, 2012). According to Ferrer (2015), there is an increase of the risk of fall in older people and this lead to an increase of serious outcomes and health care costs but it also lead to patients' health deterioration and restrain physical activities (Zakaria, Kuwae, Tamura, Minato & Kanaya, 2015).

Promoting safe care is a concern for nurses and fall prevention, a nursing care quality indicator which is highly sensitive to nursing interventions. All the investment in this field is relevant and with impact on patients, staff and institution. Authors argued that health professionals should carefully identify the causes of fall and give information to the patients' family and then prescribe effective interventions (Philip, Sengupta & Benjamin, 2015). So, we decided to carry out a study which problem was: which is the impact of the implementation of a clinical supervision (CS) model in the evaluation of the risk of fall by nurses?

The purpose of the study was to improve nurses' skills to evaluate patients' risk of fall and to improve patient safety and the quality of nursing care through the implementation of a clinical supervision model.

This quantitative, descriptive and correlational study took place in a Portuguese medicine ward from an Hospital Centre and it is a part of a large research entitled – "Clinical Supervision for safety and Care Quality (C-S^{2}AFECARE-Q). Given the evidence of inadequate use of the Morse Fall Scale® (MFS) documented in the first phase of C-S2AFECARE-Q project and the nurses' doubts in the application of the scale, the Morse Fall Scale User's Manual was developed (Cruz, Carvalho, Barbosa, Lamas, 2015) in the scope of clinical supervision with the intent to help nurses in the assessment of the risk of fall with the MFS. In Portugal, this scale is widely used and the Portuguese General Directorate of Health indicates the need to assess the fall risk as an appropriate and personalized preventive intervention (DGS, 2011). The scale consists of six items with two or three possible answers for each (with different scores for each possibility). According to the performed evaluation, the total of the scores in each of the six items, results in a global score that indicates the fall risk. This score ranges from 0 to 125 points.

The aims of the study here presented were: to characterize the risk of falling of hospitalized patients in a unit of the medicine department of a Portuguese Hospital Centre; to relate the risk of falling with the patients' personal attributes (age, sex); to evaluate the impact of the implementation of a clinical supervision model with relevance for the prevention of falls in a unit of a medicine department.

We had a convenience sample constituted by 132 patients who were hospitalized from the 19th of March 2014 until the 19th of May 2014. Inclusion criteria were: the patient should remain hospitalized for more than 24 hours, the patient should not have readmissions in the unit during the data collection.

We collected data through several procedures such as the application of a questionnaire to assess the risk of fall, an observation grid and the parameterization defined in the nursing records system. Due to the research question for this study and the aims defined we selected several research hypotheses, such as:

H1- There is a statistically significant relationship between age and the risk of falling of the hospitalized patients

in a unit of the medicine department.

H2-There is a statistically significant relationship between sex and the risk of falling of the hospitalized patients in a unit of the medicine department.

H3- There is statistically significant association between the physical restraint and the risk of falling of the hospitalized patients in a unit of the medicine department.

H4- There is statistically significant association between the selected interventions by the nurse responsible for the patient and the interventions observed by the researcher and the documented ones in the nursing records.

A database was set up and data were statistically analyzed with the Statistical Package for Social Sciences (SPSS) version 20.0, using descriptive and inductive statistical analyses.

All of the ethical and deontological requirements inherent in research were met. Permission from the Portuguese Hospital Centre was obtained for this study. Privacy, anonymity and confidentiality were guaranteed at each step and participants were allowed to turn down the request for participation at any time without repercussion.

3. Results

The sample was constituted by 132 patients. The average age of the patients was 74,4 years old with a standard deviation (SD) of 14,3 years. The youngest patient was 32 years and the oldest 101 years old. 47,7% (N=63) were male and 52,2% (N=69) were female. 37,1% (N=49) of the patients were admitted with the diagnoses of respiratory illnesses and disorders, whilst 21,2% (N=28) had been diagnosed with nervous system illnesses or disorders and 20,5% (N=27) were admitted with circulatory illnesses or disorders.

To assess the risk of fall, nurses applied the Morse Fall Scale (MFS) and it was correctly applied in 69,2% and the risk of fall was monitored each 48hours in 98,5% of the cases with the MFS while in the previous research only in 33,3% and 84,1% this happened respectively.

In table 1, we present the patients' risk of fall at the time of patient's admission and the assessment by the nurse responsible for the patient.

Table 1. The risk of fall at the time of patient's admission and the assessment by the nurse

		At the time of patients' admission			
			Nurse		Total (%)
		No Risk	Low Risk	High Risk	
	No Risk	31	3	0	34 (26,4%)
Researcher	Low Risk	12	53	2	67 (51,9%)
	High Risk	0	10	18	28 (21,7%)
Total (%)		43 (33,3%)	66 (51,2%)	20 (15,5%)	129 (100%)

From the analysis of table 1, we verified that the majority of the patients had low risk of fall. According to the nurse responsible for the patient, 15,5% (N=20) had high risk of fall, whilst for the researcher this level was given for 21,7% (N=28) of the patients.

In table 2, we present the patients' risk of fall at the time of patient's observation and the assessment by the nurse responsible for the patient.

Table 2. The risk of fall at the time of patient's observation and the assessment by the nurse

		At the time of patients' observation			
		Nurse			Total (%)
		No Risk	Low Risk	High Risk	
Researcher	No Risk	39	1	1	41 (31,1%)
	Low Risk	6	52	3	61 (46,2%)
	High Risk	1	9	20	30 (22,7%)
Total (%)		46 (34,8%)	62 (47,0%)	24 (18,2%)	132 (100%)

From the analysis of table 2 and according to the nurse responsible for the patient, 18,2% (N=24) had high risk of fall, whilst for the researcher this level was given at 22,7% (N=30) of the patients.

In table 3, we present the relation between the risk of fall and age (H1), sex (H2) and physical restraint (H3).

Table 3. The risk of fall and age (H1), sex (H2) and physical restraint (H3)

			Fall Risk				
		N	No Risk	Low Risk	High Risk	Test value	p
Age	Adult <=65 years old	31	20	8	3	22,217	**<0,001**
	Older People >65 years old	100	20	53	27		
Sex	Male	63	29	26	8	14,668	**0,001**
	Female	69	12	35	22		
Physical Restraint	Yes	10	0	6	4	5,979*	**0,045**
	No	117	40	51	26	*Fisher exact test	

From the analysis of table 3, we verified that there is a significant relationship between age and the risk of fall (x^2=22,217; p<0,001) and there is a higher proportion of older people (>65 years old) with high risk of fall comparatively to the ones with age <=65 years old. There is also a significant relationship between sex and the risk of fall (x^2=14,668; p=0,001) and there is also a higher proportion of female with high risk of fall comparatively to male. We also verified a significant association between the physical restraint and the risk of fall (Fisher test=5,979; p=0,045).

In table 4, we present the association between the risk of fall and the selected interventions by the nurse responsible for the patient and the interventions observed by the researcher and the documented ones in the nursing records.

Table 4. The risk of fall and the nursing intervention (H4)

Selected Nursing Interventions					
	Nurse (NU) (N; %)	Documentation (DOC) (N; %)	Researcher (RES) (N; %)	Q Test (Cochran)	p value	Post-Hoc* *Only significant comparisons
Keep the bed rails	71 (64,5%)	81 (73,6%)	110 (100%)	35,17	**<0,001**	RES >NU (p<0,001) RE>DOC (p<0,001)
Physical environment management	123 (94,6%)	92 (70,8%)	130 (100%)	50,08	**<0,001**	NU>DOC (p<0,001) RES > DOC (p<0,001)
Identify the patient with a blue bracelet	28 (93,3%)	23 (76,7%)	30 (100%)	1,90	0,387	
Supervise the patients' activity	100 (88,5%)	81 (71,6%)	113 (100%)	28,26	**<0,001**	NU>DOC (p=0,005) RES) >DOC (p<0,001)
Restrain physical activity according to the procedure	10 (100%)	9 (90,0%)	10 (100%)	0,18	0,913	
Knowledge and capacity on the risk of fall and preventive equipment	81 (78,6%)	10 (9,7%)	103 (100%)	124,33	**<0,001**	NU>DOC (p<0,001) RES > DOC (p<0,001) RES>NU (p=0,035)

From the analysis of table 4, we verified that there is a significant statistically differences in several nursing interventions such as "keep the bed rails" (p<0,001), "Physical environment management" (p<0,001), "Supervisee

the patients' activity" (p<0,001), "Knowledge and capacity on the risk of fall and preventive equipment" (p<0,001) when we analyze the data resource. We also verified the difference between what is done by the nurse responsible for the patient and what is recorded in the nursing system.

In table 5, we present the comparison between the previous research (Cruz, Carvalho, Lamas, Barbosa, 2014) and this study, regarding the suitability of the nursing interventions and the risk of fall.

Table 5. The risk of fall and the nursing intervention (H4)

	Suitability of the nursing intervention and the risk of fall					
	Nurse		Documentation		Researcher	
	Previous Research	This Study	Previous Research	This Study	Previous Research	This study
Suitable nursing intervention	49,2%	82,6%	40,9%	83,3%	44,7%	90,9%
Non suitable nursing intervention	50,8%	17,4%	59,1%	16,7%	55,3%	9,1%

From the analyses of the table 5, we verified that after the implementation of the clinical supervision model for nurses there were much more suitable nursing interventions for the identified risk of fall.

4. Conclusions

The study focused on the impact of the implementation of a clinical supervision model for nurses and a health care quality indicator (risk of fall). The prevention of falls in the hospital setting should be a top institutional priority. Clinical supervision is the strategy to raise awareness, reflection, supports of the nursing team but also the strategy to ensure quality and safety of care.

The present findings point out an important improvement regarding the suitability of the nursing interventions and the risk of fall identified due to the previous research (first phase of the C-S[2]AFECARE-Q research) (Cruz, Carvalho, Lamas, Barbosa, 2014). After the implementation of the clinical supervision model for nurses, the assessment and the monitoring of the risk of fall began to be more accurate and this lead to a better identification and implementation of the nursing interventions by the nurses. So, we can state that there was an improvement in the quality of nursing care although the evidence of the difference between what the nurses do and what they record in the nursing system is meaningful and constitutes an issue that needs to be addressed in the scope of clinical supervision. We consider very important the implementation of strategies with the aim to improve and develop the quality of the nursing record.

The accurate identification of the risk of fall of the patient by nurses will lead to gains and excellence in health care. For sure, clinical supervision for nurses (and other health care professionals) is an investment that should be a continuous lifelong activity due its positive effects and better outcomes that can be achieved by this way.

The participants in this study share similar characteristics to those of many hospitalized patients in medical wards but we cannot generalize results although the results are a step forward in proving that clinical supervision interferes in the quality and safety of care that nurses provide to their clients and can be an asset in this scope.

We highlight that this study is a part of a largest research entitled "Clinical Supervision for Safety and Care Quality (C-S[2]AFECARE-Q), underway by an academic research group and a Portuguese Hospital Centre in the same geographical region.

Acknowledgements

We gratefully acknowledge to the Nursing School of Porto (Escola Superior de Enfermagem do Porto – ESEP) and to the Médio Ave Hospital Centre (Centro Hospitalar do Médio Ave – CHMA) to allow this research and to cooperate with us.

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