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CASE REPORT ARTICLE

EXPERIENCES IN PROMOTING SAFETY TO THE PEDIATRIC PATIENT DURING THE ADMINISTRATION OF MEDICINES

VIVÊNCIAS NA PROMOÇÃO DA SEGURANÇA DO PACIENTE PEDIÁTRICO DURANTE A ADMINISTRAÇÃO DE MEDICAMENTOS

EXPERIENCIAS EN LA PROMOCIÓN DE LA SEGURIDAD DEL PACIENTE PEDIÁTRICO EN LA ADMINISTRACIÓN DE MEDICAMENTOS

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ABSTRACT

Objective: sharing the experience on the promotion of safety of pediatric patients related to medication administration. ***Method:*** experience report from use of the Method of the Arch of Charles Maguerez in a university extension project, in a large hospital, located in the extreme west of Rio Grande do Sul, Brazil. ***Results:*** this educational activity allowed the reflection of the activities undertaken, conducting the participants to understand the network involving patient safety and medication error in pediatrics. ***Conclusion:*** the team that deals with children must know the anatomical, physiological and pharmacological specificities as well as the wishes and children's limitations in order to promoting a sensible, safe and effective care. Thus, the methodology provided a more thoughtful and aware look at the universe that involves the administration of medications to children and their peculiarities. ***Descriptors:*** Medication Systems; Medication Errors; Pediatric Nursing; Patient Safety.

RESUMO

***Objetivo*:** compartilhar a experiência na promoção da segurança do paciente pediátrico relacionado à administração de medicamentos. ***Método*:** relato de experiência do uso do Método do Arco de Charles Maguerez em um projeto de extensão universitária, em uma instituição hospitalar de grande porte, situada no extremo oeste do Estado do Rio Grande do Sul, Brasil. ***Resultados*:** essa atividade educativa possibilitou a reflexão das práticas realizadas, conduzindo os participantes a compreender a rede que envolve a segurança do paciente e o erro de medicação em pediatria. ***Conclusão*:** a equipe que lida com crianças possui o dever de conhecer as especificidades anatômicas, fisiológicas e farmacológicas, bem como os anseios e as limitações infantis, a fim de promover um cuidado sensível, seguro e eficaz. Sendo assim, a metodologia utilizada proporcionou um olhar mais atencioso e consciencioso sobre o universo que envolve a administração de medicamentos e suas peculiaridades à criança. ***Descritores*:** Sistemas de Medicação; Erros de Medicação; Enfermagem Pediátrica; Segurança do Paciente.

RESUMEN

Objetivo: compartir la experiencia en la promoción de la seguridad de los pacientes pediátricos relacionados con la administración de medicamentos. ***Método:*** relato de experiencia del uso del Método del Arco de Charles Maguerez en un proyecto de extensión universitaria, en un gran hospital, situado en el extremo occidental del estado de Rio Grande do Sul, Brasil. ***Resultados:*** esta actividad educativa permitió la reflexión de las actividades llevadas a cabo, lo que lleva a los participantes a comprender la red que implica la seguridad del paciente y de los errores de medicación en pediatría. ***Conclusión:*** el equipo que se ocupa de los niños tiene el deber de conocer las particularidades anatómicas, fisiológicas y farmacológicas, así como los deseos y las limitaciones de los niños, con el fin de promover un cuidado sensible, seguro y eficaz. Por lo tanto, la metodología proporciona una mirada más reflexiva y consciente en el universo que incluye la administración de medicamentos en pediatría y sus peculiaridades. ***Descriptores:*** Sistemas de Medicación; Errores de Medicación; Enfermería Pediátrica; La Seguridad del Paciente.

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INTRODUCTION

The term "patient safety" applies to initiatives to prevent adverse events in health care. Internationally, this term is defined as the reduction and mitigation of unsafe acts within the health care system as well as the use of qualified practices to achieve optimal results for the patient.[1] Accordingly, strategies have been developed to improve patient safety such as creating a culture of education in the institutions that enable the identification and reporting of unsafe acts, effective measures to promote patient safety, and implementation of work processes that reduce the dependence of the individual.[2-3]

Among the various procedures which the team performs, medication administration becomes one of the most complex activities in their daily work, as it requires in its execution, comprehensive, consistent and thorough knowledge, to promote the necessary safety.[4-6]

Studies estimate that the probability of errors with potential for harm is three times higher in hospitalized children compared to adult patients.[6-8] This is because children are more susceptible to the occurrence of errors due to intrinsic and extrinsic factors. Among the intrinsic factors, we highlight the anatomical and physiological characteristics that lead to the need for individualized dose calculations, based on age, weight and body surface area of children. In addition, the child has specific along its development, which modify the absorption, distribution, metabolism and excretion of drugs pharmacokinetic and pharmacodynamic properties. Among the extrinsic factors include the lack of health policies and a pharmaceutical company dedicated to the service of such specifics. Studies demonstrate the difficulty of nurses, physicians and pediatric residents in performing the mathematical calculations, which can cause error related to the dose of medicines.[4,6,7]

There are ethical, legal and economic reasons those prevent the inclusion of children in clinical trials for the development of new drugs. Approximately 75% of prescribed medicines in children have not been adequately studied in this population. Thus, the practice of drug therapy in children may result in an increased risk of errors and adverse events.[5,6]

In a study conducted in a tertiary care hospital in Canada during the period of seven months, twenty analyzed reports on dose errors ten involved children, being fifteen intercepted. Errors could have caused death in six cases, life-threatening toxic effects by nine or moderate toxic effects in a case. The remaining four cases, the error does not result in toxic effects.[8]

In Brazil, in Minas Gerais, a research was performed in a pediatric unit of a hospital on types and frequency of errors made in the preparation of medicines for a period of twelve days. It was obtained a total of thirteen different medication errors; among them, the most frequent were lack of hygiene, failure to use gloves, preparing medication out of the nursing station and prepare larger dose than indicated on the prescription.[4] In this context, we highlight the importance of the discussion about safe practices in medication administration in a pediatric unit.[5] Questions and unexplained difficulties lead to uncertainty and insecurity, with this risk factor for the occurrence of errors.[8,9]

During practical lessons and supervised practice course Undergraduate Nursing, was found by a group of students that the nursing staff of the pediatric inpatient unit had several doubts and anxieties in relation to drug therapy. Therefore, we asked the teachers of nursing, an educational activity that would make problems to this theme and sensitize these professionals about the need for reflection of new forms to promoting safe practice.

For carrying out such an action, based on the Methodology of Problematization, taking as a reference the method of Arch of Charles Manguerez, proposed by Juan Diaz Bordenave and adapted by Neusi Agha Navas Berbel[1], which promotes the exchange of experiences between the subject (nursing staff) and facilitators (teachers and academics). This method promotes the relationship between acquired theoretical knowledge with practical work, based on an existing reality, aiming to stimulate joint work and critical thinking, seeking to cause significant changes in all those involved in this process. It also provides greater freedom and autonomy to the participants to question and reflect about the problems that exist in reality, as well as the sharing of responsibilities with the facilitator/mediator in a constant exchange of teaching and learning.

This study aims to:

- Share the promotion of safety of pediatric patients related to medication administration.

METHOD

This is an experience report that aims to

share the experience of promoting safety of pediatric patients about medication administration, through the use of the Arch of Charles Manguerez held during the design university extension << Standardization of dilution of medications in pediatrics: A proposed teaching-service integration >> in a large hospital, located in the west of Rio Grande do Sul, Brazil; funded with support from the academic scholarship of the Program of Scholarships of Academic Development/ PBDA of UNIPAMPA conducted between 2009-2011.

The pediatric inpatient unit has 40 beds, 31 of them are intended for the Unified Health System (SUS). The nursing staff consisted of four nurses and nursing technicians thirteen of these, two were removed for medical reasons. The age of the team was 20-40 years old, seven members had more than eight years of experience, five of them in pediatrics and nine showed no other job.

In developing the activities sought to adopt a posture of welcome to professionals, starting with the real needs and concerns presented. We used the dialogue and exchange of experiences. Thus, the implementation of the Arch of Charles Maguerez occurred in five stages: observation of reality; key points; theorizing; chance for a solution, and application to reality[9]. The development of these steps is described below.

♦ Re (building) nursing care medication administration in pediatrics

Medication administration - In the first stage, the proposed theme of the exhibition was held for professionals in the pediatric unit, in order to promoting the completion of the survey of the problems and difficulties related to the subjects of the thematic.[12] This moment was open for questions and being defined as "observation of reality." At this stage, to promote the resumption of the work process and provide recognition of the main difficulties in the administration of medications was used as a strategy, the conversation circle. Thus, participants expressed the need for discussion of concepts underpinning topics such as drug stability, infusion time, adverse drug reactions, dilution and administration routes, thus identifying the problem situation.

In the second stage the identification of the key points and the variables that influence medication administration in this pediatric unit was performed. The key points can be expressed via basic questions that arise in the study, a set of topics to be investigated, or other forms, enabling creativity and flexibility when dealing with the problem by group.[12] At this point, if elected-considered relevant to clarify or resolve.[13]

For the definition of the key issues arising from the points of reflection group process were used, namely: What is the time stability of injectable drugs? What are the first procedures to be performed after the identification of error in medication administration? What are the safety measures to prevent the error? The correct brewing time is really important?

In this discussion, these questions have become key points to be addressed in the next stage and were synthesized: 1 - measures to prevent medication error and 2 - nursing care in administering medications in the pediatric inpatient unit.

In the third stage occurred theorizing, which provided a deepening of prior knowledge of the subject on the part listed in step problem of key points, ie, "theorizing will be the time of research, the study itself, those key points were defined to clarify the problem".[14:31] This step allowed the construction of responses supported in the literature by means of expert information, research historical, technical and scientific nature, being addressed, discussed and always analyzed with a view to understanding and resolving the problem. Thus, professionals were arranged in a circle and oral reading of scientific articles defined from the key points discussed above was performed.

For discussion of the issues "Nursing care in medications' administration in the pediatric inpatient unit" and "Trigger factors and preventive measures of medication error", oral reading was performed by participants of updated national scientific articles published between 2004 and 2009, contemplating nursing journals. The papers discussed were chosen to be grounded in evidence-based practice and present as subject descriptors, medication error, pediatric nursing and medication system, being published in journals with qualifying standard Capes A1 and A2.

After reading the information presented was analyzed and discussed in groups. This means that the instrumentalization of knowledge allowed participants to rethink and rebuild their practices, deepening the understanding of the object of study.

In the fourth stage, it was directed the discussion to elaborate suggestions, ideas and actions for possible solutions, setting the time to survey the possible solutions. At this stage, were synthesized some suggestions raised by

the group, such as: manufacture a manual dilutions of pediatric medications including major adverse reactions of drugs in the body of the child and the questions that were discussed in the course of activities; standardize medicines used in pediatrics; promote communication and exchange of information when there are new members on the team. This reflection process enabled the acquisition of new knowledge. This fourth step must be very creative, and "[...] this creativity should be encouraged" [12:18] for the process driven until that time "[...] exceeds the knowledge and prior actions" aimed at realization of any change that portion of the studied reality.[12:19]

In the fifth stage looked up the application to reality, beginning the process of planning and executing the actions with which participants engaged. "[...] This step Methodology of Questioning is not a mere intellectual exercise, because decisions taken should be executed or forwarded".[15:163]

Thus, the group reflected on prior knowledge about care of the administration of drugs in pediatrics through inquiries made by the mediator's proposal, such as: What it takes to solve the problem? How can we transform reality? What are the challenges for the use of safe practices in the medication system in pediatrics? That was the moment in which participants verbally expressed their perceptions about the methodology on which would be explored and the changes adopted.

Overall, these professionals reported that this experience stimulated reflection on the commitment of nursing in promoting child safety during their hospitalization, as well as deepen and update their knowledge in the subject, highlighting the importance of education actions in service. These activities that promote spaces for discussions, in which strategies are suggested to allocate resources, enabling the domain of the knowledge necessary to search for creative solutions.[16]

This step provided the construction of strategies that contributed to increase the knowledge of these professionals, encouraging them to think about new forms of professional action from their lived experiences, and making them question what is done and how it could be improved within their realities. Based on this, these professionals were ready for a change of effective and safe practice, from the construction and preparation of dilution and administration of drugs in pediatrics, which was made during the implementation of the extension project in the hospital manual.

Figure 1 shows the schematic trajectory, using the steps of the Arch of Charles Maguerez with nursing professionals.

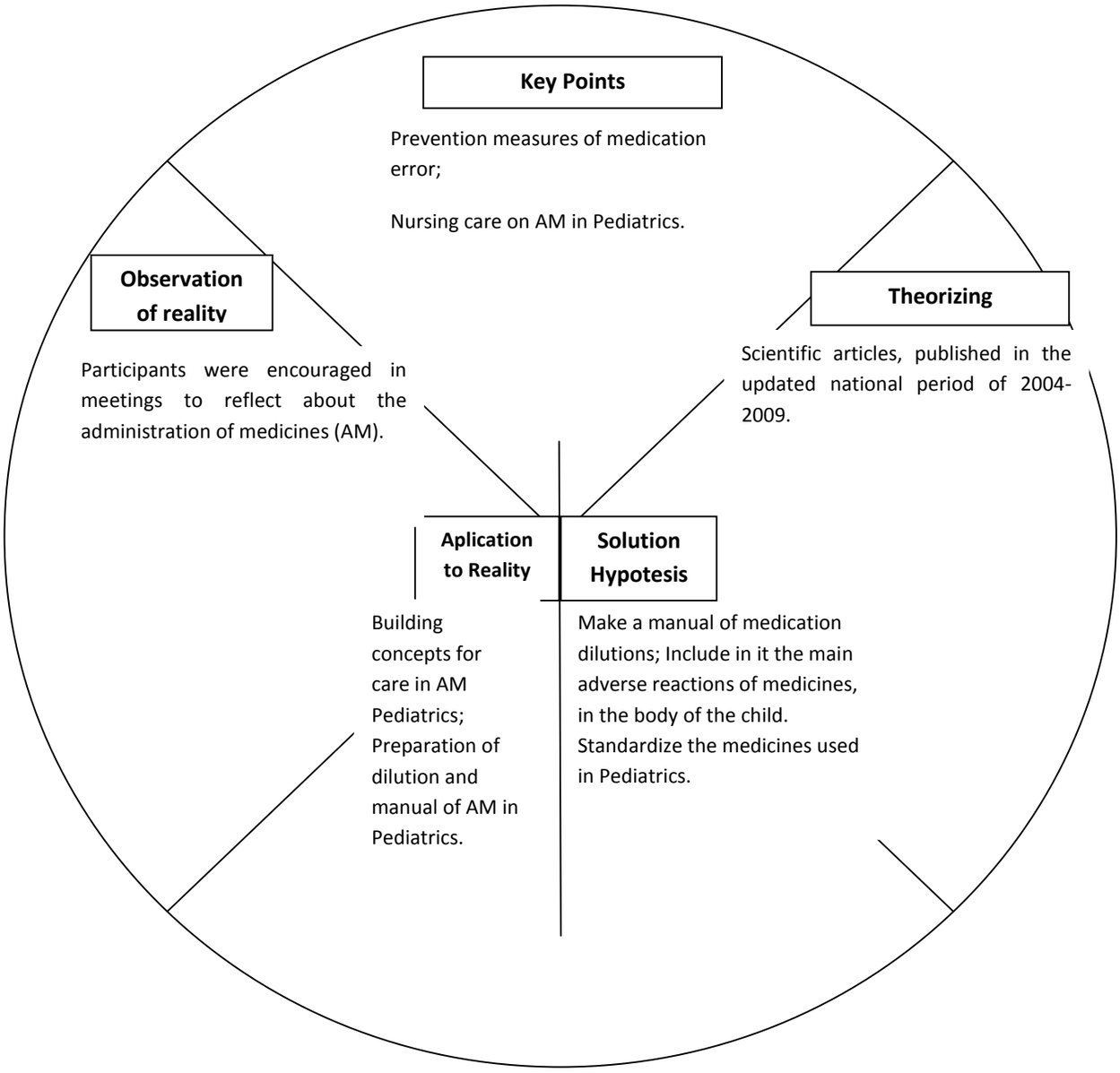

Figure 1: Schematic presentation of the trajectory performed in the use of the Arch of Charles Maguerez.

FINAL REMARKS

Promote this education activity in service with the pediatric nursing staff enabled the reflection across their practices, leading her to understand the network that surrounds the issue of patient safety and medication error in pediatrics. That's because a team that deals with children have the duty to know the anatomical, physiological and pharmacological specificities as well as the wishes and children's limitations in order to promote a sensible, safe and effective care.

One of the challenges faced was to discuss new practices with professionals working on site in an extended period of time, most of which had not participated, after his training, courses, seminars or lectures that enabled the discussion of new practices, as well as its updating and improvement. However, most participants were solicitous, showing interest in the proposal. Thus, we highlight the need for actions similar to this university extension, aimed at integrating teaching and service - management - community, providing moments of updating professionals in the health care network.

Working together enables approximation theory with reality, facilitating the understanding and removal of doubts and anxieties. We tried to adopt a neutral stance during the discussions, preventing professionals bring ready and formulated answers, encouraging them to reflect on their actions to the difficulties pointed out. Thus, they were led to rethink and rebuild the way to accomplish their work routines, generating future repercussions in qualifying and recovery care.

The methodology provided a more thoughtful and conscientious look at the universe that involves the administration of medications to children and their peculiarities. It also provided an opportunity to explore a new extension involved teaching methodology, which proposes a research-

action, in which the subject interacts directly with guiding questions, reflecting on possible changes.

The initiative has so many positive points that was recognized by the management of the hospital, being asked to expand this work for any hospital. Therefore, expanded the project to the extension program "Good practices in Nursing and Pharmacy in standardization, dilution and administration of medicines in hospitals", which obtained funding announcement extension of UNIPAMPA and has been generating actions as standardization, dilution of drugs in the hospital, courses and workshops on the administration of medication, with the aim of contributing effectively to the improvement of the care provided.

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