MANAGING THE TIME OF NURSING ACTIONS IN CARING FOR HOSPITALIZED CHILDREN AND ADOLESCENTS

ABSTRACT

Objective: Identifying the most frequent interventions and the time spent by nurses in direct and indirect care to hospitalized children/adolescents. Method: An observational study conducted in the Paediatric Clinic of a Teaching Hospital with eight nurses aided by a checklist type instrument with interventions developed from International Classification for Nursing Practice. Data were analyzed using descriptive statistics with emphasis on measures of central tendency. This study was a research project approved by the Research Ethics Committee, Protocol 436/12. Results: There were identified 153 interventions, being the most frequent those related to documentation, information exchange and patient safety, and which obtained the highest percentage corresponded to indirect care interventions (administrative). Conclusion: It was found the need to developing strategies to better operationalize time management of the nurse.

RESUMO

Objetivo: identificar as intervenções mais frequentes e o tempo gasto pelas enfermeiras no cuidado direto e indireto às crianças/adolescentes hospitalizados. Método: estudo observacional desenvolvido na Clínica Pediátrica de um Hospital Escola o cito enfermeiras auxiliadas por um instrumento tipo check-list com intervenções desenvolvidas a partir Classificação Internacional para a Prática de Enfermagem. Os dados foram analisados por meio de estatística descritiva com ênfase nas medidas de tendência central. O estudo teve o projeto de pesquisa aprovado pelo Comitê de Ética em Pesquisa, Protocolo nº 436/12. Resultados: foram identificadas 153 intervenções, as mais frequentes relacionavam-se à documentação, troca de informação e segurança do paciente, e as que obtiveram maior percentual corresponderam às intervenções de cuidado indireto (administrativas). Conclusão: constatou-se a necessidade de desenvolver estratégias para melhor operacionalizar o gerenciamento do tempo da enfermeira.

RESUMEN

Objetivo: identiﬁcar las intervenciones mÁs frecuencias y el tiempo dedicado por las enfermeras en la atención directa e indirecta a niÑos/adolescentes hospitalizados. Método: un estudio observacional realizado en la Clínica Pediátrica de un Hospital Universitario con ocho enfermeras asistidas por un instrumento tipo check-list con las intervenciones desarrolladas a partir de la Clasiﬁcación Internacional para la Práctica de Enfermería. Los datos se analizaron mediante estadística descriptiva con énfasis en las medidas de tendencia central. Este estudio tuvo el proyecto de investigación aprobado por el Comité de Ética de la Investigación, el Protocolo 436/12. Resultados: se identiﬁcaron 153 intervenciones, las mÁs frecuentes fueron relacionadas con la documentación, el intercambio de informacíon y la seguridad de los pacientes, y las que obtuvieron el mayor porcentaje correspondieron a las intervenciones de atención indirecta (administrativas). Conclusión: se encontró la necesidad de desarrollar estrategias para mejor poner en práctica la gestión del tiempo de la enfermera.
INTRODUCTION

Nursing actions directed to the care of hospitalized patients is indicative of quality of services. However, in everyday practice, nurses, beyond the actions of direct patient care, also exerts managerial roles in health, being necessary distributing their time between these activities. This method of organizing work leads to prioritization of certain actions that can influence the quality of services.1,2

One study3 revealed that the nurse performs various activities that are not within its competence, underscoring the need for these professionals and managers of health services review their work processes in order to provide more time for the execution of the particular occupational activities.

Systematization of Nursing (SAE) is a tool that guides the actions of the nurse and optimizes the time. As a tool facilitating the work process, it allows operational decision making for the actions of direct patient care, as well as indirect actions in order to improve the organization of care. However, it is still not enough to ensure a comprehensive and humane care, since it depends on several factors that affect the proper execution of care.4,5

Among the factors that influence the care and compromise the quality of care, the literature highlights the workload of the nursing staff, working hours, the amount of active professionals in the service, emotional exhaustion generated by child care, motivation and the appreciation of the worker as well as the use of technologies and equipment that support and assist the health care activities.6

Time management nurses arises in this context as a tool to organize the service, implement and perform decision making while improving the quality of care, increased productivity and optimization of technologies and resources. Time management should also be seen as a complementary sub-process of the work process, in order to reconcile the direct/indirect assistance to care/management.5,7

It is understood, in this study, direct care as those performed by the interaction with the patient and his family, focusing on actions of physiological character, psychosocial support and counseling. Indirect care is that conducted at a distance, ie, managerial, administrative and disciplinary actions that aim to benefit the patient.8

Nursing care become more intense in pediatrics where concern for patient safety services - child/adolescent hospitalized, requires greater attention of professionals in order to avoid adverse effects of hospitalization as falls, nosocomial infections and medication errors, which are highlighted in several studies.9-10

The identification of nursing interventions most frequently at a pediatric service, as well as verification of time spent on each intervention becomes essential to develop strategies aimed at operationalizing the time management nurses.

The difficulty in this process is called the actions and interventions of nursing with uniform meanings, given that the different Classification Systems suffer cultural and local influences that sometimes make it difficult to adapt to other communities of nursing influences. The International Classification for Nursing Practice - ICNP® allows better visualization of nursing from universally standardized terms, which facilitates the process of documentation and registration for professional.11-12

The CIPE® consists of seven axes (focus, judgment, means, share, time, location and client) to compose terminology statements that support the process of systematization of nursing care. From these axes are composed nursing interventions. To this end one end of axle action and a target term is required. The action axis is composed of six stocks which are divided into acts obeying a system of hierarchy.11

This study used CIPE® for the identification of terms referring to actions and nursing interventions, considering that it subsidizes the work process and assists the nurse to check the time spent by him in their everyday activities. For CIPE® actions are considered as activities performed by nurses not linked to a nursing diagnosis, interventions and activities, in response to a diagnosis of Nursing to giving a score of Nursing.11

It was questioned in this study: What are the interventions that nurses in a pediatric unit perform more often? What is the time spent in these activities? Do the nurses demand more time in direct or indirect patient care?

This study aims to: identifying the most frequent interventions and the time spent by nurses in direct and indirect care to children/adolescents hospitalized.

METHOD

Observational study with quantitative approach, developed in the pediatric clinic of a teaching hospital, which is a benchmark in...
the state of Paraíba, to meet children and adolescents with chronic diseases, further defining and clarifying the diagnosis of rare diseases.

Survey participants were nurses who met the following inclusion criteria: work in the clinic for over two years and be at work during the collection period. The pediatric clinic has 10 assistant nurses and one nurse responsible for the leadership. Among these, eight agreed to participate, only one refused and two did not meet the inclusion criteria.

The construction of the instrument for data collection occurred in two phases:

Phase 1: Identification and categorization of nursing actions

The period between 2011-2012 observations were made in research to identify the activities performed by nurses. After these activities were compared to the interventions described in the catalog Diagnostics, Results and Nursing Interventions for Children and Adolescents Pediatric Clinic. From this information, interventions that made up the instrument for data collection were selected. It is understood, in this study, nursing interventions identified as all activities performed by nurses, these are linked or not to a nursing diagnosis.

It did not contain in the catalog identified interventions were appropriate to the terms of CIPE® using version 1.0. Then, all interventions were categorized according to the classification of the axis of the shares present in CIPE®.

Thus, 151 nursing interventions were identified, which were grouped according to the following actions defined by CIPE®: Attending (31), Management (19), Determining (64), Informing (19), Performing (14) and Managing (04). And yet, two related to the work process that were called period of rest and personal activities. Interventions were also categorized according to the type of care provided by the nurse in direct patient care (116) and indirect patient care (35).

Phase 2: Organization of interventions for observation

After selection and grouping of interventions was necessary to define how they would be organized in order to facilitate the observation process of the collection itself. Considering the sampling of the work, which consists of casual and intermittent observations of the activities of the employee pricing and thus recording the time spent in performing these actions, the instrument was structured in a check-list, with fixed intervals of observations 10 minutes for six hours random shift.

In each 10-minute interval there were found interventions made by the nurse observed and recorded on the checklist. When intervention began and ended on a range in another, the same was recorded twice at different intervals.

Thus, the universe of the study comprised all nursing interventions listed in the instrument. To defining the sample it was considered the parameters described in previous studies, which also made use of the method of work sampling, namely:

That the probability of an intervention to be performed by the nurse during the observation period corresponded to > 0,001%, that is, a total of 1000, the activity observed was operations or performed at least once (p = 1/1000);

The time of interval between observations was fixed and equal to 10 minutes. So, in a round of 6 hours there have been 36 intervals of 10 minutes (07:00 to 07:10, 07:10 to 7:20, and so on until end of the shift to 13h);

The Pediatric Clinic has a quantity of 11 nurses distributed by shifts. There are, during daytime work, two assistant nurses, and at night only 01. Thus, the average daily professional per shift corresponds to 1.5. This value is needed to define the time of data collection according to the formula below:

Through the equation it was found that to observe 1000 samples it would be required 4.6 days. Thus, to increasing the safety margin it was decided to extend this period for five
days, with consequently increased the sample size to 1086 interventions and activities. In view of the existing system of shifts and the roster as well, in order to better operationalize the data collection these five days were divided into six-hour shifts resulting in 20 turns, which encompassed both day and night shifts shuffle. The collection period took place in the months of December/January 2012/2013.

Data analysis was performed using descriptive statistics with emphasis on measures of central tendency, using for this purpose, a spreadsheet program Microsoft Excel. Variables, as well as the formulas for obtaining the values of those, were based on studies have developed similar research. The variables correspond to the average time of each intervention, daily average time for each intervention and the probability of occupation nurse for each intervention. To better understand the analysis, we only considered interventions that chained ratio > 1.0 in the sample.

This study was a research project approved by the Research Ethics Committee, by Protocol 0436/12, CAAE: 08889412.0.0000.5188. Thus meeting the ethical principles set out in Resolution No. CNS 466/2012 and COFEN Resolution No. 311/2007.

**RESULTS**

### Scaling of nursing staff

To set the minimum staff of nursing it was used the calculation scale of the nursing staff, as Resolution No. 293/2004 of the Federal Board of Nursing - COFEN. It is noted that the pediatric clinic is considered an intermediate care unit, due to partial dependence on nursing care of children /adolescents and their families to meet their needs.

It appears that the minimum number of nurses in the clinic would be of 48 professionals, among which 15 nurses. Therefore, with the current number (11) of nurses in the unit under study is below recommended.

### Categorization of research participants

Participated in the survey eight assistant nurses, all female, these three (37.5%) aged 31-40 years, two (25%) aged 41-50 years and three (37.5%) aged between 51-60 years. Regarding the duration of the professional practice of the CP / HULW it was found that a nurse (12.5%) worked at the clinic less than 5 years (62.5%) worked between 6-10 years, (12.5%) were between 11-20 years of work and one (12.5%) have worked in the clinic for over 30 years.

### Characterization of inpatients during the period of data collection

During the months of data collection there were admitted to the pediatric clinic 94 children and adolescents of ages ranging from 45 days to 17 years old. During shifts collecting 24 hospitalizations were observed.

With regard to children hospitalized during shifts collecting percentile, it is observed that 61,4% were children under five, 16,8% were from 06 to 11 years and 21,6% were adolescents aged 12 and 17.

### Presentation of interventions

The sum of the search resulted in 1989 interventions by nurses in pediatric practice, during the period of data collection. Discuss below those with index> 1%, which are organized according to the terms of the axis of action ICNP. Of the 151 interventions present in the instrument, only 27 were not performed.

Table 1 shows the most frequent interventions by nurses from the pediatric practice in each group of terms of the axis of action, considering for both: the total number of interventions (Nt), the total sum of interventions axis of action (Σint), the sum of interventions observed (Σint.), the percentile of each intervention (%) and the average daily time in minutes for each intervention (TDMI).

<table>
<thead>
<tr>
<th>Action</th>
<th>Determine: Nt = 64; Σint = 610 (30,69%)</th>
<th>Σint.</th>
<th>%</th>
<th>TDMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td></td>
<td>ΣInt.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental state</td>
<td></td>
<td>47</td>
<td>7.70</td>
<td>169.67</td>
</tr>
<tr>
<td>Awareness level</td>
<td></td>
<td>43</td>
<td>7.04</td>
<td>155.23</td>
</tr>
<tr>
<td>Medical prescriptions</td>
<td></td>
<td>75</td>
<td>12.29</td>
<td>270.75</td>
</tr>
<tr>
<td>Exams, applications for examinations and surgeries</td>
<td></td>
<td>52</td>
<td>8.52</td>
<td>187.72</td>
</tr>
<tr>
<td>Book of occurrence</td>
<td></td>
<td>40</td>
<td>6.55</td>
<td>144.4</td>
</tr>
<tr>
<td>Order of the unit</td>
<td></td>
<td>35</td>
<td>5.73</td>
<td>126.35</td>
</tr>
<tr>
<td>Staff**</td>
<td></td>
<td>41</td>
<td>6.72</td>
<td>148.01</td>
</tr>
</tbody>
</table>

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Table 2. Most frequent interventions carried out by Nurses in Pediatric Clinic/HULW; action axis report. João Pessoa, 2013. (Interventions with index >1%)

<table>
<thead>
<tr>
<th>Action - Informing: Ntint = 19; Σint = 317 (15,93%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
</tr>
<tr>
<td>Explaining</td>
</tr>
<tr>
<td></td>
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<td>Instructing</td>
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<td>Registering</td>
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<td></td>
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<tr>
<td>Documenting</td>
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</tbody>
</table>

Table 3. Most frequent interventions carried out by Nurses on Pediatric Clinic/HULW regarding the axis of action administering. João Pessoa, 2013. (Interventions with index >1%)

<table>
<thead>
<tr>
<th>Action - Administering: Ntint = 19; Σint = 327 (16,44%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
</tr>
<tr>
<td>Controlling</td>
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<tr>
<td>Keeping</td>
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</table>

Table 4. Most frequent interventions carried out by Nurses in Pediatric Clinic/HULW according to the axis of action playing. João Pessoa, 2013. (Interventions with index >1%)

<table>
<thead>
<tr>
<th>Action - Play: Ntint = 14; Σint = 138 (6,93%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
</tr>
<tr>
<td>Encourage</td>
</tr>
<tr>
<td>Wash</td>
</tr>
</tbody>
</table>

Table 5. Most frequent interventions carried out by Nurses in Pediatric Clinic/HULW regarding the axis of action meeting. João Pessoa, 2013. (Interventions with index >1%)

<table>
<thead>
<tr>
<th>Action - Attendance: Ntint = 31; Σint = 335 (16,84%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
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<tr>
<td>Promoting</td>
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<td></td>
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<tr>
<td>Using</td>
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<tr>
<td>Include</td>
</tr>
<tr>
<td>Development</td>
</tr>
<tr>
<td>Reporting</td>
</tr>
<tr>
<td>Meeting</td>
</tr>
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</table>

* Assistance actions in direct patient care
** Assistance actions in the indirect care to the patient (administrative)

Of the four interventions related to the axis present in the action manage check-list (Ntint = 04; Σint = 01), only two had an index> 1%: administer medication* obtained the sum of intervention (Σint) = 22 percentile of intervention (%) = 36,66, and daily average time in minutes for each intervention (TMDI) = 79,42 hours and schedule of medications** Σint = 31,% = 51,66 and TMDI = 111,91. regarding assistance while nursing activities, interventions, it is observed that these correspond to 89,84% of the time of occupation, the remaining 5,69% are related to personal activities, while 4,47% are related to resting activities.

Be noted that nursing interventions that required more time nurse axle action were: Schedule Time of medications (51,66%), Washing Hands (43,47%), Keep Informed team (25,38%), in the Register Book of Occurrence (23,97%), Promoting Safe Environment (13,13%) and Prescriptions Medical Check (12,29%). We also highlight the intervention answering the phone with a percentage equal to 15,82%.

**DISCUSSION**

Given that studies on the subject found no use CIPE® as nursing interventions classification system was necessary, during the discussion, perform a correspondence between the terms used in localized work and standardized by CIPE® adopted in this study.

Managing nursing involves making decisions, which is dependent on the ratio of nurses to patients, health professionals and staff of the institution. The nurse is the link that lists all the healthcare professions acting...
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Schedule of Medications (51,66%), Register in the book of occurrence (23,97%), Register in the Patient’s Record (23,02%), Document Admission or Discharge in the Book of Record (12,30%).

Notes the concern of nurses in record and document their practice in order to contribute to the continuity of care, giving visibility to their caring actions. For health information is a key element in the organization and management of care models and decision making in health. 17

It is understood by the patient safety to reduce the minimum acceptable risk of unnecessary damage during the health care, seeking to avoid, prevent and minimize adverse events resulting from hospitalization. It is considered in this study, that patient safety is primarily a health care intervention and thus develops with the child and his family. Thus, the team becomes vital in the prevention, early identification and reduction of events during nursing care. 10

Several studies 9,10,18-20 describe it in inappropriate circumstances of care, the patient is exposed to events that compromise their security, especially with regard to the occurrence of nosocomial infections, falls and medication errors. The circumstances of care that influence the safety during care procedures performed involve the multidisciplinary team, the patient (child/companion/ family), the experienced context (work process) and the setting (hospital inpatient unit). 10

It is clear that patient safety is multifactorial and multidisciplinary, in this aspect assumes a nursing major role to promote safety and prevent injuries resulting from hospitalization, considering, his constancy and closeness with the child and his family.

Patient safety is intrinsically connected with the operations that are normally ignored or improperly carried as hand washing, use of personal protective equipment, the preparation and administration of medications and activities of environmental control for safety and comfort the patient and family. In this study, the intervention promote a safe environment obtained a percentage of 13,13%, demonstrating the concern of nurses with the quality of care. It is noted that this concern is a feature of the pediatric service of the institution investigated, being shared by all other members of the healthcare team.

The control of hospital infection is directly linked to the practice of hand washing and/or membership of health professionals to this practice when inappropriate compromises the

as the voice of the team, since it communicates and translates information between the professional team and between them and the patients. Communication, therefore, is essential for an effective leadership of the nurse in the team, since it provides the same transfer and receives information and knowledge, organizes and outlines their service goals with its team. 9

The exchange of information on health care is essential to ensure the quality and safety of care, thus being the element that permeates the whole process of working with health professionals. 9

The exchange of health information relates to the axis of this Action Report on CIPE covering, in this study, interventions: explain all procedures to the patient (11,35%), explaining the child and family treatment clearly and concisely (9,77%), instructing the child and the family as the routine hospital (9,46%), and further interventions remain informed (18,04%) and keep informed staff (25, 38%) related to Administer Action. It notes also answer telephone intervention (15,82%) present in the axis of Attending action as a means of exchanging information with other professionals and service sectors.

The time spent by the nurse in the exchange of health information with the remaining team was quantified in only one study, which obtained percentage of 5,42%. In the current study the percentage of 89,82% - obtained from the sum of interventions related to information exchange in health and which corresponds to 11,98% of all observed interventions, is above the identified research on correlated. 3

It is understood that the communication between professionals from the health implies a process that needs to occur in an articulated way, through dialogue and integration of the multidisciplinary team in order to support the management and orchestration of care actions necessary to ensure the quality of care for children and their families. In this context, relational technologies play a crucial role in the process of nursing work, since effective communication coupled with technical-scientific knowledge provides patient safety and improved quality of healthcare services. 10,15-16

Studies 2,3 showed that the intervention documentation is among interventions that consume more time from the nurses. In this research the intervention ‘Documentation’ is related to the indirect care interventions contained in Determining, Reporting and Managing actions, corresponding to the following nursing interventions: Time

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The control of hospital infection is directly linked to the practice of hand washing and/or membership of health professionals to this practice when inappropriate compromises the
safety and well-being of the patient. Studies have shown that the frequency of hand washing before and after handling the patient by nurses is still low. This research, although the percentage of 43.47% achieved in intervention handwashing action play in the shaft, when considering the total sum of all interventions observed this percentage drops to 3.01%, which agrees with the results found in previous studies. This may be associated to the fact that time devoted to direct patient care interventions to be less than the administrative activities.

It is clear in this study that nurses spend more time on performing the actions of indirect care, and in line with other research. Studies developed in other units identified percentage of time ranging from 43% to 50% in performing indirect care interventions, while the percentage of time allocated to interventions of direct patient care ranged from 3% to 22%.

When directing the look, however, for the quantity of nurses working in the pediatric unit, we were faced with an insufficient number of professionals, which may explain the data found. The nursing staff of the pediatric clinic consists of 42 professionals; however, as shown in the sizing calculation of personnel, minimum crew should contain 48 professionals. Obeying the percentual distribution of nursing professionals according to Resolution COFEN No.293/2004, from these 48 workers 15 (33%) should be nurses, and the others 33 technicians/nursing assistants.

Given the insufficient number of professional assistance to children and their families is impaired. This reflects in the care actions, therefore the range of bureaucratic activities that the service imposes impossible for the nurse to spend more time on direct care activities.

CONCLUSION

The results revealed that from the 1989 nursing interventions performed by nurses, the most frequent were related to documentation, exchange of information between healthcare staff and the patient safety. The indirect care assistance actions (administrative) have demanded more time nurses, predominating over the actions of direct care, which can be associated to the number of nurses in the unit concerned.

Whereas the actions of nursing in the care of hospitalized children and adolescents is indicative of the quality of services provided, the information obtained in relation to the care time quantitative inferences that the existing human resources is insufficient for a share of care and efficient quality.

It is notorious the need to carry out further investigations that allow the identification of strategies to best operationalize the nurse time management, considering the range of duties which the same is subjected in the inpatient units.

Despite the relevance of the results of this study, one must consider the limitations of the research due to the complexity of the phenomenon studied and restrictions of the methodological approach employed, besides the lack of scientific literature on the subject, using the terminology of CIPE®.

REFERENCES


