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Quality assessment of nursing process records through retrospective audit

Avaliação da qualidade dos registros do processo de enfermagem por meio de auditoria retrospectiva Evaluación de la calidad de los registros del proceso de enfermería a través de auditoría retrospectiva

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ABSTRACT

Objective: To analyze the quality of nursing process records and compare them according to hospitalization units. **Method:** a cross-sectional, retrospective study that analyzed 258 medical records, between the months of March and July 2022, of patients admitted in 2019, in a large hospital in the Midwest region. The Quality of Diagnoses, Interventions and Outcomes instrument, validated for Brazil, was used to measure the quality of the records. The study was approved by the Ethics Committee. **Results:** considering the dimensions of nursing diagnoses as a process and as a product, the overall mean scores were $4.5(\pm 2.6)$ and $7.1(\pm 4.1)$, respectively. As for the dimensions of nursing interventions and outcomes, the mean scores were $3.0(\pm 2.1)$ and $4.7(\pm 4.8)$. There were variations in the mean scores between the units analyzed, with a significant difference (p<0.001). **Conclusion:** The results showed low quality scores for nursing process records, and the mean scores differed between the inpatient units analyzed.

Descriptors: Health Management; Hospitals; Nursing Audit; Nursing Records; Quality of Health Care.

RESUMO

Objetivo: analisar a qualidade dos registros do processo de enfermagem e compará-la segundo as unidades de internação. **Método:** estudo transversal, retrospectivo que analisou 258 prontuários, entre os meses de março e julho de 2022, de pacientes internados no ano de 2019, em um hospital de grande porte da região Centro-Oeste. Para mensurar a qualidade dos registros, utilizou-se o instrumento *Quality of Diagnoses, Interventions and Outcomes*, validado para o Brasil. Pesquisa aprovada pelo Comitê de Ética. **Resultados:** considerando as dimensões dos diagnósticos de enfermagem como processo e como produto, os escores médios gerais de $4,5(\pm 2,6) = 7,1(\pm 4,1)$, respectivamente. Quanto às dimensões intervenções e resultados de enfermagem, médias de $3,0(\pm 2,1) = 4,7(\pm 4,8)$. Observaram-se variações das médias de escores entre as unidades analisadas, com diferença significativa (*p<0,001*). **Conclusão:** os resultados demonstraram baixos escores de qualidade dos registros do processo de enfermagem, e a média de escores divergiu entre as unidades de internação analisadas.

Descritores: Gestão em Saúde; Hospitais; Auditoria de Enfermagem; Registros de Enfermagem; Qualidade da Assistência à Saúde.

RESUMEN

Objetivo: analizar la calidad de los registros del proceso de enfermería y compararla según las unidades de hospitalización. **Método**: estudio transversal, retrospectivo, que analizó 258 historias clínicas, entre marzo y julio de 2022, de pacientes internados en 2019 en un gran hospital de la región Centro-Oeste. Para medir la calidad de los registros, se utilizó el instrumento *Quality of Diagnoses, Interventions and Outcomes* (Calidad de Diagnósticos, Intervenciones y Resultados), validado para Brasil. El Comité de Ética aprobó la investigación. **Resultados:** considerando las dimensiones de los diagnósticos de enfermería como proceso y como producto, las puntuaciones medias globales fueron 4,5(±2,6) y 7,1(±4,1), respectivamente. En cuanto a las dimensiones de las intervenciones de enfermería y los resultados, los promedios fueron de 3,0(±2,1) y 4,7(±4,8). Hubo variaciones en los promedios de las puntuaciones entre las unidades analizadas, con una diferencia significativa (p<0,001). **Conclusión:** Los resultados mostraron bajas puntuaciones de calidad en los registros de procesos de enfermería, y los promedios de las puntuaciones difirieron entre las unidades de hospitalización analizadas.

Descriptores: Gestión en Salud; Hospitales; Auditoría de Enfermería; Registros de Enfermería; Calidad de la Atención de Salud.

INTRODUCTION

Nursing audits can be considered a systematic quality assessment in order to support continuous improvement of the profession's actions¹. There are three types of audits: prospective, which includes those carried out before the service and which seek to predict how future performance will be impacted by interventions in the present; concurrent/simultaneous, which take place while the patient receives care; and retrospective, which are carried out after the patient leaves the service through an analysis of records²; the latter being the research object of the current study.

In this context, Nursing records must contain complete information for care continuity and communication between the health team members, as well as serving teaching, research, legal processes and planning³. In addition to

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that, an integrative review study highlighted the importance of the completeness of these records to reduce nonconformities, in order to avoid losses and generate profits for the hospital institution⁴.

Despite this, a descriptive and quantitative research study carried out at a University Hospital in northeastern Brazil found weaknesses in Nursing records, evidencing incomplete records related to the patient's full name, medical record number, date and time of the records; presence of erasures; absence of checks on medical and nursing prescriptions; lack of reasons for not checking the medical prescription; and lack of information about the professional category⁵.

In view of this, an alternative to reduce the occurrence of the aforementioned problems, as it directs health professionals' behaviors, consists in using standardized language systems, with a view to providing a language that enables documentation based on scientific evidence, ensuring greater professional, institutional and social visibility of nurses' work⁶. However, it is not enough for professionals to have standardized means at the institutions, they must be correctly trained to use them appropriately⁷.

In this scenario, the process of improving records depends on the professionals' appreciation and commitment to recognizing that, if carried out properly, the Systematization of Nursing Care (in particular the Nursing Process) can ease their work and direct the care provided to the patients. It is important to highlight that Federal Nursing Council (*Conselho Federal de Enfermagem*, COFEN) Resolution No. 358/2009 recommends that the "Nursing Process must be carried out in a deliberate and systematic way, in all environments, whether public or private, where professional Nursing care takes place", with formal recording of its execution as mandatory⁸.

Therefore, auditing Nursing Process records becomes relevant to investigate both the legal issues of the mandatory implementation of this methodology exclusive to the profession in health services, as well as to evaluate quality of its use in the daily work process⁹.

To assess the quality of Nursing Process records, the *Quality of Nursing Diagnoses, Interventions and Outcomes* (Q-DIO) instrument is available in the literature, validated for the Brazilian context and with good ability to discriminate quality in different types of Nursing documentation (including printed and electronic records)¹⁰. This instrument is sensitive for detecting flaws and changes in quality of the records since, when applying Q-DIO before and after hospital accreditation, researchers showed improvements in practically all criteria assessed by the instrument⁷.

In this way, evaluating the quality of Nursing Process records in the various hospitalization sectors of a university hospital through retrospective audit using Q-DIO may contribute to sizing this problem and, at a future moment, guide educational interventions regarding the relevance of Nursing notes, considering the specificities of these scenarios.

The objective of this study was to analyze the quality scores of Nursing Process records and compare them according to hospitalization units.

METHOD

This is a cross-sectional and retrospective study carried out based on the analysis of medical records from a university hospital located in the Federal District, Midwest region of the country. This hospital is considered large and provides medium- and high-complexity care through the Unified Health System. Its Nursing staff includes 299 nurses, 593 technicians and 218 nursing assistants.

The study population consisted of medical records with Nursing records of hospitalized patients during 2019 in the hospitalization units of that hospital, namely: Critical Patients Unit (CPU); Medical Clinic Unit; Surgical Clinic Unit; Transplant Unit; Children's and Adolescents Unit; Maternal and Child Unit (Maternity Ward and Obstetric Center); and Neonatal and Adult Intensive Care Units (ICUs).

For sample calculation, an *a priori* coefficient of determination, R²=0.02, was considered in a linear regression model with 5 predictors, with a significance level or type I error of alpha=0.05 and type error of beta=0.05; therefore resulting in an *a priori* statistical power of 95%. The PASS (Power Analysis and Sample Size) app, version 13, was used, introducing values described above, and obtaining a minimum sample size of n=240 medical records. Considering the possibility of a 20.0% sample loss, the study sample size calculation was 300 medical records.

Selection of the study sample was carried out through a draw, in the PASS app, version 13, from a list obtained by the institution's Health Regulation and Evaluation Sector, which included hospitalizations – with the patients' medical record identification code – referring to the year of the study.

The following inclusion criteria were adopted for this research: medical charts with Nursing records of hospitalized patients, from January 1st to December 31st, 2019, and with at least four hospitalization days in the aforementioned units in the study scenario, as recommended by the Q-DIO application methodology. Of the 300



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records selected, 42 were ineligible for the following reasons: hospitalization records of less than four days, hospitalization records not found and records not located. Thus, the final study sample was 258 medical records.

Data collection was carried out between March and July 2022 by two undergraduate students trained in filling out the data collection instrument and in ethical issues of preserving identity of the records. This stage was supervised by an MSc student and any doubts were discussed together.

The instrument adopted to evaluate the quality of Nursing Process records was Q-DIO, translated and validated for Brazil¹⁰. This instrument was validated for use in the assessment of Nursing records with or without standardized languages, both electronic and physical records. It presents 29 items divided into four dimensions: Nursing diagnosis as a process (11 items); Nursing diagnosis as a product (8 items); Nursing interventions (3 items); and Nursing outcomes (7 items). The score varies from 0 to 2 points for each item, with 0 corresponding to undocumented data, 1 to partially documented data and 2 to complete documentation. Therefore, each dimension has a maximum score of 22.16, 6 and 14, respectively; with higher values representing better assessments of the quality of the records¹⁰.

Data collection took place using Q-DIO, transcribed into an online version using the *Google Forms*[®] free tool and subsequently processed using *Microsoft Office Excel*[®]. Subsequently, the database was exported to the *Statistical Package for Social Sciences* (SPSS) software, version 22.0, for data analysis purposes.

The continuous variables were analyzed based on mean (standard deviation) and median (maximum and minimum); in turn, the categorical ones were presented in the format of absolute frequencies and percentages. To compare the quality assessment scores according to hospitalization units, multiple comparison analysis (ANOVA) was performed using the Bonferroni adjustment criterion. A 5% significance level was adopted.

The research protocol was approved by the Research Ethics Committee of the institution involved.

RESULTS

Among the medical records analyzed (n=258), the highest percentages were from the CPU (n=73; 28.3%), Surgical Clinic (n=40; 15.5%) and Maternity Ward (n=40; 15.5%), followed by Obstetric Center (n=37; 14.3%), Medical Clinic (n=35; 13.6%), Neonatal ICU (n=16; 6.2%), ICU for Adults (n=9; 3.5%) and other units (n=8; 3.1%). A mean hospitalization time of 11.7 days (±20.0) and a median of 7 days (minimum=4 and maximum=288) were identified.

The descriptive analysis of the items in the "Nursing diagnosis as a process" and "Nursing diagnosis as a product" dimensions from Q-DIO is presented in Table 1.

Questions	Mean	Standard Deviation
"Nursing diagnosis as a process" dimension		
1. Current situation that led to hospitalization	1.6	0.5
2. Anxiety, concerns, expectations and desires related to hospitalization	0.1	0.4
3. Social situation and life environment/circumstances	0.1	0.4
4. Coping with the current situation/with the disease	0.1	0.4
5. Beliefs and attitudes towards life (related to hospitalization)	0.0	0.2
6. Information about the patient and family members/other important people in the situation	0.6	0.6
7. Gender-related personal intimacy questions	0.0	0.2
8. Hobbies, leisure activities	0.1	0.3
9. Important people (for contacts)	0.5	0.8
10. Activities of daily living	0.3	0.4
11. Relevant Nursing priorities according to the assessment	0.7	0.7
Overall score (maximum score = 22)	4.5	2.6
"Nursing diagnosis as a product" dimension		
12. The Nursing problem/title of the diagnosis is recorded	1.3	0.9
13. The title of the diagnosis is formulated and numbered in accordance with NANDA.	1.1	0.8
14. The etiology is recorded	0.9	0.7
15. The etiology is correct and corresponds to the Nursing diagnosis	1.4	0.9
16. The signs and symptoms are recorded	1.0	0.6
17. The signs and symptoms are correctly related to the Nursing diagnosis	1.3	0.9
18. The Nursing goal relates/corresponds to the Nursing diagnosis	0.0	0.1
19. The Nursing goal is achievable through interventions	0.0	0.1
Overall score (maximum score = 16)	7.1	4.6

 Table 1: Descriptive analysis of the items from the "Nursing diagnosis as a process" and "Nursing diagnosis as a product" dimensions from Q-DIO. Brasília, DF, Brazil, 2019.





In the "Nursing diagnosis as a process" dimension, an overall mean of 4.5 (\pm 2.6) was found, out of a total of 22 points. Regarding the "Nursing diagnosis as a product" dimension, an overall mean score of 7.1 (\pm 4.1) was identified, out of a total of 16 points.

The descriptive analysis of the items in the "Nursing interventions" and "Nursing outcomes" dimensions is presented in Table 2.

Table 2: Descriptive analysis of the items from the	"Nursing interventions"	and "Nursing outcomes"	' Q-DIO dimensions. Brasília. DF. Brazil. 2019.	
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		Standard
Questions	Mean	Deviation
"Nursing interventions" dimension		
20. Concrete, clearly named according to the NIC interventions – and planned (what will be done, how, how	0.8	0.6
often and by whom)		
1. The Nursing interventions exert an effect on the etiology of the Nursing diagnoses	1.3	0.9
22. The Nursing interventions carried out are recorded (what was done, how, how often and by whom)	0.7	0.7
Overall score (maximum score = 6)	3.0	2.1
"Nursing outcomes" dimension		
23. Critical diagnostic changes are evaluated daily or shift by shift/ extended diagnoses are evaluated every	1.1	0.8
four days		
24. The Nursing diagnosis is reformulated	1.1	0.8
25. The Nursing outcome is recorded	0.4	0.6
26. The Nursing outcome is observable/measured and recorded in accordance with the NOC	0.3	0.6
27. The Nursing outcome indicates:	0.5	0.8
- improvement in the patient's symptoms		
 improvement in the patient's knowledge 		
 improvement in the patient's coping strategies 		
- improvement in the self-care skills		
- improvement in functional status		
28. There is a relationship between the Nursing interventions and outcomes	0.5	0.9
29. The Nursing outcomes and diagnoses are internally related	0.5	0.9
Overall score (maximum score = 14)	4.7	4.8

Regarding the "Nursing interventions" dimension, an overall mean score of $3.0 (\pm 2.1)$ was verified, out of a total of 6 points. In the "Nursing outcomes" dimension, an overall mean score of $4.7 (\pm 4.8)$ was found, out of a total of 14 points.

The comparison between the quality assessment scores for the Nursing records is presented in Table 3.

Table 3: Comparison of the quality assessment scores for the	Nursing records, according to l	hospitalization units. Brasília	a, DF, Brazil, 2019.
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Mean and standard deviation of the O-DIO scores

Mean and standard deviation of the Q-DIO stores										
	Obstetric	Maternity	Surgical	Medical	CPU	ICU for	Neonata	Other		
Dimensions	Center	Ward	Clinic	Clinic		Adults	I ICU	units	F**	p^{\dagger}
ND* as a process	3.2±2.0	3.1±1.8	4.5±1.8	5.7±3.8	5.2±2.7	4.8±2.2	5.1±1.6	4.6±2.0	5.397	< 0.001
ND* as a product	0.5±0.9	2.2 ±3.8	9.8±2.2	8.6±3.3	9.8±2.2	10.2±0.9	9.9±3.0	9.0±2.3	78.278	< 0.001
Nursing interventions	0.1±0.6	0.8±1.8	4.9±1.3	3.3±1.3	3.8±0.9	3.8±0.3	4.3±1.5	4.2±1.2	67.307	< 0.001
Nursing outcomes	0.1±0.4	1.4±3.4	7.1±4.5	4.3±4.1	6.2±4.4	8.5±4.9	8.6±5.0	5.5±4.6	18.037	< 0.001
General	4.0±2.8	7.6±9.4	26.4±7.5	22.0±9.7	25.1±7.3	27.5±7.2	28.1±8.8	23.3±6.8	49.802	< 0.001

Notes: *Nursing Diagnosis; **AND

VA-F; ⁺Multiple comparison analysis (ANOVA), using the Bonferroni adjustment criterion

There was a lower mean score in the Maternity Ward and in the Obstetric Center in all dimensions of the instrument (p<0.001). It is noted that the medical clinic presented the best record quality assessments in the





"Nursing diagnosis as a process" dimension (p<0.001); ICU for Adults in the "Nursing diagnosis as a product" dimension (p<0.001); surgical clinic in the "Nursing interventions" dimension (p<0.001); and Neonatal ICU in the "Nursing outcomes" dimension. This last scenario presented the highest overall mean score in relation to the others (p<0.001).

DISCUSSION

In its Resolution No. 358/2009, COFEN determines that, for the formal recording of the Nursing Process, in addition to the synthesis of data collected about the person, family or human community at a given moment in the health-disease process, the following must be included: Nursing diagnoses and Nursing actions or interventions, as well as the results achieved⁸. In line with this determination, the Brazilian version of Q-DIO, an instrument adopted in this research, aims at evaluating the quality of documentation and links between nursing diagnoses, interventions and outcomes¹⁰.

Referring to the "Nursing diagnosis as a process" dimension, this study verified a low overall score in it according to the maximum value allowed, which may represent insufficient quality in the first stage of the Nursing Process. A quasi-experimental before-and-after study developed at a public teaching hospital in São Paulo pointed out similar results to those found in this research, highlighting weaknesses in implementation of the Nursing Process, mainly in its data collection/Nursing history stage¹¹. Supporting these data, another quasi-experimental before-after study carried out in two medical clinic wards of a large-size hospital from Rio de Janeiro also showed incompleteness in the documentation of basic Nursing history data, which, according to the authors, can exert direct impacts on care quality and continuity¹².

In a study carried out in Romania, the authors found a low quality level in the Nursing Process documentation related to the "Nursing diagnosis as a process" dimension when applying the Q-DIO instrument in a university hospital, concluding that nurses collected plenty of data but did not use them to state Nursing diagnoses¹³.

In the current study, it was verified that the items referring to the social, sexual and spiritual aspects were those with the worst mean scores in this dimension. It is fundamental that nurses evaluate patients from a global perspective, as incompleteness of this record may result in erroneous diagnoses that are insufficient to meet the patients' needs and, consequently, affect the other stages of the Nursing Process⁶.

Considering that the "Nursing diagnosis as product" dimension examines Nursing records regarding each patient's individual situation, Nursing diagnoses and goals¹⁴, the low score evidenced in the study, when considering the maximum value allowed in the dimension, may favor interruptions in continuity of the Nursing Process and the systematization of the assistance provided.

In particular, weaknesses were found in the records of the items related to documentation of the goals and their relationships with diagnoses and interventions. Items 18 and 19, which specifically address the relationship between Nursing goals and Nursing diagnosis and their achievability through interventions, had the lowest completion mean values in relation to all other items in the instrument. Similar findings were measured in a study with a quasi-experimental design and of the before-and-after type, carried out at a hospital complex in southern Brazil, in which the authors identified values very close to zero; in other words, no record of Nursing goals¹⁵. In this study, the authors consider the difficulties associated with recording Nursing goals, as a goal itself is intrinsic to any work process that seeks to solve a problem, but recording this goal is not always present in the professionals' routine.

Referring to the "Nursing interventions" dimension, a moderate assessment was obtained, considering the maximum score in this dimension. When analyzing the items, greater weaknesses were identified in recording of the interventions, which may indicate that verification of the care measures is being undervalued by the institution's professionals. This trend was also observed in another cross-sectional documentary analysis study carried out in a large hospital from the western region of Santa Catarina, which verified that – although most of the medical charts presented complete records regarding the "Nursing interventions" dimension – in approximately 36.0% of the records analyzed in the study, the activities prescribed were not checked; and, according to the authors, this means that there is no proof that care was provided by the Nursing team⁶.

As for the last dimension of the instrument (Nursing outcomes), which analyzes evolution records and regarding evaluation of the goals and results¹⁴, the current study achieved a low overall mean score when considering the maximum value defined for this dimension. Similar findings were expressed in an observational study of interventions





at a public general and university hospital from Porto Alegre - RS, indicating that complete recording regarding Nursing outcomes is still an incipient reality in the institution⁷.

Another cross-sectional research study carried out in a large hospital in the western region of Santa Catarina showed certain deficit in the quality of Nursing evolutions, with an emphasis on observation, measurement and recording of Nursing outcomes according to the NOC taxonomy⁶; thus corroborating the findings of the current study. Operationalization of the NOC in health institutions tends to favor the quality of Nursing records through the articulation of standardized languages and a computerized system⁷. It is noted that, in the scenario of this research, there is implementation of the NANDA-I and NIC taxonomies linked to the institution's electronic medical record system; however, to date, the NOC has not been incorporated into the system, which may have contributed to a worse assessment of the quality of records in this dimension.

Each health service organizes recording of the Nursing Process stages considering its institutional resources and, with the advancement of health technologies, there are several ways to record health information electronically, making it possible, for example, to record in free text or in standardized formats using a checklist, which may include the use of taxonomies¹⁶.

Using technological resources, linked to a standardized language system, can contribute to recording the Nursing Process^{10,16}. Despite this, these implementations alone do not guarantee quality of the documentation, rendering permanent educational actions on information technology updates necessary, as well as spaces for these professionals to make contributions towards improving usability of the recording system, in addition to institutional support in order to solve daily difficulties faced by the Nursing team¹⁶.

In general, the current study showed weaknesses in documentation of the Nursing Process and, therefore, points to the need for educational interventions associated with the use of taxonomies and the institutional electronic system, in order to reflect on improvements in the quality of Nursing records. Incomplete and low-quality documentation represents a serious problem, which involves both health professionals and managers, negatively affecting the quality of the services provided and patient safety¹³. In this way, permanent and continuing education actions also aimed at promoting knowledge and raising awareness among professionals comprise an effective alternative for improving quality of the records¹⁷.

Similar situations have been reported by researchers in other countries^{18,19}. In a quasi-experimental study carried out in a perinatal ward of a public hospital in Indonesia, the authors applied the Q_DIO scale before and after training nurses in Nursing records using the NNN taxonomy (NANDA-I, NIC and NOC). The results showed that there was no effect of training regarding documentation systems on the "Diagnosis as a process" dimension, although there was a difference in terms of "Diagnosis as a product", indicating a positive influence for reinforcing Nursing documentation in the three spheres of classification system phenomena used, based on the training of those nurses in the service¹⁸. A similar study evaluating the Nursing care documentation quality before, during and after establishing a training program in standardized language and carried out in Nigeria pointed out differences in the documentation quality in the medical, surgical and psychiatric wards¹⁹. Therefore, the data from these studies reinforce the importance of carrying out training activities with nurses, to improve the documentation quality in the service.

It is highlighted that these educational activities must be carried out considering the specificities of each context, as the findings of the current study showed a significant difference in the quality scores when comparing the hospitalization units, both in the general assessment and in the stratified evaluation according to the instrument's dimensions. Partly corroborating these data, a cross-sectional study carried out in 416 sectors of 40 health institutions administered by the São Paulo State Health Department verified differences in the Nursing Process documentation when comparing these sectors; with the Obstetric Center also having one of the worst assessment and ICU, one of the best. The authors infer that there are particularities related to the work of the Nursing team, such as staffing or length of service, among others, as well as the very characteristics of the patients (hospitalization time and complexity level), which differ in the various sectors of a health institution that need to be considered²⁰, as they can interfere with quality of the Nursing Process records.

It is worth noting that complete and adequate Nursing records constitute a legal precept, can be sources of scientific evidence and organizational deliberations, as well as favor care continuity and transitions³. Therefore, it is indispensable to know the scenarios and critical nodes that culminate in incompleteness/absence of these records¹⁶, in order to outline strategies to face the challenges of implementing and documenting the Nursing Process in its entirety.



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Study limitations

This study has as a limitation the fact that only one year of analysis was considered, which precludes determining an evolution of the quality of records over time. However, the study contributed to advancing scientific knowledge by comparing the quality of Nursing Process records through a validated instrument, in a representative sample of hospitalized patients' records and according to hospitalization units, allowing the targeting of actions that prioritize the specificities of each scenario.

It is suggested that more studies be carried out in the area, especially with regard to the possibility of individualized assessments by hospital units, in order to better verify the specificities of each sector and their relationships with the dimensions considered. Another suggestion, based on the results and considering the low scores, are studies on the professionals' beliefs in relation to the Nursing Process and related records, in order to understand the phenomenon of non-recording.

CONCLUSION

Using Q-DIO made it possible to evaluate the quality of Nursing records. From this analysis, overall mean scores of 4.5 (\pm 2.6) and 7.1 (\pm 4.1) were obtained, respectively, in the "Nursing diagnosis as a process" and "Nursing diagnosis as a product" dimensions. In relation to the "Nursing interventions" and "Nursing outcomes" dimensions, mean scores of 3.0 (\pm 2.1) and 4.7 (\pm 4.8) were evidenced, in this order. These results demonstrated low quality scores for the quality of Nursing Process records when compared to the maximum values for each dimension; with the exception of the "Nursing interventions" dimension, which presented a moderate assessment. When comparing the hospitalization units in the study scenario, variations in mean scores were observed between the units analyzed, with a significant difference (p<0.001).

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Authors' contributions:

Conceptualization, AFB e LCLP; methodology, AFB, LCLP, JPAV e DPS.; software, AFB; validation, CACJ, TTBP e AFB; formal analysis, AFB, LCLP e JPAV.; investigation, LCLP, JPAV, CBA e DPS; data curation, LCLP, JPAV, CBA, AFB; manuscript writing, LCLP, JPAV, CBA, DPS, CACJ, TTBP e AFB; manuscript review and editing, LCLP, JPAV, CBA, DPS, CACJ, TTBP e AFB; visualization, LCLP, JPAV, CBA, DPS, CACJ, TTBP e AFB; supervisio, A.F.B.; project administration, A.F.B. All authors have read and agreed to the published version of the manuscript.

