ORIGINAL ARTICLE

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QUALITY ANALYSIS OF NURSING TECHNICIANS' RECORDS IN A PEDIATRIC INPATIENT UNIT

ANÁLISE DA QUALIDADE DOS REGISTROS DOS TÉCNICOS DE ENFERMAGEM EM UNIDADE DE INTERNAÇÃO PEDIÁTRICA

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ABSTRACT

Objective: to analyze the quality of nursing records performed by nursing technicians from a pediatric inpatient unit of a public teaching hospital. **Method:** this is a descriptive study of document analysis, with a quantitative approach, conducted in a pediatric inpatient unit in southern Brazil, in 2019. **Results:** the sample totaled 67 medical charts of children and adolescents. All nursing technicians' records were analyzed through a retrospective audit. Regarding the classification of care, it was found that, in the general context, the records revealed poor nursing care. The evaluation of the records did not allow classification as quality records for any of the items surveyed. **Final Considerations:** the study allowed for the acknowledgment of inaccuracies in nursing records, which had an impact on the quality of care, also, it allowed to acknowledge requirements that need to be improved in the nursing team's work process.

Keywords: Quality Management; Quality Improvement; Quality of Health Care; Nursing Records; Pediatrics.

RESUMO

Objetivo: analisar a qualidade dos registros realizados pelos técnicos de enfermagem em uma unidade de internação pediátrica de um hospital universitário público. **Método:** trata-se de uma pesquisa descritiva de análise documental, com abordagem quantitativa, realizada em uma unidade de internação pediátrica no sul do Brasil, em 2019. **Resultados:** a amostra contou com 67 prontuários de crianças e adolescentes. Foram analisados todos os registros realizados pelos técnicos de enfermagem, por meio da auditoria retrospectiva. Encontrou-se que, no que tange à classificação da assistência, no contexto geral, os registros refletiam uma assistência de enfermagem sofrível. A avaliação dos registros não permitiu a classificação como registros de qualidade para nenhum dos itens pesquisados. **Considerações Finais:** o estudo possibilitou o reconhecimento de inexatidões nos registros de enfermagem, os quais repercutiram na qualidade da assistência, além de permitir o reconhecimento dos requisitos que necessitam ser melhorados no processo de trabalho da equipe de enfermagem.

Palavras-chave: Gestão da Qualidade; Melhoria de Qualidade; Qualidade da Assistência à Saúde; Registros de Enfermagem; Pediatria.

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INTRODUCTION

In nursing, the quality of care began to become a subject of discussion since the time of Florence Nightingale, who introduced an approach to the process of improving quality in health, as well as reported the perceived difficulties in changing practice. Currently, Nightingale's findings are still considered determinants in the quality of care, but more focused on the quality of care as a patient's right[1-2].

Quality Management is understood as a managerial restructuring of institutions. Its basic principles are focused on the client, the teamwork arrangement, evidence-based decision-making, and ongoing research to solve problems and reduce errors[3].

Nursing professionals play important roles in the quality process in health institutions, with nursing technicians representing 80% of the nursing workforce in Brazil[4]. Thus, the professional commitment to meeting the patient's needs and the continuous search for knowledge through training make the nursing team the holder of quality ideals[1]. However, it is noteworthy that the application of quality management models in this population is intensely necessary, since professional practice is complex and has weaknesses, particularly concerning written communication in nursing[4].

Therefore, the meaning of Quality Management, especially in the health context, is undeniable[5]. Improving the quality of care has become a worldwide priority, as it has noble and relevant objectives, such as ensuring patient safety, improving clinical effectiveness, and providing opportunities for public responsibility[6].

Health audit aims to promote the quality of care, as well as the management of expenses, to allow proper supervision, resulting in desired care standards, satisfying both the client and the institution[7-8].

As the quality of care is closely related to interprofessional communication and, therefore, to the suitable filling out of medical charts, as they are permanent and unchanging communication, it is crucial that the nursing team, the main providers of patient care, pay attention to the necessity of completeness and consistency in the care records.

It is important to keep in mind that the care provided to children and adolescents must be done with caution, as this is a fragile population that demands greater attention, as mistakes may cause severe consequences to this target audience. Therefore, the objective was to analyze the quality of nursing records carried out by nursing technicians in a pediatric inpatient unit of a public teaching hospital.

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METHOD

This is a descriptive, observational, and document analysis study, with a quantitative approach, carried out in a 15-bed pediatric inpatient unit of a public teaching hospital located in southern Brazil.

The study sample was the medical charts of children and adolescents hospitalized in the pediatric unit of the aforementioned hospital, consisting of 67 records, where all records made by nursing technicians during the patient's hospitalization were analyzed. It is important to mention that in the researched institution, nursing assistants were not part of the study sample.

The inclusion criteria considered medical charts of children and adolescents hospitalized for at least 72 hours, in the pediatric unit undergoing clinical or surgical treatment, in addition to having information recorded in medical charts by the nursing staff of each work shift of the aforementioned inpatient unit.

Data collection was conducted from July to September 2019. Data collection took place through a structured instrument. An analysis of the quality of care was performed grounded on Saupe and Horr [(9)], and an analysis of the quality of nursing technicians' records based on Cianciarullo, Fugulin, and Andreoni [(10)].

To analyze the quality of care, data on admission procedures, nursing reports and procedures, compliance with a medical prescription, and discharge/transfer process were extracted. At this stage, the answer options of yes, no, and not applicable were used, besides the possibility of including observations.

To analyze the quality of nursing technicians' notes, nursing reports, prescriptions, and procedures were evaluated. Each item was analyzed as complete, incomplete, blank, or incorrect, in addition to the spaces for observations.

Information from data collection was organized, categorized, and grouped in spreadsheets in the Microsoft Office Excel® 2016 program. The quality of the nursing staff records held in the pediatric inpatient unit was assessed based on the scores resulting from the retrospective audit scripts.

To analyze the quality of care, we calculated the percentage of the relative frequency of positive answers (yes) and classified them according to the methodological framework. This data processing method is known as the Positivity Index (PI).

To analyze the quality of records, the percentage of absolute and relative frequencies were calculated by adding the number of times of all scores per item. The results were classified as recommended by Cianciarullo, Fugulin, and Andreoni[(10)].

The study followed all the recommendations in Resolutions no.

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466/2012 and no. 510/2016 of the National Health Committee. The research was evaluated and approved by the Standing Committee on Ethics in Research with Human Beings and was approved under opinion no. 3,401,500.

RESULTS

A total of 1,887 records were analyzed in the medical charts of 67 children and adolescents. Of these, 561 were nursing prescriptions and 1,326 nursing notes. Concerning hospital stay, there was an average of 8.4 days, with a median of 7 days.

Regarding the classification of care proposed by Saupe and Horr (1982)[9] in the records made by nursing technicians, it was found that, generally, the records revealed poor nursing care. The results obtained are shown in Table 1.

Table 1 − Classification of the quality of care based on the records made by nursing technicians in the medical charts of children and adolescents admitted to the pediatric unit of the hospital under study. Brazil, 2019

Nursing technicians' records	PI%*	Care classification**
Admission		
Records of admission by the nursing technician	71.6	Borderline
The record describes the patient's general conditions	61.3	Deficient
Medical prescription for admission was checked	75.8	Borderline
Medical prescription for admission was signed	45.2	Deficient
Nurse's evolution		
Presence of nurse's evolution every shift	62.2	Deficient
The evolution indicates individualized care	51.6	Deficient
Evolution identification	4.1	Deficient
Nursing procedures		
Procedures were recorded	31.7	Deficient
Procedures were signed	6.0	Deficient
Execution of medical prescription		
The medical prescription was checked	66.9	Deficient
The medical prescription was signed	50.1	Deficient

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Discharge/transfer process		
Presence of discharge/transfer record	53.7	Deficient
Record of physical conditions and/or complications	32.8	Deficient

Notes: * PI: Positivity Index; ** Classification based on the Saupe and Horr criterion[9], which classifies care as: 100% Desirable, 90 to 99% Adequate, 80 to 89% Safe, 71 to 79% Borderline and <70% Deficient.
Fonte: Os autores.

In the admission procedures attributed to the nursing technician's duties, it was observed that the presence of an admission report represented borderline assistance (PI 71.6%). However, concerning the description of the patient's general conditions, it was deficient (PI 61.3%).

In the process of auditing the medical charts, reports with inconsistent ambiguities were also observed, such as the information of parenteral nutrition, when the patient was breastfed.

It was identified that many medications, such as antibiotics, corticoids, antipyretics, analgesics, anti-inflammatory drugs, anticonvulsants, vitamins, and gastric protectors were not checked or with initials at all scheduled times. We observed a case of a premature newborn, who received a high dose of glucose solution, in which 34 ml/h were infused instead of the prescribed volume of 34 ml in 24 hours, causing an increase in blood glucose in the patient, with notes of 242 mg/dl. The dose administration error was registered and reported, and there was a need to extend the child's hospitalization because the child had significant changes in capillary glycemia in the following days, with difficulty stabilizing his clinical condition.

Regarding the nursing report per work shift, a PI of 62.2% was reached, also characterizing deficient care. One of the main factors observed that contributed to this rate was the presence of only one report for the two work shifts.

About the individualized care expressed in the reports of the nursing technicians, a PI of 51.6% was found, which showed deficient care. Several misconceptions were found, which refer to patient identification, clinical diagnosis, and the use of terminology and medical-hospital devices.

As for the identification of these reports, which referred to the investigation of the day and time of the nursing record, as well as the proper identification of the professional who performed it, characterized by the signature and registration number of the Regional Nursing Board, there was a PI of 4.1%, an extremely low rate, indicating deficient assistance.

To show the results of the second part of the script on the retrospective audit of

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nursing technicians' records, we elaborated Table 2. Regarding the nursing notes, concerning the presence of professional identification, it was found that most of the records were incomplete (66.2%). The night shift used to put the initials of the whole team of nurses technicians in all reports of the shift, making professional identification difficult and violating institutional norms.

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Table 2 − Quality assessment of nursing technicians' records in medical charts of children and adolescents admitted to the pediatric unit of the hospital under study. Brazil, 2019

Assessment criteria	Complete			Incomplete			Blank			Incorrect		
	Nº	%	I*	Nº	%	I*	Nº	%	I*	Nº	%	I*
Nurse's notes												
Professional identification	180	32.5	-47.5	367	66.2	-51.3	6	1.1	+	1	0.2	-0.2
Nursing care	313	56.4	-23.6	206	37.1	-22.2	7	1.3	+	29	5.2	-5.2
Complications	221	39.8	-40.2	87	15.7	-0.8	212	38.2	-33.3	35	6.3	-6.3
Mobility dependency	178	32.1	-47.9	266	47.9	-33.0	58	10.5	-5.6	53	9.5	-9.5
Dressings and/or equipment	155	29.0	-51.0	267	49.9	-35.0	50	9.3	-4.4	63	11.8	-11.8
Patient's emotional state	233	41.9	-38.1	254	45.7	-30.8	68	12.2	-7.3	1	0.2	-0.2
Nurse's prescription												
Nursing care was checked	361	68.1	-11.9	144	27.2	-12.3	20	3.8	+	5	0.9	-0.9
Nursing care have the professional's identification	49	9.3	-70.7	411	77.7	-62.8	60	11.3	-6.4	9	1.7	-1.7

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Nursing procedures												
Oral hygiene	197	35.1	-44.9	302	53.8	-38.9	52	9.3	-4.4	10	1.8	-1.8
Body hygiene	327	67.0	-13.0	73	15.0	-0.1	47	9.6	-4.7	41	8.4	-8.4
Vital signs control	374	68.1	-11.9	165	30.1	-15.2	5	0.9	+	5	0.9	-0.9
Patient weight control daily	343	61.8	-18.2	13	2.3	+	187	33.7	-28.8	12	2.2	-2.2
Physiological eliminations	446	79.5	-0.5	90	16.0	-1.1	17	3.0	+	8	1.4	-1.4
Food and fluids intake	445	79.3	-0.7	90	16.0	-1.1	11	2.0	+	15	2.7	-2.7

Note: *Index based on Cianciarullo, Fugulin and Andreoni criteria [10], which consider quality records the items that present: Complete ≥ 80%, Incomplete ≤15%; Blank < 5% and Incorrect 0%

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Regarding the report of complications on nursing reports, none of the criteria reached a suitable percentage to classify the item as a quality record. Thus, it was evident that the complete evaluation criterion was 40.2% below the recommended, with a high percentage of blanks (38.2%) and incorrect (6.3%) records.

Thus, the findings allowed us to observe that several complications that were the nursing team's duty were not recorded, such as glycemic changes, considerable changes in weight, removal of tubes and catheters, in addition to basic signs and symptoms, that may be observed in nursing procedures, as inflammatory signs in the umbilical stump and genitourinary hyperemia.

Concerning the daily weight record, most records (61.8%) were filled out completely. However, except for the incomplete aspect, all the other evaluation criteria demonstrated to be non-compliant with the parameters validated in the literature. It is noteworthy, in this regard, the percentage of blank records, which was 28.8% above the recommended.

A positive thing to be highlighted is the indexes referring to the records of physiological eliminations and food and fluids intake, which were within the established framework for the blank evaluation criterion. It is noteworthy that the other criteria came very close to reaching the recommended parameters, with a percentage of complete records corresponding to 79.5% for physiological eliminations and 79.3% for food and fluids intake.

Finally, as for filling out the nursing prescription by the nursing technician, it was found that, for the complete assessment criterion, most of the prescribed care actions were checked (68.1%), however, the professional initials were verified in only 9.3% of the records, with an index of 70.7% below what the literature recommends.

DISCUSSION

Hospitalization, especially for pediatric patients, causes instability and changes in the family routine, it also creates feelings that unbalance their emotional state and increase feelings of ephemerality and guilt, causing physical and emotional exhaustion[11-12].

Moreover, this process causes major changes in the child's habits, and factors such as the length of hospital stay and the type of intervention may cause important consequences for child development[11]. Therefore, nursing care must aim at patient rehabilitation and the decrease of hospital stay and not have the opposite effect.

The nursing notes must have enough information to enable the continuity of care effectively, therefore, the records need to

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include information about the procedures performed and the materials used, so that the professional can assess the follow-up and the repercussions on the health of the hospitalized child or adolescent[13].

Thus, the need for the nursing team to provide more caring and conscientious assistance is reaffirmed. However, it is known that they are often overwhelmed by the lack of structure and sufficient staffing[14].

It is emphasized the management significance of providing physical, material, and human resources for the humanization of both care and professional practice, in addition to providing better conditions for quality care, as the absence of these results in improvisations and continuous efforts to achieve good results[14-15].

It is highlighted the significance that the nursing team has in the precise and safe performance of procedures, especially those involving the administration of medications, since the consequences of errors considerably impact the client's health, particularly in pediatric patients, due to its physiological characteristics and the unavailability of adequate pharmaceutical forms for this audience[16-17].

It is essential to highlight that medication errors may occur at any stage of the process, whether prescribing, dispensing, or giving medication[16]. However, the nursing team is directly related to the end of this process, a fact that increases his/her responsibility to identify flaws because the nurse's task corresponds to the last opportunity to prevent incidents[18].

The administration of medications is one of the most important tasks given the nursing team and the occurrence of errors in this procedure, unfortunately, is part of the professional reality[16]. However, often the error becomes a form of disapproval and judgment instead of being seen as a way of professional improvement and growth, which makes the professional not want to admit the error and learn from it[14,18].

A study carried out in 2019[19], emphasizes that "safe care must be seen as a patient's right and the ethical commitment of the professional team throughout the health care network". However, although the health team must provide safe care, it is emphasized that the prevention of errors and injuries must also be incorporated into the organization and the service's implementation systems, which are generally the real causes of the occurrence of such incidents[18].

Nursing technicians need to be more aware of the notes they report, and also know the different vital parameters of the pediatric patient, to provide quality care safety for the user undergoing treatment[20].

Throughout the audit of the medical charts, it was observed a lack of knowledge regarding the patient's vital standards. It was

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also observed the recording of notes without expected awareness of the child's general conditions.

Regarding the date and time in which the nursing record was referred, as well as the correct identification of the professional, such information proved to be insufficient. This issue is highlighted, as the time recorded in the medical chart corresponds to the period in which the health professional is legally responsible for the patient.

The performance of safe practices is a duty of the whole nursing team, however, the team's supervision and management are exclusive activities of the nurse(19). Therefore, it is up to the nurse to perform a leadership based on the principles of quality management, as this action directly interferes with the health team's performance(15).

In this sense, it is highlighted that the nurse is accountable for the leadership and organization of both nursing services and their technical activities, from planning to the evaluation of nursing care services(21). Thus, it is expected by nurses that nursing technicians fulfill their professional skills and have skills that meet the patient's basic needs, including the description of vital signs and the correct administration of prescribed medications(4).

The importance of vital signs is well-known in the patient's clinical assessment and, besides checking them, it is also the responsibility of the nursing professional to record the physical indicators of bad vital parameters, especially if they show changes in the breathing pattern because the assessment of vital signs alone is not enough to carry out a quality clinical assessment(13).

In pediatrics, the weights of hospitalized children and adolescents must be checked and recorded daily, as the lack of this procedure may impact the safety of drug administration and delay decision-making on interventions in the patient's treatment, resulting in a delay in hospital discharge(22).

A study carried out at the Children's Hospital of Philadelphia, aiming to increase the agreement in performing daily weights, found that the reasons for the miss outs in their daily registration were related to the unimportance reported by the nursing professional, as they considered other more essential and urgent procedures, as well as the overload of activities associated with a shortage of time(22).

The results are consistent with the literature found, where the records by the nursing team are based on the acceptance of diet and the presence of physiological eliminations, which are not considered enough for the effectiveness of care(13).

The findings were similar to the study carried out by Padilha, Haddad, and Matsuda (2014), who found that the incompleteness of nursing records was more intensely related to individualized nursing prescription and to

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checking and professional personal identification in it[20].

In this regard, it is reported that the absence of professional identification in nursing records can make it difficult or impossible to clarify lawsuits or audits, losing one of its purposes. Therefore, it is extremely important to consider all items established by the Federal Nursing Board in the professional identification of nursing reports[8,13].

Therefore, it is asserted that the incompleteness of nursing records goes far beyond the classification of deficient quality of records and care, as it can interfere with the identification of health problems and, consequently, put the patient's life at risk, especially, in pediatrics.

Thus, it is emphasized that adequate professional identification in patient records, especially in nursing prescriptions, is essential not only to identify which professional performed the care, but also to prove that the care was, performed, since just checking the prescription is not enough to attest the nursing exercise[19,23].

The fact that only one scenario was investigated and the short time for data collection make up study limitations, as the results may be different from the reality of other services, besides not showing the continuous assistance offered by the hospital. Therefore, it is important to conduct the study in other hospital institutions over a longer timeframe.

FINAL CONSIDERATIONS

The results found allowed us to know the inadequacies that exist in pediatric care and interfere with its quality. In this sense, it is crucial to highlight the need to improve nursing records that have a direct impact on the quality of care, to ensure patient safety, improve clinical effectiveness and ensure the legal actions of nursing professionals.

Nursing records were found in the medical charts, but demonstrated mechanized and unthoughtful care, with limited records about the particularities of each patient. Most of the items analyzed expressed a low positivity index, representing poor assistance. The assessment of the records did not allow classification as quality records for any of the researched items.

The study allowed to acknowledge inaccuracies in nursing records, which had an impact on the quality of care, besides enabling the identification of requirements that need to be improved in the nursing team's work process.

It is suggested that hospitals strengthen their medical charts audit services, as well as strengthen the quality control of care, to achieve excellence in childcare. Furthermore, the validity of raising awareness among professionals in the front line of care

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regarding the consequences of absence, incompleteness, and errors in nursing records is highlighted.

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Fostering and Acknowledgment: research financed by the researchers themselves. We are grateful to the institution where the research was carried out.

Submission: 2021-06-10
Approval: 2021-07-14

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