Professional health promotion competencies in preventing falls in pediatrics

Competências profissionais de promoção da saúde na prevenção de quedas na pediatria

Competencias profesionales de promoción de la salud en la prevención de caídas en pediatría

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Abstract

Objective: To assess the domains of professional health promotion competencies, established by the Developing Competencies and Professional Standards for Health Promotion Capacity Building in Europe, based on applying the Instrument of Prevention of Falls in Pediatrics.

Methods: This is a cross-sectional, descriptive and quantitative study. It was carried out in January and February 2018 in open inpatient units of two pediatric hospitals with 203 health professionals (184 nursing professionals, ten doctors and nine physiotherapists); working in open inpatient units at the referred institutions for at least six months; from self-completion of the professional characterization form and the Instrument of Prevention of Falls in Pediatrics, which has four factors with 15 actions. Descriptive analysis was performed according to a checklist developed and validated that contains the factors of the instrument for preventing falls with the respective actions and the nine domains of health promotion competency.

Results: The health promotion competency domains (Communication, Planning, Implementation, Assessment, Evaluation and Research, Enable Change, and Mediate through Partnership) were identified in the actions of the factors of the Instrument of Prevention of Falls in Pediatrics. Eleven actions had an execution percentage higher than 50%. The Advocate for Health and Leadership domains have not been identified.

Conclusion: Seven domains of health promotion competencies were identified, which are important to ensure safe, comprehensive and resolutive care for preventing falls in pediatrics.

Resumo

Objetivo: Avaliar os domínios de competências de promoção da saúde dos profissionais, estabelecidos pelo *Developing Competencies and Profissional Standards for Health Promotion Capacity Building in Europe,* a partir da aplicação do instrumento de prevenção de quedas na pediatria.

Métodos: Estudo transversal, descritivo, com abordagem quantitativa. Realizado nos meses de janeiro e fevereiro de 2018 nas unidades abertas de internação de dois hospitais de pediatria, com 203 profissionais de saúde (184 profissionais de enfermagem, dez médicos e nove fisioterapeutas), atuantes nas unidades abertas de internamento nas referidas instituições há pelo menos seis meses, a partir do autopreenchimento do formulário de caracterização profissional e do instrumento de prevenção de quedas na pediatria, o qual possui quatro fatores com 15 ações. A análise descritiva foi realizada de acordo com um *checklist* elaborado e validado que contém os fatores do instrumento de prevenção de quedas com as respectivas ações e os nove domínios de competências de promoção da saúde.

Resultados: Os domínios de competência de promoção da saúde (Comunicação, Planejamento, Implementação, Avaliação e Pesquisa, Diagnóstico, Possibilidade de Mudanças e Parceria) foram identificados nas ações dos

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fatores do instrumento de prevenção de quedas na pediatria, em que 11 ações tiveram percentual de execução superior a 50%. Os domínios de competências Advocacia em saúde e Liderança não foram identificados.

Conclusão: Identificaram-se sete domínios de competências de promoção da saúde, os quais são importantes para que se possa garantir cuidado seguro, integral e resolutivo para prevenção de quedas na pediatria.

Resumen

Objetivo: Evaluar el dominio de las competencias de promoción de la salud de los profesionales, establecidos por el *Developing Competencies and Profissional Standards for Health Promotion Capacity Building in Europe*, a partir de la implementación del instrumento de prevención de caídas en pediatría.

Métodos: Estudio transversal, descriptivo con enfoque cuantitativo. Llevado a cabo en los meses de enero y febrero de 2018 en las unidades abiertas de internación de dos hospitales de pediatría, con 203 profesionales de la salud (184 profesionales de enfermería, 10 médicos y 9 fisioterapeutas), que trabajan hace seis meses por lo menos en las unidades abiertas de internación en las instituciones mencionadas, mediante el autocompletado del formulario de caracterización profesional y el instrumento de prevención de caídas en pediatría, que posee 4 factores con 15 acciones. El análisis descriptivo fue realizado de acuerdo con una *checklist* elaborada y validada, que contiene los factores del instrumento de prevención de caídas con las respectivas acciones y los nueve dominios de competencias de promoción de la salud.

Resultados: El dominio de las competencias de promoción de la salud (Comunicación, Planificación, Implementación, Evaluación e Investigación, Diagnóstico, Posibilidad de Cambios y Colaboración) fue identificado en las acciones de los factores del instrumento de prevención de caídas en pediatría, en que 11 acciones tuvieron un porcentaje de ejecución superior al 50 %. El dominio de las competencias Defensa en salud y Liderazgo no fue identificado.

Conclusión: Se identificaron siete dominios de competencias de promoción de la salud, que son importantes para poder garantizar un cuidado seguro, integral y resolutivo para la prevención de caídas en pediatría.

Introduction

Hospitalization involves risks that can compromise child safety during hospitalization, generating possibilities for incidents in hospital care such as falling.

Incidence rate of pediatric falls in hospitals ranges from 0.51 to 1.0 per 1,000 patients/day. Although these rates are low, when compared to adult rates, the incidence of injuries (30 to 35%) is significant.[1]

In Saudi Arabia, a documentary study carried out in a pediatric hospital with patients aged up to fourteen years observed 48 episodes of falls; male patients prevailed, with an average age of three years, with no history of previous fall, classified as high risk of falling. Lesions were classified as mild to moderate, without loss of consciousness, but some were severe. Most occurred during the day, in the bedroom, in bed, with mothers present during the episode, occurring in the first five days of hospitalization.[2]

A documentary research, carried out in Goiânia, Goiás, Brazil, based on nursing reports over an eight-year period, identified 11 adverse events of falls. They occurred during assistance in a pediatric clinic, in which the majority (63.7%) was from the child's accommodation (bed, cot, stretcher).[3]

Falls in the pediatric population in hospitals can corroborate with prolonged hospitalization, complications, wasted resources, increased costs and decreased confidence between professional, patient and family.[4]

Thus, health professionals must implement measures aimed at the safety of hospitalized children. Their practices are permeated by the daily experience and perception of risk situations that can support care management, decision making to promote safety and minimize the repercussion of damage.[5] Professionals should standardize procedures, implement basic care techniques and routines, raise awareness and commit to the provision of safe care.[6]

According to the Budapest Declaration, health promotion is necessary in hospital settings, and the assumption is to encourage participation of patients and companions; involvement of all professionals in consolidating safe practices; and creation of an enabling environment to achieve expanded health care.[7]

Health promoting hospitals, according to the Health Promotion Hospital project, aim to redirect the culture of hospital care. They focus on teamwork for the health care of users, on interdisciplinarity and user participation. They are able to cover different perspectives of assistance, valuing environ-

ment, culture and social aspects in the health and disease process.[8]

When considering hospitals as places conducive to risk of falls, it is considered a strategic space for carrying out interventions with a focus on health promotion in accordance with patient safety.[9] Considering the urgent need for safe, qualified care practices, health promotion actions developed in hospital care should educate and motivate children and their companions to reduce preventable health damage and help them maximize their health and well-being potential, contributing to empowerment. These health promotion precepts fully meet the specific objectives of implementing the Brazilian National Patient Safety Program (*Programa Nacional de Segurança do Paciente*). Such program was instituted in 2013 in Brazil, which provides for the promotion of initiatives aimed at patient safety; involvement of patients and family members in patient safety actions; and expanding society's access to information related to the topic.[10]

To guarantee the quality of assistance, professionals can rely on the competencies proposed in the Developing Competencies and Professional Standards for Health Promotion Capacity Building in Europe (CompHP) project. This project aims to form a consensus in establishing methods to implement the standards in health promotion, aiming at innovation and best practices in health. In CompHP, 46 competencies are listed, distributed in nine domains necessary to develop effective actions in health promotion. Each domain specifies the knowledge, competencies and performance criteria required to demonstrate the acquisition of essential competencies in that domain. They are Communication, Planning, Implementation, Evaluation and Research, Assessment, Enable Change, Mediate Through Partnership, Health Advocacy, and Leadership.[11]

In hospitals, professional practice should be performed based on health promotion competencies that make fall prevention actions in pediatrics more effective. Thus, based on diagnostic assessment, actions to prevent falls in practices in pediatric units can be identified, to direct the planning of improvement strategies that increase patient safety.

The objective was to assess the competency domains for health promotion of professionals, established in the CompHP, based on applying the Instrument of Prevention of Falls in Pediatrics (IPQP - *Instrumento de Prevenção de Quedas na Pediatria*).

Methods

This is a cross-sectional, descriptive, quantitative study, carried out in the open inpatient units of two public pediatric hospitals located in Fortaleza, Ceará, Brazil.

Population composed of 345 health professionals, 240 nursing professionals, 88 doctors and 17 physiotherapists who worked in the care of pediatric patients, in the open units of these institutions.

The sample was calculated by the number of items in the IPQP,[12] which is a validated instrument with 15 items.[13] Thus, the sample should consist of multiplying the number of items K by ten (n = 10xK), totaling 150 professionals. However, 203 professionals participated (184 nursing professionals, ten doctors and nine physiotherapists) who were professionals in nursing, medicine or physiotherapy and who worked in open inpatient units in the referred institutions for at least six months. Professionals on vacation or leave, during the data collection period (30 professionals), and who did not return the completed instrument after the established deadline (57 professionals) were excluded. Fifty-five professionals refused to participate in the research.

Data collection took place in January and February 2018, in the two hospital institutions, according to the researchers' availability. The researchers were trained to apply the two instruments (professional characterization form and IPQP), contemplating every day of the week and

weekend, during daytime and nighttime (7:00 p.m. to 9:00 p.m.).

The IPQP went through a content validation process (general intraclass correlation coefficient of 0.935; 0.810 for simplicity; 0.798 for language clarity; 0.841 for theoretical and practical relevance), as well as construct validity, based on factor analysis (Kaiser - Meyer-Olkim of 0.866; Bartlett's sphericity with p <0.001); and reliability, in terms of homogeneity, using Cronbach's Alpha (0.883). The IPQP has four factors, namely: assessment and monitoring, patient/family guidance, direct practices, registration and notification; with two, three, six and four actions, respectively, totaling an instrument composed of 15 actions, each with five possible answers arranged on a Likert scale, namely: 1 - never, 2 - almost never, 3 - sometimes, 4 - almost always and 5 - always.[13] To analyze each action, only the answer "always" was considered safe for preventing falls by health professionals.

The instruments were delivered to the professionals individually, to be answered at the beginning of the shift and returned filled in to the research team member at the end of the day or the day after.

Data were stored in a database, processed and analyzed with the aid of the Statistical Package for Social Sciences (SPSS), version 20.0. Analysis was performed using descriptive statistics.

From the data collected by the self-completed IPQP by the health professionals who participated in the study, analysis was performed according to a checklist-type instrument. IPQP was created and validated by three specialists in the field of child health, which contains the four factors of IPQP with their respective actions as well as addressing the health promotion competency domains in the CompHP.

The Research Ethics Committee approved the study, according to CAAE (*Certificado de Apresentação para Apreciação Ética* - Certificate of Presentation for Ethical Consideration) 79224417.0.0000.5054.

Results

Among the 203 health professionals who worked in pediatric care, 110 (54.2%) were nursing technicians; 45 (22.2%) were nurses; 29 (14.3%) were nursing assistants; ten (4.9%) were doctors; and nine (4.4%) were physical therapists. They had an average age of 39.2 ± 10.2 and had more than ten years of training and professional experience (65.1% and 59.4%, respectively).

Actions in the IPQP were categorized according to the health promotion competency domains established by CompHP so that the same action could correspond to more than one domain. Table 1 shows fall prevention actions, the respective frequency of health professionals who always perform the action and the corresponding competency domains.

Of the nine competency domains of CompHP, seven were included in the actions of the IPQP factors. *Communication* domain was the most present (seven actions), divided into "patient/family guidance", "direct practices", and "registration and notification". *Planning* and *Implementation* (six actions for each) were included in the "direct practices" factor. Moreover, *Evaluation and Research*, *Assessment*, *Enable Change*, and *Mediate Through Partnership* have been identified. *Advocacy for Health* and *Leadership* were not identified in the actions of the IPQP factors. According to the actions distributed in the four factors of IPQP, 11 (73.3%) obtained a performance percentage higher than 50%. However, two actions of "direct practices", referring to transport and allocation of patients and two actions of "registration and notification", which deal with registration of risk assessment of falls and notification to other hospital sectors, reached a percentage of performance less than or equal to 50%.

Discussion

Through the need of health professionals to take over specific competencies for preventing falls in

Table 1. Distribution of health promotion competencies domains according to the factors and respective actions of IPQP

Factors	Actions	n(%)	Competency Domains
1: Assessment and monitoring	Assessment and monitoring		
	01. Assessment of the risk of fall at admission of children.	145(71.4)	Assessment Evaluation and Research
	02. Assessment of the risk of fall for children daily.	135(66.5)	Assessment Evaluation and Research
2: Patient/family guidance	Patient/family guidance		
	03. Guidance to children and their companions on the risk of falling related to contributing factors such as age, assessment, cognitive factors, past history, prolonged fasting, surgery/sedation/anesthesia and/or medication, damage from falling and how to prevent its occurrence.	147(72.4)	Enable Change Communication
	04. Information for companions if the children are free to walk or not.	173(85.2)	Communication
	05. Guidance to children and/or families/guardians to progressively get up (raise the headboard 30°, sit on the bed with feet flat on the floor for 5 to 10 minutes, before getting out of bed) according to the risk of falling identified.	129(63.5)	Enable Change Communication
3: Direct practices	Direct practices		
	06. Accommodation of children aged < 3 years in a cot and children > 3 years in bed, both with high bars at maximum height.	142(70.0)	Planning Implementation
	07. Provision that children aged ≤ 6 months are carried in the guardian's lap and the guardian in a wheelchair.	100(49.3)	Planning Implementation
	08. Provision that children aged > 6 months or ≤ 36 months are transported lying on a stretcher, in the company of the guardian, when submitted to anesthesia/sedation procedures; or in a wheelchair on the lap of the guardian.	139(68.5)	Planning Implementation
	09. Provision that children aged > 36 months are carried on a stretcher, lying down and accompanied by the guardian, or in a wheelchair on the guard's lap.	123(60.6)	Planning Implementation
	10. Maintenance of one of the raised cribs of the cradle during the changing of children's clothes/diapers.	162(79.8)	Planning Implementation
	11. Allocating children with a history of falls near the nursing station, whenever possible.	97(47.8)	Planning Implementation
4: Registration and notification	Registration and notification		
	12. Verification of the prescription of drugs that change mobility and balance.	117(57.6)	Communication Assessment
	13. Registration in the children's medical record the result for assessing the risk of falls and all the procedures performed for prevention.	91(44.8)	Communication Evaluation and Research
	14. Registration in the medical record the occurrence of falls, related factors and damage generated.	137(67.5)	Communication Evaluation and Research
	15. Notification of incidents with falls to the Risk Management and/or the Patient Safety Center (when available).	100(49.3)	Mediate Through Partnership Communication Evaluation and Research

pediatrics,[13] assessment of the actions, based on the IPQP and the domains of health promotion competencies, enables the provision of quality and problem-solving services, to perform satisfactory care to pediatric patients.

Communication refers to the act of disseminating health promotion actions effectively, using appropriate techniques and technologies for various audiences. Therefore, the health professional should be able to use competencies, such as writing, listening, verbal and nonverbal language, in addition to fundamentals about presentation and facilitation of group work.[11]

To effectively communicate with each other and among children, health professionals must be empowered to have mutual understanding and involvement in care decisions,[14] since effective communication as a health promotion strategy favors the involvement of stakeholders in child safety.[15]

Registration in medical records on assessing the risk of falling for pediatric patients, at admission and during the stay, and notification of falls provide effective communication among professionals, assisting care management.[16]

Planning aims to develop measurable health promotion objectives and goals, based on the assessment of needs and potentialities in partnership with stakeholders. Therefore, knowledge about resource and risk management principles, application skills and analysis of information about needs must be incorporated into professional practices.[11]

It is urging that in-hospital transportation is carried out safely, according to the child's age, because patient transport is characterized as a peri-

od of instability and risks due to the possibility of complications related to technical failures, physiological changes, transport time, as well as the team that performs it.[17] However, only 49.3% of professionals have always claimed to perform this action.

Planning is an important tool for organizing work and improving practice environments. However, possible barriers in pediatrics, such as difficulty of integrated participation of the health team in building and carrying out participatory planning; low availability of time so that activity plans are put into practice; and absence of an institutional culture of planning in hospital inpatient units are limiting factors for preventing falls.[18]

Implementation is performing effective and efficient actions, culturally sensitive and ethical in partnership with stakeholders, in order to identify the necessary resources to implement health promotion actions with aptitude for participatory processes of team members.[11]

Implementing pediatric fall prevention strategies in hospitals should be performed routinely. However, only 47.8% of health professionals always stated that they allocated children with a previous history of falling near the nursing center.

Fall risk alert should be included daily in the children's medical record, similar to that of allergy, to maintain awareness of all members of the clinical team.[19] In the event of a fall episode, the child should be considered to fall again during hospitalization, classifying it as high risk.

Evaluation and Research refers to the use of appropriate methods of evaluation and research in partnership with stakeholders, to determine the scope, impact and effectiveness of health promotion actions. Therefore, it is necessary for the health professional to build knowledge about data interpretation and skills analysis, using research and critical assessment tools. [11]

Using a validated risk assessment tool for children, which contains intrinsic factors (assessment, medications, water imbalance, physical disabilities) and extrinsic factors (presence of uneven floors, objects lying on the floor, inadequate chair height, insufficiency human resources) raises awareness of the issue and is as a strategy to mitigate it. However, using fall assessment tools does not exempt health professionals from exercising effective clinical judgment in preventing falls and possible harm to children.[20]

Registering in the medical records the assessment of the risk of falls and all the procedures performed for their prevention was mentioned by 44.8% of health professionals. Often, the deficiency in the records can be related to the low number of workers; the lack of time to register assistance and occurrence of falls; the lack of commitment to the safety culture; and the limitation of structural factors of the institution. Thus, it is necessary to face and overcome possible resistance attitudes of some professionals who, due to lack of knowledge or little appreciation of importance, do not adhere to the record of falls,[21] mainly in pediatrics.

Assessment is defined as the act of detecting needs and potentialities, in partnership with stakeholders, in the context of political, economic, social, cultural, environmental, behavioral and biological determinants, which promote or understand health. Professionals must have competencies regarding data interpretation for assessment purposes, through knowledge about qualitative and quantitative methods.[11]

Assessment for the risk of falls involves surveying factors such as history of falls, mental and sensory changes, mobility, age, medications in use, changes in balance, inactivity and changes in vision and hearing. Identifying these factors, individually, allows strategies to prevent falls to be implemented, according to the characteristics presented by patients.[22]

Therefore, health professionals should use daily tools, such as pediatric scales for assessing the risk of falls, because using a valid and clinically tested screening instrument that includes interventions assists in the identification of children at risk of falling.[23]

Enable Change is about enabling individuals, groups, communities and organizations to de-

velop capacity for health promotion actions and reduction of inequities. Healthcare professionals should be qualified for behavioral change techniques, based on knowledge about appropriate change management approaches, through guidelines .[11]

In the context of child hospitalization, health professionals should provide guidance for children and companions, which generates confidence on both sides, favoring provision of safe patient care. When they are included in care, receiving guidance pertinent to the child's treatment, they feel more confident to actively act on patient safety.[24]

When there is no adequate sharing of clinical information between health professionals and children/families resulting from failures in the process of sharing this information, communication becomes ineffective and may result in unsafe pediatric actions,[25] as the fall. Thus, transparency and availability of information can contribute to the adoption of more effective and safe practices in health services.[26]

Mediate Through Partnership is conceptualized as collaborative work between disciplines, sectors and partners to increase the impact and sustainability of health promotion actions, and health professionals should be qualified for group work, with a view to facilitation, mediation and communication, with understanding of cooperation practices between the team and other stakeholders.[11]

The information gathered from notifications facilitates the partnership and the involvement of health professionals in the prevention of pediatric falls, as it is known that the most common way to avoid recurring incidents is to inform the team and share the data with other sectors.[27] However, only 49.3% of professionals said they always notified incidents of falls.

In order to build a culture focused on patient safety, notifications should preferably be anonymous and confidential to contribute to the identification of risk and management situations and not as instruments of prosecution and punishment of professionals.[28]

Although *Advocacy for Health* and *Leadership* are not occasionally present in the IPQP, it is considered that self-completion and observations made daily during children's hospitalization, using the instrument, will lead to a situational assessment of professional practice. This can generate awareness and raise questions, instigating health professionals to advocate for the development of policies and resources needed in all sectors of hospital and take over the leadership to contribute to developing shared vision and strategic direction for promoting children's health. hospitalized.

Based on the assessment of health promotion competency domains of the professionals involved in child care in hospitals, falls prevention interventions can be planned to deepen the skills required by professionals to become health promoters, especially in institutions hospital.

The limitations of this study are attributed to the difficulty of doctors adhering to the research and to the incompleteness in completing the professional characterization instrument. In addition, as this is a cross-sectional study, the results reflect a particular and specific context. This requires caution in assessments, to transfer interpretations to other regions and institutions.

It is suggested that all competency domains of CompHP should be incorporated into the curricular guidelines of health courses. An educational process of professional training, intertwined by these domains, favors the creation of spaces for discussion about the daily work. Moreover, it offers health professionals the possibility to act as active individuals in building knowledge, as well as reorienting actions to prevent falls in children in hospitals.

Conclusion

Communication, Planning, Implementation, Evaluation and Research, Assessment, Enable Change, and Mediate Through Partnership were identified by applying the IPQP in hospitals, in which 11 actions obtained an execution percentage higher than 50%.

However, two actions of the "direct practices" factor and two actions of the "registration and notification" factor reached a percentage of execution below or equal to 50%. Although *Advocacy for Health* and *Leadership* have not been performed in professional practice, they are important to ensure safe, comprehensive and resolute care for preventing falls in pediatrics.

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Collaborations

Gurgel SS, Lima FET, Ferreira MKM, Costa CO, Fontenele MGM, Barbosa LP declare that they participated in the conception and design, analysis and interpretation of data, writing, relevant critical review of the intellectual content and final approval of the version to be published.

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