

## EDUCATIONAL CONDUCTS ON PATIENT SAFETY TO FAMILY MEMBERS OF HOSPITALIZED CHILDREN: MULTIPROFESSIONAL TEAM RECORDS

### CONDUTAS DE EDUCAÇÃO AO FAMILIAR PARA PROMOÇÃO DA SEGURANÇA DA CRIANÇA HOSPITALIZADA: REGISTROS DA EQUIPE MULTIPROFISSIONAL

### CONDUCTAS DE EDUCACIÓN FAMILIAR PARA PROMOVER LA SEGURIDAD DE LOS NIÑOS HOSPITALIZADOS: REGISTROS DEL EQUIPO MULTIPROFESIONAL

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## ABSTRACT

**Objective:** to analyze the records of the multiprofessional team of education conducts related to patient safety to family members of hospitalized child. **Method:** Cross-sectional, descriptive and retrospective study with secondary data. The sample consisted of 126 medical charts of hospitalized pediatric patients in medical-surgical units. **Results:** The average age was 44.58 months, most patients were male (55.4%) living in Porto Alegre, RS, Brazil (43.7%) and hospitalized for respiratory system dysfunction (36.5%). All records were performed by nurses. Guidance related to prevention of falls was the most frequent and provided at admission (72.2%) and during the first week of hospitalization (21.4%). **Conclusion:** the information related to educational conducts to family members to promote pediatric patient safety is poorly recorded in medical charts; it is necessary to involve the multidisciplinary team in this process.

**Keywords:** Patient Safety; Medical Records; Patient Care Team; Child Hospitalized; Health Education.

## RESUMO

**Objetivo:** analisar os registros da equipe multiprofissional sobre condutas de educação do familiar para promoção da segurança da criança hospitalizada. **Método:** estudo transversal, descritivo e retrospectivo com uso de dados secundários. A amostra foi constituída por 126 prontuários de pacientes pediátricos internados nas unidades clínico-cirúrgicas de um hospital no Sul do Brasil, no período entre setembro/2013 e agosto/2014. **Resultados:** a média de idade foi de 44,58 meses, sendo a maioria do sexo masculino (55,4%), residente em Porto Alegre-RS, Brasil (43,7%) e internado por disfunção do sistema ventilatório (36,5%). Todos os registros foram realizados por enfermeiros. A principal orientação relacionou-se à prevenção de quedas no momento da admissão (72,2%) e durante a primeira semana de internação (21,4%). **Conclusão:** as informações relacionadas às condutas de educação do familiar para promover a segurança do paciente pediátrico ainda são pouco registradas em prontuário, sendo necessário envolver a equipe multiprofissional nesse processo.

**Palavras-chave:** Segurança do Paciente; Registros Médicos; Equipes de Saúde; Criança Hospitalizada; Educação em Saúde.

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## RESUMEN

**Objetivo:** analizar los registros del equipo multiprofesional sobre conductas de educación familiar para promover la seguridad de los niños hospitalizados. **Método:** estudio transversal, descriptivo y retrospectivo con el uso de datos secundarios. La muestra consistió en 126 archivos de pacientes pediátricos hospitalizados en unidades médico-quirúrgicas. **Resultados:** la edad promedio era de 44,58 meses, la mayoría eran varones (55,4%), residentes en Porto Alegre (43,7%) y hospitalizados por una disfunción del sistema respiratorio (36,5%). Todos los registros fueron realizados por enfermeras. La principal orientación era sobre la prevención de caídas en el momento de ingresar al hospital (72,2%) y durante la primera semana de hospitalización (21,4%). **Conclusión:** en los registros médicos hay poca información sobre las conductas de educación familiar para promover la seguridad de los pacientes pediátricos y, para ello, se precisa que el equipo multiprofesional participe en este proceso.

**Palabras clave:** Seguridad Del Paciente; Registros Médicos; Grupo de Atención al Paciente; Niño Hospitalizado; Educación en Salud.

## INTRODUCTION

Safety is a basic principle and a fundamental requirement for the quality of care in health care services. According to the World Health Organization (WHO), patient safety is the reduction of the risk of unnecessary harm associated with health care to an acceptable minimum. In this taxonomy, an incident corresponds to any event or circumstance that may or may not result in unnecessary harm to the patient, and adverse event is any incident that results in harm to the patient. Damage is defined as the impairment of structure or function and/or any effect from it, which may be physical, social or psychological.

Safety should be valued as a right of the patient and an ethical commitment of health professionals. Importantly, safe care results both from the correct actions of professionals and from adequate processes and systems in the institutions and services, through the continuity of regulatory governmental policies.<sup>1</sup>

Patient safety has become a global movement, requiring the establishment of a common language and contributing to the process of effective communication in health. From the 2000s, the WHO recommended that patient safety was included in the agenda of researchers from around the world, which was acknowledged as a fundamental dimension of health quality.<sup>2</sup>

In Brazil, the Ministry of Health (MOH) established in 2013 the National Patient Safety Program, whose general objective is to contribute to the qualification of health care in all health facilities in the national territory.<sup>3</sup> Prior to this, since 2008, nursing has developed the theme, particularly through the Brazilian Network of Nursing and Patient Safety (REBRAENSP). This Network encourages multiprofessional integration to promote safe health care based on the development of good practices.

Data on the frequency of adverse events in developing and transition countries is still scant. However, in Brazil, it is estimated that the incidence in hospitals is around 7.6% of hospitalizations. Of this total, 67% has been classified as preventable.<sup>4</sup> A survey with 113 children assisted in a pediatric intensive care unit in São Paulo recorded 38 occurrences of adverse events (mean of 2.9 adverse events per child), of which 32.7% were related to drugs.<sup>5</sup> Also in Brazil, a study carried out in a pediatric intensive care unit for cancer patients registered 71 no-

tifications of 110 medication errors, representing 227 errors per thousand patients/day.<sup>6</sup>

A review study on patient safety measures based on data collected from US hospitals identified that, although adverse events were estimated to occur in less than 10% of hospital admissions, approximately 7% of them resulted in death. Moreover, half of the adverse events could have been prevented.<sup>7</sup>

In the case of hospitalized children, several care circumstances may have consequent safety risks for and contribute to incidents such as falls, skin lesions, hospital infections, failure of invasive procedures, failures in the medication process, limited communication with the child's family, among others.<sup>8</sup> However, health professionals should be proactive in identifying risks and ensuring the safety of pediatric patients by establishing a partnership with caregivers/family members aiming at safe care through educational guidelines and actions.

The hospital environment can awaken in children the curiosity about the new and, at the same time, the fear of the unknown, making them vulnerable in relation to safety in the circumstances of care.<sup>8</sup> Children become may become passive, depressed, frightened, rebellious and vulnerable because they depend not only on the adult caregiver but also on the intensive care provided by the health team for their survival. Safety and protection must be included in the context of hospitalization, as guarantee of health care is a right of children. Therefore, care for hospitalized children should be guided by safe practices, aiming at their well-being and of their families.<sup>9</sup>

For purposes of record and to promote safe care with minimal risks, the entire process of care provided by the multidisciplinary team must be written down in medical records. The medical documentation of issues related to educational conduct on patient safety is indispensable for the development of the safety culture, which advocates the identification of adverse events and the promotion of safe care.

In this context, information recorded in medical records is the evidence of professionals' proactivity in identifying patient safety incidents, as well as establishing measures to prevent harm and provide guidance to patients and family members. Although the importance of these practices is a consensus

among professionals, this routine still needs to be improved. There are several limitations in the notification systems of safety incidents and in the records of the conducts adopted by professionals.<sup>7</sup> There are few studies on the documentation and recording of information regarding the strategies adopted to ensure patient safety and their relevance for the quality of care for hospitalized children.

It is also worth noting that studies on this subject are relevant to encourage professionals to improve the quality of their records and to guarantee the patients' right to a safe care. In view of this, the guiding question of the present study was: what conducts adopted by the multiprofessional team to promote education to families on safety of hospitalized children are present in medical records? In order to respond to this question, the objective was to analyze the records of conducts adopted by the multiprofessional team to promote education to families on safety of hospitalized children.

## METHOD

Cross-sectional, descriptive and retrospective study using secondary data.<sup>10</sup> The research was developed in a large university hospital with 843 inpatient beds for adults and children located in the South of Brazil.

The sample of this study consisted of records of pediatric patients (between zero and 18 incomplete years) hospitalized in clinical-surgical units between September 2013 and August 2014. Because this was a descriptive study, it was decided, upon recommendation of a statistician, not to perform a sample calculation but apply a random selection of 10% of the medical records instead. Considering that, according to data from 2013-2014 of this hospital, there were 1,259 hospitalizations in the two pediatric units. Thus, the following scheme for monthly stratification of the sample was adopted (Figure 1).

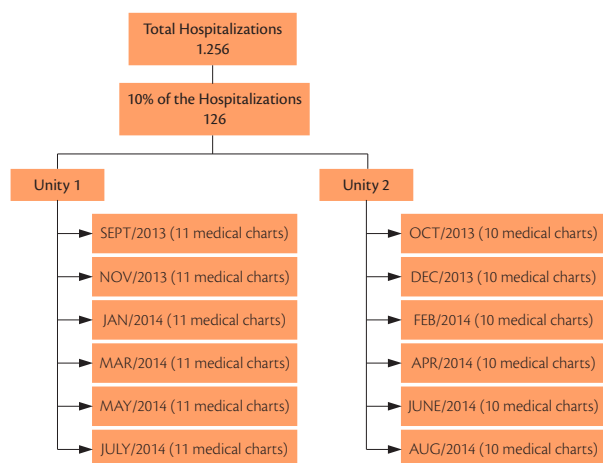


Figure 1 - Stratification of the number of medical charts for data collection. Porto Alegre, RS, Brazil, 2017.

The final sample size was 126 charts. Patients hospitalized for at least seven days, aged less than 18 years, who had electronic records with professional records in the anamnesis and with daily evolution in the units of clinical-surgical hospitalization were included. Medical records of patients admitted to the PICU and the onco-hematological unit were excluded. We chose to carry out the study in the area of clinical-surgical hospitalization (totaling 66 beds) due to the similarities between the units and the profile of the professionals; the other areas had peculiarities that would make it difficult to compare the results. The medical records were evaluated up to seven days after the date of admission. The hospital uses a Software (AGHUse) created to manage care and administrative processes. The AGHUse is used by all professionals - health and administrative staff and students - who carry out their assessments and register them in the electronic record in daily basis. Two specific tabs are available for the record of anamnesis and daily evolution: conducts and education conducts. The conduct refers to the procedures performed by the professionals and recommendations to be followed. In turn, education conducts represent the space destined to register the guidelines given to patients/relatives. There is also a third space for records in which the guidance provided should be noted and whether or not this was understood and/or further reinforcement is needed. All information is consolidated in the *Online Chart*.

As an institutional routine, some guidelines must be provided to patients/families when they are admitted to the pediatric units through *institutional* folders. These refer to the minimum care needed to promote safe care: patient identification, hand hygiene, and prevention of falls. Thus, the records on the educational conducts were evaluated in two moments: at the admission of the patient (anamnesis) and in the daily evolution (educational conduct) of all professionals involved in the care. Data were collected by means of an instrument covering sociodemographic characterization of patients and the study variables related to medical records related to patient safety: patient identification, hand hygiene, measures to prevent falls and the professional category that did the records.

The primary endpoint is the record of patient safety guidelines in medical records. The secondary endpoint is the relation of these records to the professional categories and the characterization of the sample (age, sex, time of hospitalization and origin).

Data was stored in a database in the Excel® program and processed in the *Statistical Package for the Social Sciences - SPSS* version 20.0. The *Mann-Whitney U* test and the *Pearson's chi-square* test were used in the analyses, considering 95% confidence index and significance when  $p < 0.001$ .<sup>10</sup> The project was approved by the Research Ethics Committee of the institution via Plataforma Brasil under CAAE n° 47147715.9.0000.5327 and followed the norms of Resolution 466/12.

## RESULTS

A total of 126 medical records of children and adolescents hospitalized in the pediatric clinics were evaluated, being 47.6% female and 52.4% male. The mean age was 44.58 months ( $\pm 52.4$ ), ranging from zero to 201 months. The majority of patients lives in Porto Alegre (43.7%) or in the metropolitan region (25.4%), but the group that came from the country side of the state (30.2%) stood out. The main reasons for hospitalization were related to the respiratory system (36.5%), followed by hospitalizations for surgical procedures (12.7%) and diseases related to the gastrointestinal system (9.5%).

The length of hospitalization ranged from seven to 160 days, with an average of 14.72 days ( $\pm 20.6$ ) and most of the children were in the company of their mothers (77.0%). Fathers (5.5%), grandparents (4.0%) and aunts/uncles (2.4%) were also accompanying some children. Only one child was unaccompanied during hospitalization.

The registration of educational guidelines for patients and families is recommended from the moment of admission and must be reinforced daily according to the demands and/or needs identified in the evaluation of the patient and his/her companion. Figure 2 shows the comparison between the record of educational conducts adopted by health professionals and length of hospitalization (Figure 2)

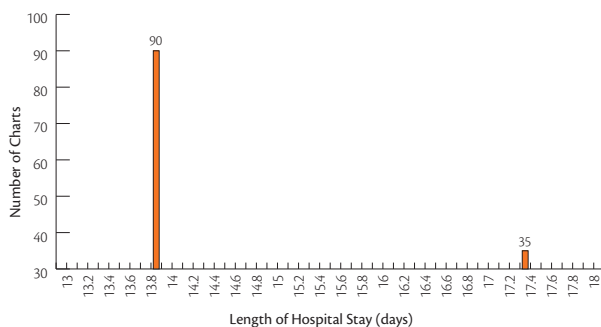


Figure 2 - Comparison between the number of charts with records of educational conducts and length of hospital stay. Porto Alegre-RS, Brazil, 2017.

Guidelines at the first moment (at admission) and/or at a later moment (within seven days) were found in 90 charts; hospitalizations lasted, on average, 13.8 days ( $\pm 20.0$ ). Among the 35 charts without any record of guidelines, the length of hospitalization was 17.31 days ( $\pm 22.4$ ). The relationship between length of hospital stay and whether or not guidelines were received were not statistically significant ( $p = 0.400$ , 95% CI), according to the Mann-Whitney U test.

The registration of guidance related to the prevention of falls was more frequently associated with the moment of admission (72.2%) and during the first week of hospitalization (21.4%). The identification of the patient (7.1%) was the least

strengthened guidance during hospitalization, according to the data collected in electronic medical records.

Table 1 - Distribution of charts according to the moment and the type of guidance provided to the companions of hospitalized children. Porto Alegre, RS, Brazil, 2017 (n = 126)

	1 <sup>st</sup> Moment (admission)		2 <sup>nd</sup> moment (up to 7 days)	
	Yes (%)	No (%)	Yes (%)	No (%)
Patient identification	65.9	34.1	7.1	92.9
Hand hygiene	65.1	34.9	12.7	87.3
Prevention of falls	72.2	27.8	21.4	78.6

Educational conducts related to international goals for patient safety were 100% registered by nurses or nursing students. Other health professionals registered information on education conducts exclusively related to their professional practice. For example, physiotherapists recorded guidelines on respiratory care, breathing maneuvers; social workers, on the rights of children and adolescents; psychologists, on psychoeducation; nutritionists, about hygiene of bottles, maintenance of exclusive hospital food; and pharmacists, on medication after hospital discharge. No record of educational conducts by the medical team was found on the charts. Doctors made records, for example, about prescribed drugs and requested tests on the tab of general conducts.

According to records, patient safety guidelines were given primarily to parents and family members. The total of 79 fathers and/or mothers received guidance at admission, and 88.5% understood the information and did not need reinforcement during hospitalization. Of the eight uncles/aunts and grandparents who received guidance at admission, none needed reinforcement. The relationship between the type of companion and the need for reinforcement was not statistically significant ( $p = 0.775$ ; 95% CI) according to Pearson's chi-square test.

## DISCUSSION

The sample of this study was composed of 126 medical records of pediatric patients that contained or not the records of guidelines on educational conducts for the safety of the patient during hospital stay. According to the characterization of the sample, the average age was between three and four years and the majority were boys living in Porto Alegre. The main reason for hospitalization was related to the respiratory system and the mean length of hospital stay was 14.72 days.

A study carried out in a public hospital in the southern region of Brazil pointed out that hospitalizations in the age group of zero to five years occupy a significant percentage of hospital beds, and severe cases occur mainly in under-one children.<sup>11</sup>

Study based on data from the Health Information System<sup>12</sup> from 1998 to 2007 showed that the causes of hospital admissions in the Unified Health System (SUS) in the several regions of Brazil that most affect children in the age group of one to four years are related to diseases of the respiratory system (40.3%), what is in agreement with the present research. According to the MOH, infectious and parasitic diseases (21.6%) are the second cause, followed by diseases of the digestive system (5.5%), external causes (2.5%) and diseases of the genitourinary system (2.2%).<sup>12</sup>

Several causes of hospitalization were found. There was a marked seasonality between the months of June and September; the majority of patients in these months were hospitalized for respiratory infections and spent less time in the hospital. Between December and March, patients with chronic diseases with recurrent hospitalizations prevailed. Based on the knowledge of this profile, it is possible to establish some patient safety strategies for hospitalized children and their companions/caregivers.

At some moment of the hospital stay, 90 patients (71.42%), who had an average length of stay of 13.8 days, had records of education conducts related to patient safety. On the other hand, 35 patients (27.78%), with an average stay of 17.31 days, had no record. Although the statistical tests showed no significant results, it is noted that patients who stayed less time received more guidance on safety measures than patients with longer hospitalization, according to information in the medical records.

A integrative review of the literature on the records of nursing teams<sup>13</sup> found that, in spite of the ethical-legal implications and the importance of the notes, many studies have found factual, random, redundant, subjective, and technically incorrect records that completely lack systematization that could subsidize the planning of nursing care. Furthermore, it was pointed out that incomplete nursing records in medical charts entails serious administrative, financial and assistance consequences.<sup>13</sup> Other research mentioned that inadequate documentation or lack of information on medical charts may be related to the very occurrence of adverse events, for they represent the necessary evidence for the provision of specific and adequate care for each patient.<sup>14</sup>

Still in this context, it should be noted that electronic health records are relevant and sufficient sources of information to follow up the quality and safety achieved in the institution/service. However, it is worth emphasizing that professionals should value the excellence of quality of the records/documentation. They should adopt a methodology to support the reliability of the collected data, in order to evaluate the quality or the lack of it in the indicators evaluated.<sup>15</sup> In fact, the quality of medical charts reflects the quality of the care and the productivity of the work. When the registry is scarce and inadequate, it compromises the care provided to the patient, as well as the institution and the health team.<sup>16</sup>

We found 125 medical charts (99.20%) with records of educational actions related to patient safety. Only one medical chart did not present any kind of educational conduct, because the child remained unattended throughout the hospital stay. All records of patient safety guidelines in the electronic medical chart, in the space reserved for educational conducts, were made exclusively by nurses or nursing students.

According to Ordinance n° 529 of the Ministry of Health<sup>3</sup>, safety culture implies that all workers are accountable for their own safety, for the safety of their colleagues, of patients and of their family members, and encourages and rewards identification, notification, and resolution of security-related issues. Study on work system models and patient safety indicates that the health work system model is currently focused on the medical professional as the center of actions. However, it is now acknowledged that it is more appropriate to conceptualize the multiprofessional team or the patients and their families as the central subject of the work system. In this sense, teamwork has gradually gained more attention as a way of organizing the work in health services, and managing care processes to improve the quality of care and patient safety.<sup>17</sup>

The importance of documenting patient safety records is directly related to the quality of care and appreciation of the theme by professionals. Patient safety guidelines remain challenging; they need to be incorporated in the building of safe care. Health teams should be engaged in the process of education and registration of guidelines. It is believed that this is an aspect to be stimulated among professionals involved in the provision of health care for children.

A total of 117 patients (92.85%) were accompanied by mothers and/or fathers. Of these, 79 were guided at the moment of admission and nine needed reinforcement during hospitalization, as recorded in the medical charts. Eight patients (6.35%) were accompanied by other family members (uncles/aunts, grandparents), six of whom were guided at admission and none of them needed reinforcement. Statistical differences in the relationship between the type of companion and the need to reinforce the guidelines provided could not be identified.

During hospitalization, children are more exposed to adverse events and/or injuries. The inclusion of family members to perform care and permanent follow-up softens part of the child's suffering and assists in the promotion of safe care.<sup>8</sup> The World Health Organization recommends that one of the measures to ensure patient safety is the development of autonomy and co-responsibility of the patient/companion in the process of treatment, recovery and healing. The Ministry of Health<sup>3</sup> also recommends the involvement of patients and family members in patient safety actions and the expansion of society's access to information on the subject.

Because of the emotional involvement and the physical care that parents provide to their children, it is believed to be

easier for them to understand the guidance given and to carry out safety measures. Other relatives, because they are more distant and less involved in the hospitalization process, would need more reinforcement during hospitalization. As the sample of other relatives than father and mother was too small, this was not representative. However, it is important to note that all caregivers, whether parents or other family members, should be advised and aware of the safety measures for the pediatric patient during hospitalization.

The guidelines on prevention of falls were the most cited in electronic records, both at admission (72.2% of the medical charts) and during hospitalization (21.4% of the medical charts). At the time of admission, guidelines on patient identification (65.5%) and hand hygiene (65.1%) were recorded in the same proportion. However, they were very little reinforced during hospitalization - hand hygiene (12.7%) and patient identification (7.1%).

According to a manual of patient safety strategies created to professionals<sup>18</sup>, patient identification is one of the means to ensure the quality and safety of care in health services. The diversity of professional and multiple procedures and treatments require that safe patient identification practices be established. The absence or duplicity of information or even inaccuracies in the patient's registration data can cause various types of errors in health care. It is the responsibility of all health professionals to confer the patient identification prior to any procedure/treatment, so that the correct patient receives the correct care. Guiding the patient and the companion as to the bracelet that is placed on the patient's arm is a duty of everyone providing the safe care.<sup>19</sup>

A study carried out in a university hospital in the South of Brazil shows low adherence rates to the goal of patient identification (42.9%). After the educational strategies, the established goal of 80% was exceeded. It is important to develop educational strategies to support safe and evidence-based practices, with the involvement of professionals and the commitment of managers.<sup>20</sup>

Hand hygiene is one of the most important practices in health care. Studies conducted worldwide have shown the association of infections acquired in the hospital environment with inadequate hand hygiene practice. It is estimated that 1.7 million infections are associated with health care and, of these, 100,000 lead to death.<sup>18</sup> Measures to control hospital infection should be incorporated into the daily practice of all health professionals. It is the responsibility of the multidisciplinary team to correctly adopt preventive measures and adequately guide patients/caregivers. Good example and constant educational reinforcement will make it possible to reduce the number of health care-associated infections.

All health staff should play an active role in preventing patient falls. Systematically and periodically evaluating the risk factors for falls and maintaining the communication (written, verbal and visual) of the findings is a function of all those involved

in the safe care.<sup>18,19</sup> Pediatric patients are at high risk because of their age group. A child playing in the corridors of the hospital or a clinical evaluation at the bedside when the grilles are lowered are examples of situations when fall prevention measures should be addressed. These scenes are part of the daily routine of pediatric areas and, from the perspective of safety, they must be addressed by all components of the multidisciplinary team.

There has been a growing concern with patient safety measures in daily hospital practice. However, supervision, guidance and registration of safety conducts are still restricted to nursing professionals. Nutritionists, physiotherapists, pharmacists, social workers and psychologists registered educational practices, but those specifically related to their professional practice. These notes may imply improvement of self-care and indirectly promote patient safety. Thus, we emphasize the need to involve the whole health team so that safety become more appreciated and gain interdisciplinary and multiprofessional characteristics.

## CONCLUSION

Information related to educational actions to promote pediatric patient safety is still poorly recorded in medical charts. The data collected in this research showed that the majority of patients/relatives are guided only at the moment of admission, with few reinforcements recorded during hospitalization. The most frequent guidance was related to prevention of falls. All records of patient safety education conducts were performed by nurses or nursing academics. Other professionals recorded education conducts that were not linked to international goals, but which may indirectly promote patient safety. It is important to work this theme with the multiprofessional team so that everyone may be able to educate/guide patients/relatives and promote safe care. Furthermore, it is necessary to encourage the various components of the health team to make quality records on educational actions to companions and family members.

The conclusions of the study, in agreement with the literature, emphasize that the review of medical charts could be a viable strategy to the Brazilian reality to measure education actions related to patient safety. However, there are flaws in the quality of the currently available records and information systems.

The limitations of this study are related to those of cross-sectional studies that consider specific cuts in a given time period; the possibility of the medical charts be biased due to the fragile filling of information and the peculiarities of the multiprofessional work process, in which not all of members of the team recognize patient safety as an object of health care.

Intervention studies linked to awareness strategies for the culture of patient safety and education of patients and relatives among multiprofessional team professionals are encour-

aged. Carrying out studies to investigate the educational processes developed for patient safety among the professionals themselves, children and caregivers would also be timely.

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