Evaluation of nursing records in pediatrics: a descriptive study

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ABSTRACT

Objective: to analyze the quality of the nurses’ records performed in a pediatric inpatient unit.

Method: a descriptive and cross-sectional study, of the documentary analysis type. An audit was carried out between July and October 2019, extracting data referring to the assistance through the quality of the nurses’ records. The data were analyzed by means of absolute and relative frequency, in addition to calculation of the Positivity Index. Results: a total of 1,129 records made by the nurses in the medical records of 67 children and adolescents were analyzed. The records varied in their classification between adequate, safe, borderline, and deficient. In the general context, the records reflected deficient care, since they were not classified as of quality. Conclusion: the nurse’s record evidenced gaps in the care provided to the pediatric population, evidencing the need to expose the magnitude of the theme to the directly involved professionals, aiming at improving care quality.

Descriptors: Quality Management; Quality Improvement; Quality of Health care; Nursing Records; Pediatrics.
INTRODUCTION
The quality of the health services has become an ongoing concern in Nursing research, and many professionals have been concentrating on showing the reality of health care and how it is weakened with regard to the quality of care provided to the patients\(^{(1)}\).

Nursing plays the main role with regard to health care quality, being its main work instrument. One of the fundamental ways of providing quality and care continuity is by transferring diverse information about the care provided, which can be used to program, analyze and anticipate the health care measures\(^{(2)}\).

When well documented, the information acquired by the nurses can offer valuable content for improving decision-making and for the health actions to be performed, in addition to being fundamental in planning safe and quality service\(^{(2)}\).

They allow for care integration, thus benefiting the patient, the professional, and the health service, in addition to facilitating communication, structuring the development of Nursing care, promoting patient safety, enabling data that promote the evidence-based practice, supplying data for the conception of indicators in health, assuring and backing the professional commitment, and serving as material for research studies and legal documents\(^{(3)}\).

A number of studies show that Nursing documentation is often unsatisfactory regarding the reality of the care provided, and has been seen as a plentiful of data lacking information, which are omitted and not appreciated by other health professionals, for being low-quality documents, eventually for not presenting scientificity\(^{(4)}\).

To be considered as of good quality and as structured and effective communication among the professionals, the documentation needs to be clear, concise, and complete, as well as promote planning, monitoring, and evaluation of health care.

Inefficient communication can cause uncertainties in care and, consequently, compromise its safety, especially when it comes to the pediatric population, due to its peculiarities (5).

The care provided to children and adolescents must be circumspect, as they are a fragile population and demand greater caution since care errors result in extremely severe consequences. In addition, this is a population that has difficulties to express their symptoms clearly or, depending on the age group, does not have an adequate cognition level for verbal communication (6).

Given these pieces of evidence about the importance of Nursing documentation to improve care, especially because it is the front line of care continuity and also presents glimpses of lack of commitment and responsibility, added to the fact that the pediatric population is intensely vulnerable, this study was developed with the objective of analyzing the quality of the nurses' records made in a pediatric inpatient unit.

**METHOD**

A descriptive and cross-sectional study, of documentary analysis and with a quantitative approach. The study was conducted in a pediatric inpatient service of a public university hospital located in the South of Brazil, which cares for children and adolescents younger than 14 years old.

An audit was carried out between July and October 2019 on the physical records. It is important to emphasize that the data were collected during the hospitalization period, with the purpose of following the hospitalization process of the pediatric population. Therefore, the records were analyzed daily, but on the day after being made.

The pediatric inpatient unit studied had 15 beds, which were distributed in five wards with three beds each. However, in order to meet the size of the Nursing staff, only 12 beds were occupied in
ideal conditions. The gateways to the aforementioned pediatric sector were via Outpatient, Emergency Service, Pediatric ICU, Neonatal ICU, and Obstetric Clinic.

The medical record system in the hospital under study was in transition, with the medical team having their records in electronic format, whereas the Nursing team used paper support to fill out the information referring to the patients. The electronic record was not yet completely present in the hospital unit due to lack of physical-material resources.

The population corresponded to the medical charts of children and adolescents hospitalized in the pediatric sector, totaling to 67 charts, on which all records were made by the nurses. Only records made by nurses were selected because the great majority of the information collected in the study must be inserted exclusively by such professional category, as proposed by the Federal Nursing Council(7).

The inclusion criteria were charts of children and adolescents admitted to the pediatric unit in clinical treatment for at least 72 hours, in order to get the records of each work shift.

The data collection instrument derived from an adaptation to the local reality, with evaluative questions referring to the pediatric sector, due to its peculiarities regarding the care of hospitalized children and adolescents. Although the instrument has not been validated, it is clarified that it was based on a study by Haddad and Évora (2009)(8), in which the authors adopted the assessment criteria proposed by Saupe and Horr (1982)(9), and by Cianciarullo, Fugulin and Andreoni (1998)(10).

The form was divided into two parts, the first referring to the characterization of the patients, and the second referring to the guide for auditing the records, which had two sections.
In the second part, the first section refers to quality of care, from which data regarding identification, admission processes, the Nursing process, and the discharge/transfer/death process were extracted. For the classification of quality care, the “yes”, “no” and “not applicable” answer options were used, in addition to the possibility of including notes.

The second section, also in the second part of the data collection instrument, refers to the quality of the Nursing records, from which data on the prescription and on Nursing evolution and the discharge/transfer/death process were extracted. For the classification of quality of care, the “not applicable”, “completely filled out”, “incomplete”, “incorrect” and “not filled out” answer options were used, as well as the possibility of adding notes.

In order to clarify the scores attributed, it is important to note that the following was considered: “not applicable” when the records were made by Nursing students or did not correspond to the clinical reality of the patient; “complete” when all records of the day analyzed were described according to the pre-established filling out criteria; “incomplete” when one or more (except all) records of the day analyzed were inaccurate, not described in the chart or did not correspond to the analysis criteria; “not filled out” when all records of the day analyzed were not written down in the chart; and “incorrect” when one or more records of the day analyzed were wrong, inadequate or did not correspond to the patient’s clinical and diagnosis reality.

All the filling out criteria contained in this guide were relevant and individualized according to each item in question evaluated in the audit instrument. For this, it is emphasized that an instrument with the criteria specific for each aspect analyzed was elaborated, which were based on Horta’s Theory of Basic Human Needs (1979)(11).

To perform the audit, the institution’s standardized nurse’s record sheet was
used, which is intended to be filled out with data referring to the patient's identification, Nursing prescription, Nursing evolution, and control chart, which included vital signs, feeding, water intake, elimination and debits of drains and catheters.

There was no sample calculation because all the records that met the inclusion criteria in the proposed collection time were included in the sample. Thus, the end of the fieldwork occurred when the patients with admission date on October 31st, 2019, were discharged from the hospital, so it was completed in November 2019.

The data collected were organized in Microsoft Office Excel® 2016 worksheets. The data collection instrument was filled out by using a specific guide which was elaborated for this purpose.

For the first section of the second part of the collection instrument, the Positivity Index (PI) was calculated, by the relative and percentage frequency of the positive answers. For the classification of quality of care, the criteria by Saupe and Horr (1982)(8) were adopted: desirable (PI of 100%), adequate (PI between 90% and 99%), safe (PI between 80% and 89%), borderline (between 71% and 79%), and deficient (PI < 70%).

As for the second section of the second part of the collection instrument, the absolute and relative percentage frequencies were calculated. For the quality classification of the nurses' records, those that presented complete filling out >80%, incomplete<15%, not filled out < 5%, and incorrect=0% were considered as of good quality, according to the parameters established by Cianciarullo, Fugulin, and Andreoni (1998)(10).

It is relevant to note that the “not applicable” answers were disregarded for analysis of the results. Thus, it is emphasized that it was not possible to obtain the same absolute number with different percentages in the analyzed items, because each item contained a
different number of “not applicable” answers, due to the particularities and needs of each patient.

The ethical precepts related to research with human beings were respected, in accordance with resolutions No. 466/2012 and No. 510/2016, of the National Health Council. The study was approved by the Permanent Committee of Ethics in Research with Human Beings, CAAE: 10381019.8.0000.0104.

All the legal guardians of the children and adolescents participating in the study were clarified with regard to the study and signed the Free and Inform Consent Form.

RESULTS
There was a total of 1,129 records made by the nurses in the medical records of 67 children and adolescents. Of these, 561 corresponded to the prescriptions and 568 to the Nursing evolutions. The admission profile was predominantly composed of male children, 40 (59.7%); white-skinned, 47 (70.1%), and under one year old, 29 (43.3%). Regarding the clinical profile, it could be observed that the patients were mostly admitted at night, 30 (44.8%); came from the Emergency Service, 38 (56.7%), due to surgical-type hospitalization, 49 (73.1%); accompanied by the mother, 55 (82.1%), with a hospitalization time between 7 and 10 days, 29 (43.3%), and were discharged from hospital, 65 (97%).

Diseases related to the respiratory tract, 21 (31.3%); endocrine-metabolic system, 13 (19.4%); and gastrointestinal tract, 12 (17%), were the most frequent causes of hospitalization. The data from the first section of the guide, referring to the classification of quality of care in the Nursing records, are presented in Figure 1.

Figure 1 – Classification of the nurses’ records in the medical chart of children and adolescents admitted to the
pediatric clinic. Maringá, Paraná, Brazil, 2019

<table>
<thead>
<tr>
<th>Nurses’ records</th>
<th>PI%*</th>
<th>Care classification**</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Identification data</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct identification</td>
<td>75.4</td>
<td>Borderline</td>
</tr>
<tr>
<td>Complete identification</td>
<td>10.7</td>
<td>Deficient</td>
</tr>
<tr>
<td><strong>Admission procedures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Records of admission by the nurse</td>
<td>89.6</td>
<td>Safe</td>
</tr>
<tr>
<td>The record describes general conditions of the patient</td>
<td>63.6</td>
<td>Deficient</td>
</tr>
<tr>
<td>First prescription by the nurse at admission</td>
<td>64.2</td>
<td>Deficient</td>
</tr>
<tr>
<td>The first prescription describes general conditions</td>
<td>61.2</td>
<td>Deficient</td>
</tr>
<tr>
<td>The first prescription reveals priority of care</td>
<td>62.7</td>
<td>Deficient</td>
</tr>
<tr>
<td>Prescription for fall prevention</td>
<td>34.8</td>
<td>Deficient</td>
</tr>
<tr>
<td>Prescription for correct identification</td>
<td>0.0</td>
<td>Deficient</td>
</tr>
<tr>
<td>Prescription for prevention of pressure injuries</td>
<td>28.6</td>
<td>Deficient</td>
</tr>
<tr>
<td><strong>Nursing prescription</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence of daily nursing prescription</td>
<td>94.6</td>
<td>Adequate</td>
</tr>
<tr>
<td>The prescription indicates individualized care</td>
<td>66.7</td>
<td>Deficient</td>
</tr>
<tr>
<td>Identification of the prescription</td>
<td>61.6</td>
<td>Deficient</td>
</tr>
<tr>
<td><strong>Nursing evolution</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence of daily nursing evolution</td>
<td>96.8</td>
<td>Adequate</td>
</tr>
</tbody>
</table>

The results allowed observing that the records were made. Except for the identification data and the Nursing diagnoses, the records referring to the presence of admission report, Nursing prescription, Nursing evolution, and hospital discharge or internal/external transfer presented the safe, adequate, adequate and borderline care classifications, respectively.

However, it was verified that the other items of each topic reflected deficient care (PI < 70%). Thus, it was found that, although the records were made, they did not have individuality, compromising quality of care and conditioning recording to the fulfillment of the professional assignment.
The reports of the admission process, although frequent, presented flaws, such as late recording by nurses different from the ones who carried out the admission, in addition to incomplete records and with no professional identification, making the recognition of the responsible person impossible.

The first Nursing prescription, ideally performed in the shift in which the patient was admitted, was classified as deficient, due to lack of records or even those that contained only the word routine.

The items referring to the general conditions of the patient (PI=61.2%) and to priority of care (PI=62.7%) showed to be a gap in the care provided by the nurse, since they concern the performance of physical examinations and the knowledge of the general condition and the individual needs of each patient, evidencing the generalization of care, in such a manner that it was not uncommon to find Nursing prescriptions with only hygiene measures, control of the basic functions and several prescription errors, such as care for the umbilical stump of a newborn that did not have a stump.

Cases such as errors in diagnosis annotation, probably due to inattention to what was being written, such as "congenital chondropathy" instead of congenital heart disease were also observed. Numerous mistakes on postoperative days and descriptions, among others, were frequent in the records.

Regarding the Nursing diagnoses, it was verified that only one professional performed them, so the positivity index on the presence of diagnosis corresponded to 5.8%. However, the implementation of care based on these diagnoses was classified as safe for the patient assisted, presenting a PI of 80.6%.

Regarding the discharge or transfer process, it was observed that the presence of records in medical charts was classified as borderline (PI=77.4%); however, the physical conditions of the child or adolescent and the possible complications showed flaws, reflecting deficient care (PI=39.6%). Regarding this, it was identified that many records did not have notes about hospital discharge and, those that described the discharge process, did not record the physical conditions.

In order to contemplate all the subtopics of the items in the second section of the audit guide, Figure 2 was developed.

**Figure 2** - Assessment of the quality of nurses' records in medical charts of children and adolescents admitted to the pediatric clinic of the hospital under study. Maringá, Paraná, Brazil, 2019.
<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Complete</th>
<th>Incomplete</th>
<th>Not filled out</th>
<th>Incorrect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescription</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID(^1)</td>
<td>215</td>
<td>51.3</td>
<td>123</td>
<td>29.4</td>
</tr>
<tr>
<td>IPD(^2)</td>
<td>241</td>
<td>57.5</td>
<td>128</td>
<td>30.5</td>
</tr>
<tr>
<td>Oral hygiene</td>
<td>276</td>
<td>65.9</td>
<td>100</td>
<td>23.9</td>
</tr>
<tr>
<td>Body hygiene</td>
<td>299</td>
<td>71.4</td>
<td>79</td>
<td>18.9</td>
</tr>
<tr>
<td>VS(^1) control</td>
<td>382</td>
<td>91.2</td>
<td>+</td>
<td>18</td>
</tr>
<tr>
<td>Takes note of diuresis</td>
<td>344</td>
<td>82.1</td>
<td>+</td>
<td>36</td>
</tr>
<tr>
<td>Record of PE(^1)</td>
<td>379</td>
<td>90.5</td>
<td>+</td>
<td>15</td>
</tr>
<tr>
<td>Takes note of the weight</td>
<td>299</td>
<td>71.9</td>
<td>-8.1</td>
<td>55</td>
</tr>
<tr>
<td>Evolution</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICC(^1)</td>
<td>296</td>
<td>68.0</td>
<td>12.0</td>
<td>87</td>
</tr>
<tr>
<td>Complications</td>
<td>258</td>
<td>58.6</td>
<td>21.4</td>
<td>39</td>
</tr>
<tr>
<td>DE(^2)</td>
<td>254</td>
<td>59.1</td>
<td>20.9</td>
<td>96</td>
</tr>
<tr>
<td>Emotional</td>
<td>168</td>
<td>38.6</td>
<td>41.4</td>
<td>66</td>
</tr>
<tr>
<td>Physical examination</td>
<td>47</td>
<td>10.9</td>
<td>69.1</td>
<td>228</td>
</tr>
<tr>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GHC(^3)</td>
<td>12</td>
<td>18.5</td>
<td>61.5</td>
<td>6</td>
</tr>
<tr>
<td>GFCRS(^4)</td>
<td>3</td>
<td>4.5</td>
<td>75.5</td>
<td>0</td>
</tr>
</tbody>
</table>

Caption: I*: Positivity Index. Professional ID\(^1\): professional identification. IPD\(^2\): indicates patient's dependence. VS\(^1\) control: control of vital signs. Record of PE\(^1\): record of physical examination. ICC\(^1\): individual-centered care. DE\(^2\): dressings and equipment. GHC\(^3\): guidelines for home care. GFCRS\(^4\): guidelines for follow-up in the counter-referral services.

Note: *Index of the difference of the ideal values, based on the criteria by Cianciarullo, Fugulin and Andreoni\(^{11}\), which consider as quality records the items that present: Complete \(\geq 80\%\), Incomplete \(\leq 15\%\); Not filled out \(< 5\%\) and Incorrect = 0\%.
With regard to the Nursing prescription, it is highlighted that it was present in the hospital unit in a pre-molded manner, where several items related to the general basic needs, common to most of the patients, had the option to only sign and schedule the care actions to be carried out so as to optimize the nurse's work.

In relation to the Nursing prescription, on the presence of the professional identification, it was verified that no evaluation criteria presented adequacy regarding the parameters proposed by the literature. It was observed that many Nursing prescriptions had no professional identification, rubric, or stamp of the nurse.

Regarding the indication of the patient's dependence, attention is drawn to the incorrect percentage (6.9%), cases in which the Nursing prescription indicated actions incompatible with the skill level involved in each age group, such as referring children younger than 2 years old to bathe, while the correct action would be to perform it, evidencing the distraction and misuse of the terminologies that are part of their routine.

As for the prescription of vital signs verification, diuresis control, and physiological eliminations, it was possible to observe that such items demonstrated conformity with the complete and incomplete evaluation criteria, presenting low disagreement with the reference in the other answer possibilities.

Concerning the Nursing evolution, with regard to the records of care actions according to the patient's need and complications, it is highlighted that these had a positive percentage for the Not filled out (3%) and Incomplete (8.9%) evaluation criteria, respectively. However, both presented percentages of 9% and 4.8% for Incomplete, in the same order.

Regarding the record of complications in the Nursing evolution, it is pointed out that the Not filled out evaluation criterion presented 22.8%, above the recommended. Regarding the dressing and/or equipment records, it stands out that none of the evaluation criteria were met; with the percentage of 7.4% for the Incorrect records and 11.2% for the Not filled out records also standing out.

In this respect, it was observed that some medical charts presented records about complications with the use of central venous catheter by other professionals; however, the change was not reported by the responsible nurse.

It is worth noting that the established criteria for completion considered the performance of a complete physical examination. In this sense, it was verified that none of the evaluation criteria reached the percentage established by the authors. Only a small number of the Nursing evolutions had complete information about the patient's physical examination, and most of the evolutions partially described the conduction of the examination (52.8%).

The high percentage of Not filled out records (30.6%) is also evidenced. The Incorrect percentage (5.8%) was more associated with vocabulary errors, as observed in a record that described cardiac auscultation with the presence of bilateral snoring and wheezing. Among the errors found, it was identified that Nursing evolution presented inaccuracy in some terminologies, such as confusion between the terms hypertension and hyperthermia.

Finally, with regard to the nurse's records on the discharge or transfer process, it was found that the record of guidelines on home care and on follow-up in the counter-referral services
presented a high rate of non-filling, corresponding, respectively, to 65.9% and 89%, above the established percentage.

DISCUSSION

The patient's medical chart is one of the main instruments used in care, mainly with regard to the professional nurse. Through the records, continuous communication between the professionals is established, in addition to being legal documents and support for the whole team\(^\text{(12)}\).

The hospitalization period, mainly in the pediatric sectors, lasts a mean of 10 days, varying to more or less time, according to the child's diagnosis. Therefore, it is asserted that there is a long period of exposure to Nursing care and, consequently, to records made by professional nurses, a fact that reinforces the need for them to be made adequately, in order to favor inter-professional communication\(^\text{(13)}\).

Within the care routine of the nurse, in addition to assessing basic care actions related to hygiene, weight and device control, there is, on the other hand, the practical performance of the Nursing Process (NP), which is composed of the following stages: history, diagnosis, planning, implementation and evaluation of care. The NP constitutes a milestone in care, as it provides safe evidence for the clinical judgment and for decision-making in face of the patients' diagnoses, in addition to being the main indicator of abnormalities during their hospitalization\(^\text{(14)}\).

Care organization conducted with individuality, added to the scientific knowledge, praises professional nurses for their acknowledgment of the importance of such parameters, fundamental to care, as it foresees changes in them that allow for the identification of various diseases. In addition, controlling these parameters is essential to offer safe and quality care\(^\text{(15)}\).

Despite the importance of the NP and, consequently, of the records within the health services, it occurs that, in many situations, they end up not being carried out adequately, in addition to not receiving the importance needed to subsidize care in order to support the professionals that are not working directly in the care provided\(^\text{(16)}\).

Lack of records, and even their inadequacy, results in delays in direct care and in decision-making regarding the patient's treatment\(^\text{(17)}\). At the same time, this situation goes against the ethical code of the profession itself, when it states that it is the nurse's and the nursing team's responsibility to record diverse information related to their assistance procedures in the medical chart and in other documents proper to Nursing\(^\text{(17)}\).

In addition to the lack of notes, the following also stand out as flaws or inadequacies of the registration process: absence of care time, identification of the responsible professional, deletions, handwriting difficulties, not allowing understanding what was written, and incompleteness in the Nursing records\(^\text{(18)}\).

Regarding the reasons why the records are not made adequately, we find high demand for the services, work overload, insufficient number of professionals, deficit in permanent education, lack of motivation related to the terrible working conditions, low remuneration, complexity of the language, and inefficient communication of the team\(^\text{(18)}\).

It is emphasized that professional nurses have the primary responsibility of educating and preparing both the patient and their care plan while, at the same time, training their team to do so as well. When this information is not
recorded, it is understood that it has not been performed\(^{18-20}\).

A way of ensuring that the multi-professional team acts adequately in decision-making, aligns the conducts and, thus, qualifies care, offering greater safety for the hospitalized patients, is to adopt norms and protocols based on scientific evidence\(^{19-20}\).

This study portrays the relevance of spreading the magnitude that the records in medical charts have both in quality of care and in the legal environment among the health professionals. Health managers must pay greater attention to the result of the hospital product generated by the care conducted by the nurse, who is the protagonist of the care\(^{15}\).

As a limiting factor of the study, the portrait of a single research scenario stands out, since the results found may denote distancing from other institutions.

CONCLUSION

One of the indicators of the quality of health care is the Nursing records, especially those made by nurses. In the general context, it was observed that the nurses’ records reflected deficient care, since they were not classified as quality records. The importance of sensitizing the team is emphasized, in order to promote care based on the principles of quality management.

Another point to be considered is the inclusion of the topic in a pertinent manner even in the graduate course, so that nurses enter the labor market with sufficient knowledge to ensure that the care documentation is correctly elaborated when they provide care.

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