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Review Article

QUEDAS ENTRE CRIANÇAS E ADOLESCENTES INTERNADOS EM HOSPITAIS: REVISÃO INTEGRATIVA DE LITERATURA

FALLS AMONG CHILDREN AND TEENAGERS IN HOSPITALS: AN INTEGRATIVE LITERATURE REVIEW

CAÍDAS ENTRE NIÑOS Y ADOLESCENTES INTERNOS EN HOSPITALES: REVISIÓN INTEGRADORA DE LITERATURA

Gisele Lacerda Chaves Vieira[1], Isa Maria Lima Campos[2], Bárbara Sgarbi Morgan Fernandes[3], Anne Gadelha Ladeira[4], Emmanuelle Ferreira Pimenta[5].

RESUMO

Objetivo: investigar as taxas, as características, os fatores associados e as medidas preventivas relacionadas às quedas entre crianças e adolescentes em hospitais. **Método:** revisão integrativa de literatura realizada nas bases *Scientific Electronic Library Online*, Biblioteca Virtual em Saúde, *National Library of Medicine* e *Google Scholar*. **Resultados:** dez estudos atenderam aos critérios estabelecidos. A taxas variaram de 0.6 a 1.7 quedas por 1000 pacientes/dia. Grande parte das quedas ocorrem entre crianças do sexo masculino; com idade inferior a 9 anos. A maioria desses incidentes ocorrem na presença de um adulto. São fatores de risco para a ocorrência de quedas: idade da criança ($p<0.01$); tempo de internação ($p<0.05$); hiperatividade ($p<0.01$); distúrbios hematológicos ($p<0.05$); quedas anteriores ($p<0.01$); dimensionamento da enfermagem ($p<0.00$); escolaridade do cuidador ($p<0.01$) e o fato de o mesmo ser tabagista ($p<0.01$). As medidas preventivas adotadas foram: uso de berço e camas adequados para a idade, avaliação do risco de quedas, intervenções educacionais e uso de identificadores de alerta. **Conclusão:** A grande variação nas taxas de quedas entre os estudos sugere diferentes modos de organização do cuidado. A ocorrência de quedas no ambiente hospitalar entre crianças pode estar relacionada a fatores intrínsecos do paciente, do cuidador, ambientais e de organização do cuidado.

Descritores: Acidentes por quedas; Pediatria; Segurança do paciente; Criança hospitalizada; Gestão de riscos.

ABSTRACT

Objective: to investigate rates, characteristics, associated factors and preventive measures related to falls among children and adolescents in hospitals. **Method:** integrative literature review on the Scientific Electronic Library Online, Virtual Health Library, National Library of Medicine and Google Scholar. **Results:** ten studies met the established criteria. Rates ranged from 0.6 to 1.7 falls per 1000 patients / day. Most falls occur among male children; under the age of nine years old. Most of these incidents occur in the presence of an adult. Risk factors for falls are: age of the child ($p <0.01$); length of hospital stay ($p <0.05$); hyperactivity ($p <0.01$); hematological disorders ($p <0.05$); previous falls ($p <0.01$); nursing design ($p <0.00$); ($p <0.01$) and the fact that it was smoker ($p <0.01$). The preventive measures adopted were: use of cots and adequate beds for the age, evaluation of the risk of falls, educational interventions and use of alert identifiers. **Conclusion:** The large variation in falls rates between studies suggests different modes of care organization. The occurrence of falls in the hospital environment among children may be related to intrinsic patient, caregiver, environmental and care organization factors.

Keywords: Accidental falls; Pediatrics; Patient safety; Hospitalized children; Risk management.

RESUMEN

Objetivo: investigar las tasas, las características, los factores asociados y las medidas preventivas relacionadas con las caídas entre niños y adolescentes en hospitales. **Método:** revisión integrativa de literatura realizada en las bases *Scientific Electronic Library Online*, Biblioteca Virtual en Salud, *National Library of Medicine* y *Google Scholar*. **Resultados:** diez estudios atendieron a los criterios establecidos. Las tasas variaron de 0.6 a 1.7 caídas por 1000 pacientes / día. Gran parte de las caídas ocurren entre los varones; con una edad inferior a 9 años. La mayoría de estos incidentes ocurren en presencia de un adulto. Son factores de riesgo para la ocurrencia de caídas: edad del niño ($p <0.01$); tiempo de internación ($p <0.05$); hiperactividad ($p <0.01$); trastornos hematológicos ($p <0.05$); caídas anteriores ($p <0.01$); el tamaño de la enfermería ($p <0.00$); escolaridad del cuidador ($p <0.01$) y el hecho de que el mismo sea tabacal ($p <0.01$). Las medidas preventivas adoptadas fueron: uso de cuna y camas adecuadas para la edad, evaluación del riesgo de caídas, intervenciones educativas y uso de identificadores de alerta. **Conclusión:** La gran variación en las tasas de caídas entre los estudios sugiere diferentes modos de organización del cuidado. La ocurrencia de caídas en el ambiente hospitalario entre niños puede estar relacionada a factores intrínsecos del paciente, del cuidador, ambientales y de organización del cuidado.

Descriptores: Accidentes por caídas; Pediatría; Seguridad del paciente; Niño hospitalizado; Gestión de riesgos.

[1]Especialista em Terapia Intensiva, Gestão da Qualidade e Segurança do Paciente. Doutora e Mestre em Enfermagem pela UFMG. [2]Fisioterapeuta, Pós-Graduanda em Fisioterapia Respiratória em Terapia Intensiva. [3]Doutora em Enfermagem. Coordenadora do Curso de Enfermagem do Centro Universitário Newton Paiva. [4]Acadêmica do Curso de Enfermagem do Centro Universitário Newton Paiva. [5]Enfermeira da Fundação Hospitalar do Estado de Minas Gerais.

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INTRODUCTION

The falls among patients attended or hospitalized in health care institutions have been the focus of attention due to patient safety programs instituted in several countries, including Brazil[1-3]. Despite this, most publications and studies on the subject are focused only on the occurrence of falls among adult or elderly patients. Consequently, publications that focus on the occurrence of falls among children and adolescents are still scarce, resulting in little information on the prevalence and risk factors related to this type of incident[4].

The falls among hospitalized children are considered incidents that, on the one hand, may be due to environmental factors or unidentified and/or monitored risks, and also poorly addressed by the care team, but which would otherwise be avoidable in most situations where they occur[5-6]. The importance of preventing the occurrence of falls among children in the hospital environment is due to the fact that these events are associated with the development of injuries and the increase not only in the length of hospital stay but also the costs associated with hospitalization[4].

In most health institutions, the reduction of falls is one of the objectives of nursing care and is monitored as an indicator associated with quality of care[3]. To achieve this goal, it is necessary to know the risk factors associated with the occurrence of falls, which will allow establishing more effective prevention programs within health institutions[5].

Knowledge of risk factors and preventive strategies for managing the risk of falls among hospitalized children is the first step in establishing preventive measures[3,5]. Considering the relevance of this issue, especially for nursing professionals, the objective of this study was to investigate in the literature the rates, characteristics, associated factors and preventive measures related to the occurrence of falls among hospitalized children and adolescents.

METHODS

This is an integrative review research, which deals with the analysis and synthesis of relevant research and allows general conclusions regarding a particular area of study[7].

The research was conducted during the months of April to August 2017. The guiding question for this research was: what are the rates, characteristics, risk factors and preventive measures for falls-like incidents among children hospitalized?

The bibliographic research was carried out in the following databases: BDTD (Digital Library of Dissertation Theses), *National Library of Medicine* (Medline/via PubMed), VHL (Virtual Health Library), Scielo (*Scientific Eletronic Library Online*) and *Google Scholar*. The following subject descriptors were selected: accidental falls; hospitalized child; hospitalized teenager; hospitals, pediatric; hospitals; child, preschool. The terms adopted were combined using the Boolean operators AND and OR. In addition, the search for articles was limited by the following filter: language (English, Portuguese and Spanish). It was decided not to set limits on the period of publication. Another strategy used was the manual search in the reference lists of the selected studies. In addition, the authors were contacted to request the studies not available on the Capes Portal.

In addition to the mentioned filters, the following inclusion criteria were used: national and international scientific articles, primary studies, of a quantitative nature, referring to the occurrence of falls among hospitalized children. Studies related to falls in the out-of-hospital environment, among adult patients, theses and dissertations, qualitative approach studies, review studies and editorials were excluded.

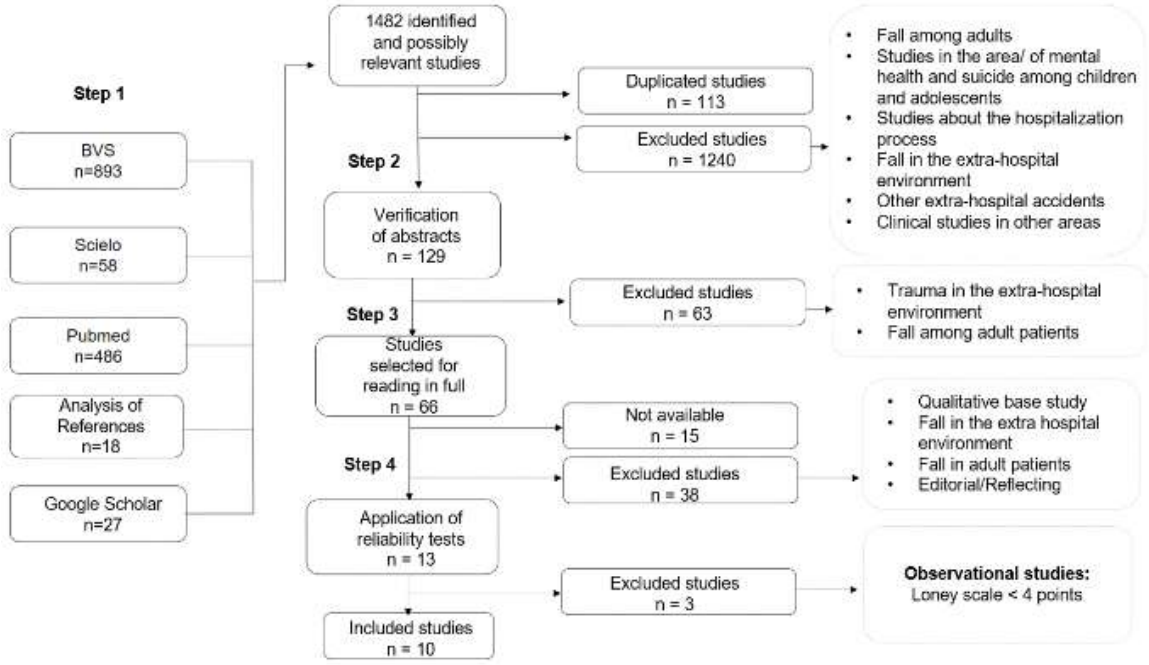
The steps of database research, selection, analysis of studies and data collection were performed independently by two researchers. In case of doubt or disagreement, the opinion of a third reviewer was sought on whether or not to include the study. The data collection of the selected articles, in turn, was carried out using forms developed by the authors, based on standardized forms, taking into account the study design and the recommendations established in the literature.

For the quantitative and observational approaches, the *Prevalence or Incidence Critical Appraisal Instrument* (Loney Scale) was used[8]. The studies that obtained at least four affirmative answers in this instrument remained in the final sample of the research.

1,482 studies were initially identified, of which 13 were selected for reading the full text. From the analysis of the quality of these studies, three were excluded because they presented important methodological limitations and scores on the Loney scale below four points. The

flowchart of the study inclusion process is shown in Figure 1.

Figure 1 - Description of the selection process of articles to answer the guiding question. Belo Horizonte, MG, 2019.



Source: Elaborated by the researchers for the purposes of this study.

In order to ensure transparency in the review process, to circumvent publication bias and to protect against reporting defects, the revision protocol no. CRD42017071749, available at PROSPERO, was created. It should also be noted that ethical principles were maintained, respecting copyright, by citing each of the authors.

RESULTS AND DISCUSSION

From the total of ten articles included in the final sample, five studies were case-control[5,9-12], four were descriptive[2,4,13-14], and a survey methodology[15]. Regarding the quality of the studies, it was observed that none scored at the Loney scale and that only 20.0% (n = 2) of the studies scored 6[13-14], which demonstrates the need for to invest in quality observational research on this subject.

All included studies were published in English, with 70.0% (n = 7) being conducted in the United States[2,9-14]. In relation to the year of publication, the oldest research was published in the year 2006[9] and the most current one in 2017[5]. Regarding the prevalence of falls among hospitalized children, there was a variation from 0.6 to 1.7 falls per 1000 patients / day (Figure2)[11-12].

Figure 2. Description of the characteristics of the articles that composed the integrative review. Belo Horizonte, MG, 2019.

Author/Year/ Country/Method	Prevalence	Risk factors	Loney scale (score)
Razmus *et al.*, 2006. USA. Case-control	Not explicited	Previous history of falls (p <.001); presence of episodes of disorientation (p <.001)	4
Hill-Rodriguez *et al.*, 2009. USA. Case-control.	0.98-1.0 falls per 1000 patients / day.	Not evaluated	4
Kingston, Bryant, Speer, 2010. USA. Descriptive.	Hospital A: 1.02 to 1.37 Hospital B: 0.93 to 1.20 Hospital C: 0.77 to 0.94 (falls per 1000	23 to 40% of the falls were related to the family member's lack of attention; 18 to 28% were related to the equipment; 10 to 23% related to the patient's physical condition.	6

	patients/day)		
Harvey *et al*., 2010. Estados Unidos. Caso-controle.	0.6 falls / 1000 patients / Day	Length of hospital stay (r = 0.370, p <.05); hyperactivity (r = 0.458, p <.01) and hematological disorders (r = 0.222, p <.05).	5
Schaffer *et al*., 2012. USA. Case-control.	0.84 per 1,000 patients / day	Not evaluated	4
Mora *et al.*, 2012. Itália. Descriptive.	1.04 falls 1000 patients / day	Not evaluated	4
Jamerson *et al*., 2014. USA. Descriptive.	0.84 per 1,000 patients / day	Not evaluated	6
Hagan J, Jones A, 2015. USA. Case-control.	1.7 falls per 1000 patients / day	Lower number of nursing professionals than recommended for on-call duty (p <.007)	5
Fujita Y, Fujita M, Fujiwara C, 2013. Japan. Survey.	1.36 / 1000 patient-days.	Games room (p <0.001); higher nurse / nurse ratio (p <0.001) and presence of companion (p = 0.04)	4
Almis *et al*., 2017. Turkey. Case-control.	1.23 falls per 1000 patients/day	Time of hospitalization (OR: 1.9; p <0.01); caregiver education (OR: 0.36; p <0.01); smoker caregiver (OR: 4.8; p <0.01).	5

Source: Elaborated by researchers for the purpose of this study.

From what was presented in Figure 2, it is argued that the concentration of studies conducted in the United States shows the need for the development of research in other countries[2,8-11,13-14]. It is also worth mentioning the need to develop studies with higher methodological quality in order to produce scientific evidence to support fall prevention practices in pediatric hospitals.

Regarding the existence of few studies in pediatrics, it is possible that this lack is related to the fact that falls that occur, in the case of this specific population, are considered by health professionals as a natural event, that is, part of the child's development. This fact may directly affect the behavior adopted by these professionals, both with regard to notification, and the adoption of preventive strategies for their occurrence.

Another factor that can influence the behaviors of the professionals who provide care to the children is the lack of qualification and preparation to act in the area of patient safety. In a study carried out with 40 nurses, 60% of them reported not having complementary training in the area of patient safety, being evident weaknesses in relation to the actions of registry in the medical record of the result of evaluation and notification of incidents related to the fall among children[16].

In addition, the number of falls not reported by health professionals makes it difficult to carry out retrospective studies[15]. Much of the research already done is retrospective, which makes it necessary to point out that the rates presented in the surveys may be even greater than the evidence shows[2,4,9-11,13-15].

When compared to adults, not only are the rates of falls in pediatrics slightly smaller[11-12,16], as can be seen a variation in the rates found, which may be related to the underreporting already mentioned and also to the different ways in which preventive strategies are structured between institutions. These factors are corroborated by a study that aimed to compare rates of falls among children hospitalized in three hospitals. In this study, a statistical difference between these rates was verified, which, in turn, was explained by the modes of care organization[13].

Figure 3 presents the main characteristics and results found in the studies that composed the sample of the present review.

Figure 3 - Description of the objectives and characteristics of the falls of the articles that composed the integrative review. Belo Horizonte, MG, 2019.

Author/Year/ Country/Method	Objective	Characteristics of falls among children and adolescents
Razmus *et al.*, 2006. USA. Case-control	To identify risk factors for falls in hospitalized children using two risk assessment scales for validated falls in adult patients.	100 cases and 100 controls; 81% occurred in the hospitalization unit; 87% occurred in the room; 82.8% in the presence of the caregiver; 35% fell out of bed; 22% occurred in the bathroom; 20% involved getting in or going to bed.
Hill-Rodriguez *et al*., 2009. USA. Case-control.	To evaluate the relationship between the scores obtained on the Humpty Dumpty scale and the occurrence of fall events.	150 cases and 152 controls. Cases: 15.7% of falls occurred among children younger than 3 years, followed by 14.36% among children aged 3 to 6 years; 50% of the cases were female patients; 15.2% had a diagnosis associated with respiratory diseases.
Kingston, Bryant, Speer, 2010. USA. Descriptive.	To compare falls rates among three hospitals; set an annual target for the three institutions; define best practices for fall prevention; identify the risks.	272 falls in 2007; 36% caused some degree of damage; 2% with moderate damage and 98% with mild damage.
Harvey *et al.*, 2010. USA. Case-control.	Avaliar os instrumentos de queda disponíveis e construir um modelo preditivo para o risco de lesão e ocorrência de queda.	99 crianças, sendo 33 casos e 66 controles, 63.4% com idade entre 5 e 9 anos. Queda mais comum entre 3-8 dias após a admissão.
Schaffer *et al*., 2012. USA. Descriptive.	To identify patient characteristics and environmental factors related to falls associated with falls in pediatric hospitals.	53 falls; 58.5% with damage; 17% required medical treatment; 83% of children with age-appropriate development; 58% in room; the age ranged from 4 months to 17 years, 58.5% male; 52.8% without previous history of fall and 84.9% without seizure; 98% were alert, 24.5% below 3 years; 69.8% in the presence of an adult.
Mora *et al*., 2012. Italy. Descriptive.	To evaluate the number of falls among admitted children in a hospital and to explore the characteristics of falls.	58 falls; 55.2% between the ages of 1 and 3 years; 56.9% male; 55.2% between late afternoon to midnight; 39.6% as cause the loss of balance; 58.6% in patient's room; 91.4% in the presence of parents; 32.8% while the children were walking; 31% involved cradle fall; 51.7% did not involve behavioral or environmental causes; 98.2% presented a stemming lesion.
Jamerson *et al*., 2014. USA. Descriptive.	Understand the nature of falls in pediatrics, their prevalence, identify the occurrence of damages, characteristic of falls associated with injury.	782 falls, 32% presented lesions; 48% classified as preventable; 64% in the bedroom and 13% in the bathroom; 77% in the presence of an adult; 52% of bed / crib / stretcher; 54% are male patients; in 86%, development was age appropriate; 66% wandered independently; 70% had stable gait; 32% with a mean age of six years
Hagan J, Jones A, 2015. USA. Case-control.	To examine the relationship between nursing design and the occurrence of falls.	111 falls; 36% with damage; 19% in the hospitalization unit; 26% with children who had one of the following diagnoses: convulsion; delayed motor development; mental confusion; unsteady gait.
Fujita Y, Fujita M, Fujiwara C, 2013. Japan. Case-control.	To identify the effect of fall prevention measures and characteristics of the wards on the rate of pediatric falls.	162 falls; the authors did not present the characteristics of the falls due to the unavailability of this information.
Almis *et al*., 2017. Turkey. Case-control.	To evaluate the risk factors for falls, related to caregivers, in hospitalized children.	39 cases and 78 controls. Cases: 59% were males, with a mean age of 14.7 months; mean length of hospital stay of 5.8 days; 71.8% of the caregivers had a schooling level of up to 5 years; mean age of 29.3 years; being 94.9% housewives; 23.1% were smokers; two patients suffered serious damage. The highest number of falls occurred on the day of admission.

Source: Elaborated by researchers for the purpose of this study.

As to the characteristics of the children, in a large part of the researches, there was a higher percentage of this type of incident occurring in males[2,4-5,14] and those younger than nine years[4-5,10-11]. In some studies, falls were more prevalent among children younger than three years of age[4,5]. In relation to the place, a large part of the falls occurred in the patient's room, which could

be a fall of the bed or crib [2,4,9,14]. As for the falls among adolescents, much occurred in the bathroom[9,14]. Finally, with regard to the studies that reported the occurrence of damage, it was observed a variation from 17% to 98.2% [2,4,12-14]. Only one study analyzed whether falls were preventable or not, of which 48% were considered preventable (Figure 3)[14].

Young children are considered the most vulnerable because they are in an unknown environment and do not make judgments about the risks they are exposed to[4]. Likewise, male children are more likely to behave more agitated and hyperactive[13]. For these reasons, several authors defend the need to consider all children who have agitated / aggressive behavior or who have attention deficits, such as presenting a high risk for falls in the hospital environment[11].

However, it is important to note not only that it is possible to observe different aspects related to the occurrence of falls in the hospital environment that were not portrayed in the analyzed studies, but also that a research was not found that fully describes the circumstances in which that the falls occurred. Therefore, it is considered that the results show the need to map these risks, as well as to establish multifactorial strategies to prevent these incidents.

Regarding the risk factors for the occurrence of falls, hospitalization time ($p<0.05$)[11] was verified as one of the main ones, being that the risk is higher on the day of admission and tends to increase again from three days hospitalization. In addition, there is a higher risk of falls among hyperactive children ($p<0.01$) and hematological disorders ($p<0.05$)[11]. For the latter, we highlight the low correlation found ($r=0.22$). The previous history of falls ($p<0.01$) and the presence of episodes of disorientation ($p <0.01$) were also verified as risk factors for new incidents[9].

On the other hand, the human resources dimension in nursing ($p <0.00$), together with a higher proportion of these professionals with little experience ($p <0.00$), showed a significant association with the occurrence of falls in pediatrics [15]. In one study, on the other hand, a significant correlation was found between the occurrence of falls and the toy room ($p<0.001$)[15], while another study showed an association between the risk of falling with the caregiver's schooling ($p<0.01$) and the fact that this professional was smoker ($p <0.01$) (Figure 3)[5].

Only four studies addressed preventive measures regarding the occurrence of falls in pediatrics[9,13-15]. The most frequently recommended measures were: 1) use of cots and beds suitable for age; 2) evaluation of the risk of falls whenever there are changes in the clinical picture, transfer between sectors or performing surgical procedures; 3) caregivers' instruction at each shift; 4) close supervision of children at high risk of falls; 5) use of identifiers that warn about the high risk of falls and 6) training of professionals newly admitted to the institution[9,13-15].

Although there are clearly defined factors related to the occurrence of falls in the hospital setting in adults, among children there is still much to be investigated[5]. In pediatrics, it is observed that falls may be related to factors intrinsic to the patient (clinical conditions, personality and behavior); environmental factors (organization of space in the ward, luminosity and signaling)[13,15]; to factors related to the organization of care (nursing professional dimensioning, use of strategies and protocols for prevention and training of professionals)[12,15] and factors related to the companion (age, schooling, smoking, fatigue)[5].

Moreover, while among adults, this latter factor may not be the one with the greatest influence. Among children, the presence of an adult may be the defining factor for the prevention of falls in the hospital environment[5]. This fact reinforces the importance of establishing educational strategies that involve health professionals and the parents and/or caregivers of hospitalized children[15], since most of the incidents found in this study occurred in the presence of an adult[2,4,9,14].

It is suggested, therefore, that additional parameters be included in scales that assess the risk of falls in children, with addition of items related to the companion and the behavioral aspects of the child. However, it should be clarified that no scale can substitute risk management at the bedside, with the close supervision of the nursing professionals and their companions[11].

Associated with the need to invest in the training of health professionals, nursing professionals should be considered as a contributing factor to the occurrence of adverse events among hospitalized patients. In addition, it is known that the number of professionals is a contributing factor for the quality of care,

although only two studies were found dealing with this issue in the field of pediatrics[12,15]. In addition, under-dimensioning of nursing professionals and double work days are factors that directly influence the quality of care [18] and are related to the occurrence of falls among hospitalized children[12,15].

Although there are methodological differences between the researches, preventive strategies for the occurrence of falls could be found according to the risk factors identified among the patients. Approaches to changing safety culture related to fall prevention programs are still recent in the literature. The assessment of the risk of falling for each hospitalized patient is the initial step in managing this risk. However, the scales made available for the evaluation of the risk of falls in pediatrics do not present adequate reliability to be used[11]. Thus, it is argued that an interesting strategy would be to establish interventions for all hospitalized patients.

Complementarily, if health professionals become aware of the possible reasons for falls that occur in the hospital environment, it will then be possible to map the risks to which children are exposed and implement preventive strategies. These actions should be directed towards the improvement of all processes related to patient care, since there are several risk factors for the occurrence of falls and that the use of institutional measures and protocols is necessary to mitigate these risks and reduce the occurrence of this type of incident. In one of the studies chosen to integrate this review, it was verified that half of the variance of the falls, to the analysis of the data through logistic regression, could be explained by the care organization and environmental factors of the institution[15,19].

At the same time, as a representative part of the falls involves the cradle or the bed where the child is, it is advisable to institute preventive measures related to the adequacy of the cradle in which the children are placed during hospitalization. The use of criteria for the selection of adequate cribs for children may be associated with the lower occurrence of falls among this population. It is also worth noting that if children are able to climb on crib racks, when they are taller than 90 cm, they should be placed in beds and no longer in cribs. However, although there are some recommendations regarding the use of cribs suitable for the size of the child, in Brazil, there are still no clear legislation to address the issue, which highlights the need for research on this issue[15].

Regarding the involvement of parents and/or caregivers in the management of falls risk, special attention should be paid to the moment when they receive guidelines from health professionals and also to the regularity in which this information is passed on to them. At the time of admission, it is possible that upon receiving the information, the parents and/or the accompanying children are too stressed to understand everything that is passed on to them. In addition, the number of falls tends to increase with length of stay, which suggests the need for reinforcement during the educational process[15].

It is also known that, most of the times, there is a rotation between the companions, which shows that the educational processes for the management of the risk of falling are continuously passed on to the companions while the children are hospitalized. As hospitalization time increases, parents and/or caregivers also present a higher level of stress and fatigue, which may influence the occurrence of falls in pediatrics[5,15].

Another factor that may influence the occurrence of these falls is the low level of education of parents and / or companions. It is possible that parents with low schooling have more difficulty understanding the information that is passed on to them or their importance. These factors also highlight the importance of paying attention to the way this information is passed on by health professionals to the companions. In this sense, several authors argue about the importance of the use of multi-strategies in the educational process of caregivers, such as the use of leaflets associated with verbal orientations[15,17].

As a limitation for this study, the scarcity of publications related to the topic and the lack of studies with high methodological quality are highlighted. In order to minimize these limitations, the analysis of the quality of the researches was instituted, being excluded the studies that presented inferior score to the previously established one. It is also important to emphasize the need for observational studies that investigate the risk factors associated with the occurrence of falls among children hospitalized in pediatric hospitals. The accomplishment of these studies could help in the constitution of preventive measures appropriate to this population.

CONCLUSION

Although there is a paucity of studies on falls among children hospitalized in pediatric units, it was possible to identify that falls rates in this population are lower when compared to rates among adult patients, ranging from 0.6 to 1.7 falls per 1000 patients/day.

With regard to the characteristics and factors associated with falls, these can be characterized and/or associated with the location and the circumstance of occurrence, the characteristics of the environment and the characteristics of the companion. Falls are related to multiple factors such as age, sex, clinical characteristics and personality of the child, as well as to the organization of care and the dimensioning of nursing personnel.

As a follow-up proposal to this study, we intend to develop an observational case-control study in order to identify the risk factors, causes and circumstances related to the occurrence of falls among children hospitalized in a pediatric hospital.

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Mailing address:
Gisele de Lacerda Chaves Vieira
Street Silva Lobo Avenue, 1730
Neighborhood: Grajaú
ZIP CODE: 30.431-262 – Belo Horizonte/MG - Brazil
E-mail: giselelacerdavi@gmail.com