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Nursing records at a teaching hospital: a quasi-experimental study

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ABSTRACT

Aim: to evaluate the records of the nursing staff for compliance with the specific legislation in a teaching hospital considering the institution sector, work shift, the professional category and the number of offenses per registration before and after educational intervention. **Method:** a quasi-experimental study of pre-test and post-test type with a single group. Result: 826 nursing records were evaluated. The largest number of records was made in the Intensive Care Unit by the practical nurses and the night shift. There was an increase in the number of records made by nursing assistants, in male clinical sectors and female surgery sector. There was a reduction in the occurrence of three or more offenses. The intervention was effective for items such as presence of date, time, signature and professional identification stamp. Discussion: incomplete notes can hamper individual care, undermine the continuity of care and imply risks to patient safety. Conclusion: educational interventions can contribute to improvements in nursing records.

Descriptors: Nursing Records; Nursing; Clinical Trial; Hospitals Teaching; Nursing Team

INTRODUCTION

Nursing records are an integral part of the information system in health institutions and are considered an important communication tool $^{(1)}$. They are created by the nursing staff in order to provide information about the general state of the patient, allowing communication between the nursing staff and also the multidisciplinary team. The reported data show the continuity of care, legally endorsing the work of the professional, as well as serving as an instrument for audits to validate professional practice and are used as source of scientific research, assisting in research and teaching⁽²⁾. In addition, the information recorded by health professionals is a source of data for making management decisions, and such data must be complete and reliable⁽³⁾.

The medical record is the collection of all documents related to patient care. It contains information provided by the multidisciplinary team responsible for the care of this patient, being an instrument of communication between all members of the health team⁽⁴⁾. Nursing records are part of the patient medical record and serve as supporting documentation of the activities developed by nursing professionals. Its main purpose is to describe the nursing care given to the patient/family, including the description of the health/disease situation, care planning, its implementation, patient/family reactions to interventions performed and evaluation of results.

The nursing staff should be afforded the time to document the activities carried out in assistance to individuals/families in medical records as part of the legal responsibilities of these professionals who remain 24 hours with the patient and can contribute with more information about the assistance provided⁽⁵⁾.

It is worth mentioning that nursing records are used for other purposes, such as research;

teaching; human, physical and materials resources management; costs and assistance audit; and health insurance reimbursements⁽²⁾. It is noteworthy that the juridical-legal value of medical records as records are as documentary evidence of professional acts^(2,6). When well written and detailed, nursing records can ward off allegations of incompetence, recklessness or negligence in providing services⁽⁵⁾.

For nursing records to be considered valid documents, they must follow criteria established by the regulatory agencies of professional nursing practice. Information regarding the care process must be written in a clear, correct, objective and organized form; should be free of erasures; contain the complete identification of the patient and the professional responsible for its realization; besides identification of data and time concerning the information registered⁽⁷⁾. Nursing records are also considered to be indicators of quality. Data and facts that support the planning of nursing care are provided through them(1,8). In order to plan, execute and continuously evaluate the performance of your team and the care provided by them, the nurse must assume a leadership role in order to promote changes in the setting of care practice and guarantee legal subsidies for daily practice⁽⁹⁾.

On the basis of the considerations above, the nursing records of a teaching hospital were selected as the object of this research.

The realization of this research is justified by the following arguments regarding nursing records: 1) provide the necessary information for the care and monitoring of the patient; 2) enable communication between members of the nursing staff and multidisciplinary team, ensuring continuity and quality of care; 3) are considered legal evidence of care; 4) are a source for education, research and audits; 5) when properly registered, allow repayments and justify the costs of activities⁽⁸⁾; 6) the existence and avai-

lability of complete, accurate, organized and safe information can reduce noise in communication, failures in the work process and risks to patient safety⁽¹⁰⁾; 7) claims of incompetence, recklessness or negligence in care can be greatly reduced when the nursing records are continuous and updated⁽⁵⁾; 8) qualify the care and promote the empowerment of nursing professionals⁽²⁾. Moreover, it is noteworthy that secure communication is one of the goals for patient safety in health services⁽¹¹⁾.

Thus, the study aimed to evaluate the records of the nursing staff for compliance with the specific legislation in a teaching hospital considering the institution sector, work shift, the professional category and the number of offenses per registration before and after educational intervention.

METHOD

This was a quasi-experimental study of a pre-test and post-test type with a single group using nursing records in the medical records of patients from a teaching hospital of the Zone of Mata Mineira. Quasi-experimental type of studies are those where it is not possible to strictly follow the criteria of a true experiment due to the random distribution of the subjects in the experimental group and control group. However, the introduction of manipulation or of experiment by the researcher allows the observation of its effect on the variable of interest. In the case of this investigation, the control group and the experimental group were set by the same subjects (the target institution nursing professionals). A preliminary assessment was carried out and another evaluation of the nursing records of the institution after the completion of the experiment (educational activity). The data observed before and after the intervention were

compared, thus making it possible to assess the effectiveness of the intervention on the variable of interest (nursing records).

In the first stage of the study a descriptive assessment was performed initially to show the situation of nursing records of the institution⁽¹²⁾. A checklist was created based on the legislation about nursing records^(7,13) which was intended to evaluate the following items: use of appropriate form; complete identification of the patient; date; hour; identification of professional responsible by signature and stamp or manual insertion of professional identification information according to current law; erasures; error pointing without hiding original; use of standard abbreviations; legible handwriting and spelling.

It should be noted that errors occurring in the preparation of nursing records should be indicated using the expression "I mean" followed by the corrected information, being forbidden the use of ways that can complicate reading the error which had occurred, such as scratching the document several times, use of white out or rubber, among others. Regarding the standardization of abbreviations, this had not been implemented in the period prior to the intervention. Thus for this research only abbreviations listed in the International System of Units were considered(14). This system was officially adopted in Brazil through Resolution No12 of 1988 of the National Council of Metrology, Standardization and Industrial Quality as a way to standardization (15).

From the need to improve the records, the partnership school-service was established, on the basis of a research project about nursing records and a professional training project linked to the discipline of Administration in Nursing of the School of Nursing of the Federal University of Juiz de Fora.

The work instruction "Nursing Records" was developed at the core of hospital quality

management, containing the institutional abbreviations standardization list as an appendix. An explanatory brochure was also created, describing aspects of specific legislation important to the realization of the nursing record^(7,13).

Initially, a meeting was held in the hospital auditorium with an invitation to the nursing professionals to attend an explanation and discussion of nursing records. However, there was low compliance, and it was noted that this approach would not be effective for positive changes in relation to nursing records. Thus, after a meeting with the Nursing Department, the team responsible for Continuing Education of the hospital, and the nursing staff of the Quality Management Center, it was decided to organize meetings in nursing stations.

The intervention consisted of meetings with nursing professionals in the institution's nursing stations during working hours, on all shifts and sectors. The schedule of meetings was built in order to cover the greatest number of professionals considering daily activities, routine and unit profile, and the break time and/or meals of the teams. In the meetings, a copy of the work instruction was presented and made available and a flyer distributed to each professional participant. The importance of the need to comply with legislation relating to records and individual responsibility for the quality and availability of information in the patient record was emphasized.

In order to evaluate the results of the intervention, the study of nursing records of the institution was replicated⁽¹²⁾, using the same data collection instrument. Thus, the nursing records of archived records in the Medical Records and Statistics Service were evaluated.

Inclusion criteria: nursing professionals records performed from 1st February 2013. This criterion was established considering the period of implementation of the work instruction "Nursing Records" containing standardized

list of abbreviations of the institution and the period of performing the intervention. The study included the first six records (from 1st February 2013) of the following units: female clinic, male clinic, female surgery, male surgery, pediatrics and intensive care unit. For the selection of records, hospital stays of 10 days or more were considered. This criterion was adopted in order to enable evaluation of records of different shifts and working hours that exist within the institution (day laborers, on duty for 12 hours resting 36 hours, daytime and nighttime, and on duty for 12 hours resting 60 hours, daytime and nighttime).

Exclusion criteria: records of other professionals of the multidisciplinary team and of students, interns or residents.

Data were collected between March and May 2013 and, after collection, were transferred to an electronic database. Variable frequency tables were constructed. Contingency tables were constructed to find the difference between each variable before and after training per shift, professional category, sector and number of violations. The number of offenses per registration was recorded considering the items of characterization in the records captured by the data collection instrument. So if there was non-compliance in relation to a particular item an offense was computed, and so on.

The significance of associations was observed with the application of chi-square test of Pearson. Values of *p* below 0,05 were considered significant. Data were entered and analyzed with the help of the software Statistical Package for Social Sciences (SPSS) version 15.0.

This research followed ethical and statutory recommendations, being considered and approved by the Research Ethics Committee of the institution under number 133.384 before the start of data collection.

RESULTS

826 nursing records were evaluated; 465 before the intervention and 361 after it. The largest quantity of records was identified in the Intensive Care Unit, among the Licensed Practical Nurse and on the night shift. The profile of nursing records before and after the intervention is presented in Table 1.

Table 1 - Profile of nursing records per sector, professional category, shift and number of offenses before and after training. Juiz de Fora, 2013.

	Before Training		After Training	
	n (465)	%	n (361)	%
Sector (p = 0,004	.)			
Intensive Care Unit	190	40,8	147	40,7
Male Clinic	39	8,4	51	14,1
Female Clinic	38	8,2	29	8,0
Pediatrics	64	13,8	32	8,9
Male Surgery	86	18,5	48	13,3
Female Surgery	48	10,3	54	15,0
Profissional Category (p = 0,008)				
Registered Nurse	207	44,5	157	43,5
Licensed Practical Nurse	236	50,8	167	46,3
Certified Nursing Assistant	22	4,7	37	10,2
Shift (p = 0,034)				
Day	225	48,4	148	41,0
Night	240	51,6	213	59,0
Number of Offen	ses (p <0,	001)		
None	83	17,8	55	15,2
One or two	243	52,3	266	73,7
Three or more	139	29,9	40	11,1

Legend: Values of p obtained by Pearson's chi-square test. Source: own elaboration.

Regarding sectors, an increase in the percentage of records in the men's clinic and female surgery was identified. An opposite result was obtained in pediatric sectors and male surgery (p = 0.004). In

the Intensive Care Unit, the amount of records had little variation.

The professional category that was more influenced by the intervention was that of certified nursing assistants, an increase of more than five percentage points (p = 0.008). The difference between the amount of records between day and night shifts was small before the intervention, but this difference became more distinct after training, with a predominance of records made in the night shift (p = 0.034). Another positive change obtained after the intervention refers to the decrease in the quantity of records with three or more offenses (p < 0.001).

When considering the items that guarantee the validity of nursing records, we observed significant improvements in the presence of: time, date, signature and professional identification stamp. The characteristics of nursing records before and after training are shown in Chart 1.

It is noteworthy that some items had to comply in almost all records observed in the evaluations before and after the intervention, such as correct spelling, duly appointed errors or missing and no erasures. All nursing records were carried out using appropriate form before and after training.

DISCUSSION

Nursing records are a reflection of professional practice and portray the competence and the involvement of professionals in the exercise of their activities. Thus, we sought in this investigation to evaluate the records of the nursing staff of a teaching hospital relative to the institution sector, the work shift, the professional category and the number of offenses per record before and after educational intervention regarding compliance with specific legislation.

During the period of data collection, the institution was facing a period of transition ma-

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After training

Chart 1 - Characteristics of nursing records before and after training. Juiz de Fora, 2013.

Legend: Values of p obtained by Pearson's chi-square test. Source: own elaboration.

■ Before training

nagement, as well as other teaching hospitals. Changes in regimes, hiring and deficits in staff were experienced. Moreover, the presence of professionals with different types of bonds, some considered precarious or deregulated⁽¹⁶⁾ requires a change in the pace of work with reflex in the records made by nursing professional. The differences in bond, journey and compensation that coexist in the same working environment can produce demotivation and influence on the income of professionals⁽¹⁷⁾. Thus, changes in quantitative nursing records before and after the intervention between the different sectors can be justified.

The highest concentration of records in the intensive care unit can be assigned to the profile of patients who are admitted in this sector: patients with intensive care needs, including various situations that may include hemodynamic instability, continuous dependence on support equipment for life, use of vasoactive drugs, the need for continuous monitoring of vital signs, among other conditions that require continuous and specialized attention of the multidisciplinary team. In this environment, the nursing records may be more common because of the variations that may affect the needs of patients. In addition, the Intensive Care Unit is the only sector that has

had the Systematization of Nursing Care fully deployed in the institution since 2000, which again implies greater commitment of staff to register all steps of patient care⁽¹⁸⁾.

The largest quantity of records was performed by practical nurses, which can be explained as they are the largest fraction of the nursing staff in the institution. However, the nursing assistants were professionals that increased the amount of records after the intervention. The group of certified nursing assistants of the institution is composed exclusively of professionals who are part of the stable institutional bond professional staff, new professionals with this training no longer being hired. It is believed that the stable institutional bond can be a positive influence on adherence to recommendations, since the situation of the professional is "permanent" in relation to the workplace and changes considered positive in the activities developed daily may reflect directly on their welfare and their job satisfaction(17).

The night shift was responsible for a larger quantity of records before and after the intervention. This may be explained by the functioning dynamics of the hospital service, which focuses on various daytime activities such as tests, surgeries, medications, patient hygiene, family

visits, medical visits and other health professionals, among others. Moreover, because it is an educational institution, there is a concentration of educational activities also during the day, including the completion of nursing records by students, which were not included in this investigation. Thus, one can justify the fact that a greater volume of nursing records has been completed by professionals who carry out their work at night.

It was found that the number of records with three or more offenses decreased, showing that the intervention has brought positive results. Educational activities can improve the quality of nursing records⁽²⁾ allowing them to be valid and reliable.

In discussing the items evaluated in each record, the results regarding the presence of date, time, signature and professional identification stamp particularly stood out. During the realization of the educational activities of intervention, these items were much discussed, as they are items that professionals know should be entered, but through haste or carelessness end up being forgotten⁽¹⁰⁾. After the intervention, the professionals were more attentive to these items. The date and time allows the identification of the exact time of occurrence of the fact described with the patient, promoting continuity of care based on accurate and organized data^(2,10).

The identification of the professional responsible for the registration through signature and stamp containing professional data is essential, indeed it is a legal requirement⁽¹³⁾. This fact was highlighted during the meetings, pointing to specific resolutions which gave more credibility to the information presented and substantiated the recommendations offered. Moreover, the absence of identification of the professional responsible for the action affects its legal validity⁽¹⁹⁾, which implies the lack of support in the event of litigation. Still, some professionals

do not complete nursing records to the expected standard, although considering the record as an essential part of their work (6,20).

The only item that was reduced after the intervention was the presence of standard abbreviations. This can be explained by the recent implementation of the standardization list of institutional abbreviations, which was released attached to the work instruction during the intervention. The use of standard abbreviations is essential for effective communication between health professionals, enabling the proper understanding of what was recorded. In contrast, if standardized abbreviations are not used, there may be communicational noise with potential harm to patient safety and the quality of care offered⁽⁸⁾.

Complete, correct and reliable nursing documentation favors communication between the members of the nursing team and the multidisciplinary team, promotes nursing care, helps achieve professional goals, meets legal requirements, helps the quality of care and demonstrates credibility. Conversely, incomplete records may compromise patient safety and quality of care, with possible professional and organizational implications⁽¹⁰⁾.

The good results obtained through this research show how important it is for individual nurses to assume leadership roles in the nursing team and to promote one of the pillars of their work process, which is teaching. Educational activities represent possibilities of transformation, visualization and exploitation of knowledge of the subjects involved, creating a dynamic movement of doing and redoing and making the most committed workers through their work process⁽²⁾.

Nursing professionals recognize the importance of the record, however, documentation of actions taken by the patient is often left in the background. Some reasons are given to justify

this, including lack of time due to excessive workload and the dynamics of operation of the clinics in which parallel activities to patient care are imposed on professionals, reducing the time that could be dedicated to the registration of patient/family care⁽⁶⁾. It is noteworthy that it is the nurse's role to give your team the necessary knowledge and seek the ways for professionals to create the nursing record.

reducing the use of abbreviations, when filling tools are added.

One of the limitations of this research is to have been restricted to a single institution and have been evaluated only items of legal validity and aesthetics of nursing records. Investigations that consider the content of the records and can evaluate the multidisciplinary team records must be made in the future.

CONCLUSION

The evaluation of nursing records before and after an educational intervention identified that such activity promoted changes in the profile of the sector, work shift, professional category and number of offenses per registration, as well as the characteristics of the nursing records, highlighting the items presence of date, time, signature and professional identification stamp.

It is believed that the use of simple technology and low cost activities such as educational interventions can impact the performance of nursing teams, promoting positive changes in working reality. The teaching-service Association is a desirable partnership since it can provide bilateral growth, favoring the development of the profession and the quality of services offered to the community.

For the constant promotion of improvements in nursing records, we suggest the routine evaluation of these through internal audits, which can reveal items that need to be better implemented with the teams.

Computerization can be a strategy to solve some of the problems highlighted in this research, such as illegible handwriting, the presence of date and time, the incomplete identification of the patient and the presence of erasures. The use of specific software can also be effective in

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