Evaluation of nursing skills to promote health during pediatric consultations in emergency rooms

Avaliação das competências de enfermeiras para a promoção em saúde durante atendimentos pediátricos em unidade de emergência

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Abstract

Objective: To evaluate nursing skills in health promotion during assistance for children at emergency unit using the risk classification.

Methods: This cross-sectional study included nurses responsible for intake screening of children based on risk classification at an emergency unit. We classified the procedures conducted by the nurses according to the guidelines for intake with risk classification according to the health promotion competency framework in the Galway Consensus Conference Statement. In the skill analysis, nurses were followed-up by two observers. For interobserver reliability analysis we used the Kappa index measuring agreement ranging from 0 to 1 (with 0 showing no agreement and 1 showing total agreement).

Results: The competencies identified in nurse 1 had perfect agreement (K=10), in nurse 2 had moderate agreement (K=0.5), and in nurse 3 showed poor agreement (K=0.2). The Galway competencies showing the most agreement were assessment/diagnosis and partnership.

Conclusion: Competencies for health promotion developed by the nurses who participated in the study were assessment/diagnosis, partnerships, planning and assessment.

Resumo

Objetivo: Avaliar as competências para promoção da saúde por meio da confiabilidade interobservador no acolhimento com classificação de risco em pediatria, foram desenvolvidas pelas enfermeiras.

Métodos: Estudo transversal realizado com enfermeiras que atuam no acolhimento com classificação de risco e 30 mães/acompanhantes das crianças atendidas na emergência. Foram relacionados os procedimentos desenvolvidos pelas enfermeiras segundo as diretrizes do acolhimento com classificação de risco com o modelo de competências para a promoção da saúde de *Galway*. Para a análise da confiabilidade interobservadores foi utilizado o índice de *Kappa*, que corresponde a uma medida de concordância que varia de 0 a 1, sendo o valor 0 nenhuma concordância e o 1 representa total concordância.

Resultados: As competências identificadas na Enfermeira 1 obteve concordância perfeita (K=1,0), na Enfermeira 2 concordância moderada (K=0,5) e na Enfermeira 3 concordância muito baixa (K=0,2). Das competências de *Galway*, obtiveram maior concordância avaliação/diagnóstico e parceria.

Conclusão: As competências para promoção da saúde desenvolvidas pelas enfermeiras participantes do estudo foram: avaliação/diagnóstico, parceria, planejamento e avaliação das ações.

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Introduction

Health promotion can be defined as a process for training people to self-manage health determiners. It is also characterized as a set of essential competencies and skills that involve integrating knowledge, attitudes, and practices from many professionals which are needed to reduce the impact that social, environmental, and economic changes can have on individual and public health.[1,2]

In this context of health promotion, the hospital can be an institution with the potential to promote health and well being among professionals and users. In addition, hospitals that promote health are those that not only guarantee quality care, but also adopt strategies for training professionals, patients, and families with the goal of making them active and involved in self-management of the health-disease process.[3]

For this reason, it is fundamental to build a workforce that is able to establish and implement health promotion in these environments, including continuous professional education to develop competencies.[1,3] Competencies are defined as applying specific knowledge and technical skills to guarantee the performance standard of an action required in a specific context.[3]

The use of instruments is important in critically analyzing competencies developed by professionals while implementing health policy strategies, in terms of identifying the standard care quality in hospital units that promote health.[3] Therefore, professionals working in the hospital context can use the competency model for health promotion which is established in the Galway Consensus Conference Statement, by catalyzing change, leadership, assessment/diagnostics, planning, implementation, evaluation, advocacy, and partnerships[3] in order to support the implementation of an intake strategy with risk classification.

Intake with risk classification is defined as a new culture of care focused on communication and dialog between users, professionals, and managers using qualified listening, favoring the establishment of bonds and co-responsibility of the individuals involved in resolving health needs. This intake also permits reorganization of the health network, guaranteeing integral and equal care for the entire population.[4]

This strategy can be considered a device for health promotion, since care should be prioritized according to clinical complexity according to pre-established protocols,[4] not a first-come-first-served basis. In this sense, intake with risk classification is an important tool for hospitals promoting health, especially in pediatric care, because professionals serving this population must be more attentive to the concerns and the opinions of children as individuals who are able to express their subjectivity, and who wish to be heard.[5]

It is known that among the established guidelines for intake with risk classification, the nurse's evaluation of the patient should be conducted based on scientific evidence and be guided by protocols, not only by intuition or previous clinical experiences. Risk classification protocols are tools that guide the professional's clinical judgment during evaluation of the level of complexity, and determine that patient's level of priority; for this reason, the protocols should be rigorously followed in order to avoid errors in classifying and referring the child.[5]

Along these lines, studies indicate the importance of using simple and easy-to-manage instruments in approaching patients in order to improve the work process in health, especially at health promoting hospitals.[6] Therefore, nurses in pediatric emergency units need to use these technologies efficiently. Among these, the risk classification in pediatrics guide, which was constructed and validated to support the development of competencies in real practice, stands out.[6]

In the emergency unit a nurse conducts multiple actions based on professional competencies with the aim of assuring individualized and humanized care. Consequently, the competencies indicate the professional's actions within their work reality, impacting their actions and decisions, so developing more competencies in practice is essential to constructing qualified and integral care.[7]

The objective of this study was to evaluate nurses' skills for health promotion in child care at emergency units using the risk classification.

Methods

This cross-sectional study was carried out in July 2013 on nurses who cared for children at an intake with risk classification service within a children's emergency care hospital in the city of Fortaleza, Ceará, northeast Brazil. We used a guide to risk classification in pediatrics that aimed to optimize nurse's view of signs and symptoms based on level of complexity, according to the main complaint reported.

The study participants were three nurses working in pediatric care in an emergency room. They had at least one year of clinical experience in risk classification in pediatrics and had training in intake with risk classification.

The selection of consultations took place for convenience and consecutively, in which was included pediatric consultations whose mothers had the age of 18, had the child in an emergency situation to a lesser degree of complexity and waiting for nursing care in the emergency room. Each nurse was responsible for evaluating 10 children, creating a total of 30, following recommendations of another study.[8]

Data were collected by two researchers and occurred at two different times. Initially, nurses were approached in the intake area to explain the objective of the study and provide information about using the intake with risk classification guide. After the nurses who agreed to participate signed the terms of free and informed consent, they were interviewed with a form that gathered the following data: age, graduate degree, experience with risk classification in emergency pediatrics, use of guidelines in the protocol for intake with risk classification in pediatrics). Each nurse also received the intake with risk classification in pediatrics guide, along with a copy of the protocol.

Later, the nurses were simultaneously monitored by two researchers as they conducted the intake with risk classification. The mothers and accompanying adults who participated in the study signed the terms of free and informed consent after the fact, in other words, after the intake with risk classification was done, assuring confidentiality of their information.

We opted to request consent after observation because our study did not involve any moral or physical risk to the child or to the mother/accompanying adult, since our main goal was to observe the competencies developed by the nurses during care using the intake with risk classification guide. It should be noted that none of the mothers/accompanying adults refused to participate in the study.

A checklist was used to collect the data; this instrument was created and validated by three specialists in child health, and addresses the procedures conducted by the nurses in their work process according to the strategic guidelines for intake with risk classification. These guidelines were related to the Galway model for developing health promotion competencies, and are meant to identify the competencies (catalyzing change, leadership, assessment, planning, implementation, evaluation, advocacy, and partnerships) that were developed while assessing children in the intake with risk classification.[3]

Data were compiled in a spreadsheet (Microsoft Excel 8.0), and were processed and analyzed using Statistical Package for Social Sciences (SPSS), version 20.0. The analysis was done through a descriptive statistical approach, distributing absolute and relative frequencies to the categorical variables and means with standard deviation (SD) for continuous variables, shown in the characteristics of the nurses.

To analyze interobserver reliability, we used Kappa coefficients that corresponded to a measure of agreement ranging from 0 to 1 (with 0 showing no agreement and 1 showing total agreement).[9] Kappa coefficients analyze the intensity of agreement among observers based on the parameters of the Kappa index (0.00 to 0.20 being very poor agreement, 0.21 to 0.40 being poor agreement, 0.41 to 0.60 being moderate agreement, 0.61 to 0.80 being good agreement, 0.81 to 0.99 being almost perfect agreement, and 1.00 being perfect agreement). Acceptable values are considered > 0.70.[9]

The development of the study met national and international standards of ethics in research involving human subjects.

Results

Based on the profile of nurses participating in the study, we identified that they were aged 28-59 years, with mean experience in pediatric risk classification of 3.7 years (SD ± 0.94). All of the nurses had a graduate degree, and in the interview stated that they used the guidelines in the protocol for intake with risk classification in pediatrics during their interviews with mother/children.

With regard to the intake with risk classification guide, the nurses mentioned that no risk indicator was left out of the guide, but that some signs/symptoms presented by the children during intake, such as a wound with fever and itching/intense pruritus were not found within the guide. Nevertheless, two of the nurses indicated that the abbreviated guide was excellent for use during intake with risk classification, and that nurses working in the area will have little difficulty using the material. For this reason, all nurses considered the guide to be relevant to their practice and for delivering quality nursing care to the children in the emergency unit.

As for risk classification, most of the children (17; 56.7%) were classified as green, i.e., IV-less urgent, receiving medical evaluation within one hour or re-evaluation by the nurse every hour; 26.7% (08) of the children were classified as yellow, corresponding to III-urgent, requiring assistance within 30 minutes. A small percentage (05; 16.6%) were classified as blue, V-not urgent, receiving medical evaluation according to the order in which they arrived, or received a written referral to other health centers, guaranteeing service elsewhere.

Based on analysis of competencies presented by the nurses during intake with risk classification, the comparison between the observer assessments is shown in table 1. As can be seen, the competencies identified in E1 had perfect agreement (K=10), E2 had moderate agreement (K=0.5), and E3 had poor agreement (K=0.2). It should be stressed that interobserver reliability was evaluated by comparison of independent data (done independently by observers A and B), based on the principle that both were considered equally able to perform the task.

Table 1. Competencies presented by the nurses during use of the abbreviated pediatric risk classification guide

Competencies	Nurses		
	E1	E2	E3
Kappa Index	1.0	0.5	0.2
Catalyzing Change			
Observer A	0	0	0
Observer B	0	0	0
Leadership			
Observer A	0	0	0
Observer B	0	0	0
Assessment/Diagnosis			
Observer A	1	1	1
Observer B	1	1	0
Planning			
Observer A	1	0	0
Observer B	1	1	1
Implementation			
Observer A	0	0	0
Observer B	0	0	0
Evaluation			
Observer A	0	0	0
Observer B	0	1	0
Advocacy			
Observer A	0	0	0
Observer B	0	0	0
Partnership			
Observer A	1	1	1
Observer B	1	1	0

0- competency absent; 1- competency present

Discussion

Because this was a cross-sectional study, the results were limited with regard to longitudinal follow-up of care, particularly because these variables were measured at only one single time. However, this study contributed to identifying the importance of adequately performing intake with risk classification and guaranteeing that all competencies for health promotion are explained during assistance.

Therefore, it is possible to see improvement in delivery of health services using strategies that target care qualification, resolution in services, and guaranteeing user access. In this sense, adopting intake with risk classification using the guide, i.e., as a strategy for (re)organizing the work process, is seen to be an important tool for emergency services, and may guarantee integrality of care.

The use of clinical protocols to guide actions in urgent and emergency services is presented in the guidelines for implementing the intake with risk classification strategy. These protocols aim to organize

demand into pre-established colors using criteria to assess risk according to complexity and severity while respecting individual differences and needs.[4]

In this present study, by applying the abbreviated guide to risk classification in pediatrics we identified a higher prevalence of the green complexity (less urgent) followed by yellow, characterizing the care as having the appropriate need for urgency. This finding does not agree with a previous study if the clinical profile of children according to risk classification, which reported a high prevalence of yellow followed by green.[6]

One of the nurse's activities in emergency units is intake with evaluation and classification of risk, so training for this activity is fundamental, as is appropriate classification of the child (one of the competencies of the nurses who work in this environment). Consequently, evaluating the development of these competencies through guided actions based on the health promotion domains in the Galway consensus (catalyzing change, leadership, assessment/diagnostic, planning, implementation, evaluation, advocacy, and partnerships) allow professional practice to be strengthened and assured.[3]

Of the eight competencies in the Galway consensus, the four with the greatest interobserver agreement during the application of the intake with risk classification guide were assessment/diagnosis, partnership, planning, and evaluation of actions after their execution. The other competencies (catalyzing change, leadership, execution and advocacy) were not performed by nurses from our study.

Although the "catalyzing change" competency was not identified in the present study, it indicates professional actions towards provide changes for the user. In this study, this competency was seen in nurse performance during intake with risk classification through developing competencies so that the mother/accompanying adult could prevent diseases, as well as explaining the objectives of risk classification for service.

Health promotion in humanized care requires intake to be conducted in a careful and integrative manner, allowing users to understand the levels of care and that the professional will refer patients to the appropriate service.[10] The work process is comprised of its objectives, its end goals, and the professionals who act in the specific service, requiring interaction with the user during this process, and that the concept of health and disease should be shown during this exchange of subjectivities between those who delivery care and those who receive it,[10] showing the importance of the search for changes in both the health service as well as in the posture of professionals and users.

Consequently, professionals working in intake with risk classification become responsible for informing users about the process of risk classification and waiting time according to clinical status, while at the same time guaranteeing the satisfaction of users and their families, avoiding problems during care due to lack of information.[10] Furthermore, the risk classification process is considered dynamic, and aims to identify patients whose lives may be at risk; this allows resolution to be enlarged when incorporating risk evaluation criteria that consider the complexity of the health/disease phenomena, prioritization of care at the appropriate time and reduction in the number of avoidable deaths, sequelae, and hospitalization, assuring efficient care.[11]

The "leadership" competency was also not identified in our study. This competency aims to guarantee the professional a strategy that should be followed during the process of intake with risk classification, which was configured in our study by how the communication process took place between the nurses, the mothers/accompanying adults, and the children. This ensures resolutional and integral care by using qualified listening.[10] Intake with risk classification is a device for humanization that selects the most severe cases for immediate assistance, thereby establishing wait times for less severe cases.[10]

The "assessment/diagnosis" competency was present among the actions conducted by the nurses in intake with risk classification, permitting the professionals to evaluate user needs as well as biologic determinants.[2] In our study, this competency was identified through the interaction between the nurses and the mother/accompanying adult and child to collect information about the child's health problem, the use of any type of assessment method

(physical examination/instruments) and identification of determinants of the problem and health needs (biological, social, and psychological).

In this way, professionals working in intake with risk classification should have a clinical vision, perceiving possible harm to user health and carefully evaluating this harm to avoid greater damage. Additionally, it is important to consider the subjectivity of the individual and clinical objectivity in order to adequately define emergency situations.[10]

In relation to pediatric care in the emergency service, nurses who conduct risk classification should do a complete assessment and record major complaints in detail, know how to work in teams, have the critical reasoning and agility for decision making, and also have knowledge of the support network in order to correctly classify children and make appropriate referrals.[11]

During this time after diagnostic evaluation, nurses need to develop their "planning" competency, which is defined as establishing goals based on assessment of needs.[2] The planning competency was not observed in this study because we considered inclusion of the mother/accompanying adult in the assistance process as part of the planning, as well as explanation of the procedures and potential referrals to other services, and nurse use of models or individual scientific and practical background in decision making.

Therefore, in order to offer integral care to children, family participation must be considered. As a result, building integrality becomes recognized as practices that must consider the user as the individual to be assisted with respect for individual demands and needs,[12] guaranteeing participation by the mother/accompanying adult in the intake process.

Effective participation by accompanying individuals is not just restricted to care after service, but participation in decision making and planning, with the support of the team.[12] In this sense, it is important that the users be informed about the protocols used and the results expected from a specific action.[12]

The process of implementing strategic plans in health aims to guarantee quality of care and improve health, and should be done through the "implementation" competency. In our study, this competency occurred by measuring the professional's ability to implement protective actions by monitoring the quality of the intake process and management of the human resources and materials available in the hospital environment.[3]

Implementation of health management models by professionals who are qualified and committed to health ethics and defense of life has become necessary to guarantee and health care rights for everyone.[4] However, there are few devices which encouraging co-management or valuing and including workers and users in the health production process.

Furthermore, the current management model is based on the complaint-management model, which strengthens the view of disease to the detriment of sanitary responsibility and the gains in health which are proposed in the guidelines and norms for promoting health hospitals.[4] This fact may be corroborated in the lack of development in the "implementation" competency among the nurses in this study.

The "assessment" competency was identified in our study as nurses demonstrated theoretical knowledge while explaining the child's health condition and the intake with risk classification to the mother. We observed that the nurses demonstrated the capacity for self-assessment during their professional practice, and adopted competency-based practices.[13]

This affirms that competence is knowledge in use, i.e., the ability to act in a real situation, which implies knowing the limits of one's knowledge.[14] This competence guarantees that the professional can identify goals met during implementation of health improvement programs, and can change implementation methods if the stated objectives are not achieved during this process.

The humanization program is a set of strategies designed to achieve care qualification and health management in the Brazilian Unified Health System, and is characterized as an ethical-aesthetic-political instrument for promoting co-responsibility and construction of bonds between professionals and users in healthcare and in defensing life.[4] In this sense, the humanization process in health agrees with the "advocacy" and "partnership" competen-

cies of the Galway consensus, favoring adequate access to hospital services with precise assessment.

The "advocacy" competence defends improving health and well-being in individuals and communities, reinforcing their abilities to strengthen themselves and conduct actions to defend health.[15] While this competency was not identified in our study, it is considered important, since it permits representativeness that goes beyond clinical intervention and involves a proactive professional posture, together with families and communities in interdisciplinary and intersectoral actions.[15]

Partnership refers to the fact that professionals conduct their health actions in partnership with other colleagues or services. In our study, this competency was identified in patient referrals to other health professionals according to the risk presented when the intake was conducted by the nurses.

In this sense, the strategy of intake with risk classification applied alone does not assure improvement in care quality. Therefore, internal and external alliances are necessary, targeting partnership and construction of adequate flows according to the degree of risk presented during intake, and should be implemented into the care network.[2]

To develop the "partnership" competency, nurses need to refer patients to other professionals/services when necessary in order to establish continuity of care and relationships with other services.[16] This permits the creation of actions for referral and back-referral, guaranteeing that children are followed in the primary care network, if necessary, after the health problem is resolved in the emergency unit. The interaction between services reduces cases of re-admission and prevents the worsened conditions which result from lack of care.[2]

Conclusion

The nurses in our study developed the following competencies: assessment/diagnosis, partnership, planning, and evaluation of actions. Although not all competencies were identified during care in this study, we believe that all competencies are important to guaranteeing quality, equal, integral, and resolute care, especially with regard to intake with risk classification in pediatric emergencies.

Collaborations

JEGLF Veras and AP Rodrigues contributed to the design of the project, analysis and interpretation of data, drafting the manuscript, and approval of proofs. MJ Silva and LB Ximenes contributed to the design of the project, critical review related to the intellectual content, and approval of proofs. PS Aquino contributed to the analysis and interpretation of data, critical review related to intellectual content, and approval of proofs.

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