

PROFILE OF THE NURSING STAFF AND PERCEPTIONS OF THE WORK PERFORMED IN A MATERIALS CENTER

PERFIL DA EQUIPE DE ENFERMAGEM E PERCEPÇÕES DO TRABALHO REALIZADO EM UMA CENTRAL DE MATERIAIS

PERFIL DEL PERSONAL DE ENFERMERÍA Y PERCEPCIONES DEL TRABAJO EN UNA CENTRAL DE MATERIALES

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ABSTRACT

This study aimed to outline the profile of nursing staff MSC (Materials and Sterilization Center) of a teaching hospital, to identify continuing education processes developed in the unit and the perceptions of the subjects regarding the valuation of work accomplished. **Method:** A descriptive study of quantitative and qualitative nature. And analysis descriptive statistical was realized using Excel and R (Windows) version R-3.1.1, with frequency and percentage of variables and chi-square test of adherence. The qualitative approach was characterized by open questions were typed into a text editor and treated according to the thematic analysis with reading and training categories. **Results:** Was interviewed 16 nurses (technicians, assistants, and nurses) active in the sector. Received trained when entering the MSC (50%), and were trained in the last two years (56%). When the issues that needed improvement cited: Surgical box assembly; cleaning, sterilization, use of PPE among others. In qualitative data were listed the following categories: Service/procedures; Infection Control and Patient Safety; Appreciation of the professional; Deficit Human Resources and Perception on the recognition of professional MSC. Professionals emphasized the workload, shortage of human and material resources, lack of appreciation for the institution, among others. **Conclusion:** The results point to the need to support these professionals, who recognize their practice as fundamental, but are inebriated by learning, developed in the form of continuing education, to improve the health of the worker. It is highlighted the need for more research involving MSC nursing professionals.

Keywords: Nursing; Sterilization; Professional Autonomy.

RESUMO

O estudo teve como objetivo traçar o perfil da equipe de enfermagem da Central de Materiais de Esterilização (CME) de um hospital-escola, identificando os processos de educação continuada desenvolvidos na unidade e as percepções da equipe sobre o processo de trabalho realizado. **Método:** estudo descritivo de natureza quantitativa e qualitativa. E análise estatística descritiva por meio do programa Excel e R (Windows) versão R-3.1.1, com frequência e percentagem das variáveis e teste qui-quadrado de adesão. A abordagem qualitativa caracterizou-se por questões abertas digitadas em um editor de textos e tratados segundo a técnica de análise temática, com leitura e formação de categorias. **Resultados:** foram entrevistados 16 profissionais de enfermagem (técnicos, auxiliares e enfermeiros) atuantes no setor. Receberam treinamento ao entrar na CME (50%) e foram capacitados nos últimos dois anos (56%). Quando aos temas que necessitavam de aperfeiçoamento, citam-se: montagem de caixa cirúrgica; limpeza, esterilização, uso de EPIs, entre outros. Nos dados qualitativos foram mencionadas as seguintes categorias: assistência/procedimentos; controle de infecção hospitalar e segurança do paciente; valorização do profissional; déficit de recursos humanos e autopercepção do profissional da CME. Os profissionais enfatizaram a sobrecarga de trabalho, déficit de recursos humanos e materiais, falta de valorização pela instituição, entre outros. **Conclusão:** os resultados revelam a necessidade de apoio a esses profissionais, que reconhecem sua prática como fundamental, porém requerem aprendizado, desenvolvido na forma de educação continuada, tendo em vista a melhoria da saúde do trabalhador. Ressalta-se a necessidade de mais pesquisas envolvendo os profissionais de enfermagem de CME.

Palavras-chave: Enfermagem; Esterilização; Autonomia Profissional.

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RESUMEN

El estudio tuvo como objetivo trazar el perfil del personal de enfermería de la CME (Central de Materiales de Esterilización) de un hospital escuela, identificando los procesos de educación continuada en la unidad y las percepciones del equipo sobre el proceso de trabajo realizado. Método: estudio descriptivo de naturaleza cuantitativa y cualitativa y análisis estadístico descriptivo por medio del programa Excel y R (Windows) versión R-3.1.1, con frecuencia y porcentaje de las variables y prueba chi-cuadrado de adhesión. El enfoque cualitativo se caracterizó por cuestiones abiertas digitalizadas en un editor de texto, tratadas según la técnica de análisis temático, con lectura y formación de categorías. Resultados: se entrevistaron a 16 profesionales de enfermería (técnicos, auxiliares y enfermeros) actuantes en el sector. Al entrar en la CME, el 50% recibió entrenamiento y, en los últimos dos años, el 56% recibió capacitación. Entre los temas que necesitaban perfeccionamiento se mencionaron: montaje de la caja quirúrgica; limpieza, esterilización y uso de los equipos de protección individual, entre otros. Entre los datos cualitativos se citaron las siguientes categorías: atención/procedimientos; control de infección hospitalaria y seguridad del paciente; valoración del profesional; déficit de recursos humanos y autopercepción del profesional de la CME. Los profesionales enfatizaron la sobrecarga de trabajo, el déficit de recursos humanos y materiales y la falta de valoración por parte de la institución. Conclusión: los resultados indican que los profesionales precisan apoyo, que reconocen su práctica como fundamental pero que necesitan educación continuada con miras a mejorar la salud del trabajador. Se resalta la necesidad de mayor cantidad de estudios que tengan en cuenta al personal de enfermería de la CME.

Palabras clave: Enfermería; Esterilización; Autonomía Profesional.

INTRODUCTION

The Material and Sterilization Center (CME) corresponds to a functional unit reserved for the processing of health materials for the health services¹. Therefore, it can be said that this sector provides support to all diagnostic and care services of a hospital. Thus, it requires qualified and appropriately trained officials to meet technological and procedural needs.²

In this context, it can be ensured that the CME represents a peculiar unit when compared to the other sectors within a hospital institution, especially in the nurse's role, since it requires scientific and technological knowledge to coordinate the work, aiming at an effective communication with the hospital's support and consumer units, evidencing a reciprocal relationship.³

The processing of instruments and materials in the CME should be performed with a basis in knowledge and analysis of environmental risks incorporated into an adequate physical structure, admitting the flow of materials and people in a safe way. In this sense, well-conducted cleaning, disinfection, and sterilization processes are essential in the prevention and control of infections related to healthcare (IRAS), emphasizing the importance of CME in health services.⁴

The professional in the CME does not only perform a routine and repetitive activity. It is notable that there is a gap on the importance of the work process in this unit, often associated with the culture of institutional leadership, the training of the professionals and the lack of continuous education about the work developed. However, it must be identified that the nursing team acquires significant skills and knowledge in the care functions performed, based on the competence developed in the material and sterilization center.⁵

This study aimed to trace the profile of the CME nursing team in a school hospital, identifying the continuing education processes developed in the unit as well as the team's perceptions about the work process performed.

METHOD

It is a descriptive study of a quantitative and qualitative approach, developed in the CME of a university hospital located in the interior of the state of Paraná, with approximately 210 active beds, being a reference in trauma in the region.⁶

Of the total of 24 professionals of the nursing team, 16 of them (66.7%) accepted to participate in this study. The sample consisted of employees of both genders, who work all shifts. Employees who were absent from the sector due to health problems, day off, holidays or who refused to participate in the survey at the time of data collection were excluded.

The ethical aspects were met by the favorable opinion of the Ethics and Research Committee (CEP) under letter number 1,447,806. This study is part of a larger project entitled "Good health practices: patient safety and nursing care."

As a data collection instrument, a semi-structured self-administered questionnaire was used, containing open and closed questions for obtaining personal data, information on the professional profile, and valuing the work of the nursing team. Each professional signed the free and informed consent form to ensure acceptance and participation in the research when they were informed about the research objectives and the confidentiality of the data. Subsequently, the questionnaires were handed out to each CME employee. The period for the delivery and collection of the questionnaires was one week.

The quantitative data were tabulated and analyzed by statistical tests carried out in software R version 3.3.1, and the Excel program was used to assemble the contingency tables, and the data were then submitted to the Chi-square test.⁷

The data of the open questions were typed in a text editor and treated according to the thematic analysis technique, one of the modalities of the content analysis, following the three stages: pre-analysis, material exploration, data processing/inter-

pretation.⁸ The lines were identified by the denomination Professional 01, 02, 03 consecutively, following chronological order.

Initially, an exhaustive reading of the material was carried out, and the categories in which the repeated and/or had similarity data were identified and grouped. Subsequently, the categorization of the elements: assistance/procedures; Control of IRAS and patient safety; Valuation of the professional; Human resources deficit, and self-perception of the CME professional, followed by interpretation and discussion of the data.

RESULT AND DISCUSSIONS

Table 1 shows the results of the profile of the 16 professionals on the nursing team interviewed, according to gender, professional training, work regimen and time in the CME.

Table 1 - Characterization of the CME professional team from May to June 2016. Cascavel, 2016

Teach characteristics	n	%
Gender		
Female	15	93.75%
Male	01	06.25%
Professional training		
Nursing Assistants	05	31.25%
Nursing Technicians	04	25.00%
Nurses	07	43.75%
Work regimen		
CLT	01	06.25%
Statutory	12	75.00%
Selective	03	18.75%
Time working at CME		
> 10 years	04	25.00%
One 10 years	07	43.75%
< 1 year	05	31.25%
Total	16	100%

As shown in Table 1 in the characteristics of this sector, 93.75% are composed of female professionals. It is known that nursing is predominantly composed of women, but the national literature shows few studies describing the profile of nurses in CME units. Similar data corroborate this percentage, showing that 93.55% are female.³

Regarding training, 43.75% are nurses, being a significant part of the sample studied, followed by 31.25% of nursing assistants. This characteristic is different from a study carried out in Rio de Janeiro, which identified that most of the professionals who worked at CME had completed secondary education and only 12% had higher education.^{9,10}

In this study, the high index of nursing professionals with higher education is justified by the employment relationship as statutory, in which 75% in CME are civil servants of career. Regarding the time in the sector, 43.75% of the workers work in this unit between one and ten years and 25% for more than ten years. Another study shows a time of service in the CME of eight years, which corresponds to the data presented.¹¹

The CME is a fundamental sector in the hospital context, responsible for the preparation, sterilization, and distribution of health products, processable, consumed in the surgical center and other units, requiring qualified employees for each area and functions they assume.

Therefore, the professional working at CME must constantly be trained to meet the sector's demand.¹² Continuing Education (CE) is one way of improving the institution's human resources to offer the best assistance to the patient, whether direct or indirect.

When questioning whether employees had received training when they started their activities at CME, eight (50%) did not receive initial training, seven (43.75%) received training, and one (6.25%) did not report it. Regarding the receipt of training in the last two years, nine (56.25%) received some training, six (37.25%) did not receive training, and one (6.25%) did not report it.

The training are essential to promote updates about the new technologies to the CME professionals because the sector is characterized as critical and highly complex and the presence of few trained professionals can result in discredit in the actions of nursing performed, and injuries to the patient.¹³

Table 2 - Distribution of the CME team responses about the training received in the last two years. Cascavel, 2016

Treinamentos realizados	Nº de Citações	%
Using the Label Machine	07	25.9%
Operation of the chemical dilution and dilution machine	06	22.2%
Use of the sealer	03	11.1%
Use of the autoclave, incubator, and Thermo disinfectant	03	11.1%
Vacuum and suction system	02	7.4%
Cleaning of material	01	3.7%
Dispenser of enzymatic solution	01	3.7%
Use of peracetic acid	01	3.7%
Use of enzymatic detergent	01	3.7%
Kerison forceps removal	01	3.7%
Handling of equipment and solutions	01	3.7%
Total	27	100%

Table 2 shows the frequencies of responses of the professionals about the CME training in the last two years, in which

11 training sessions were mentioned by the study participants. Among the most cited, there is the use of the labeling machine (25.9%), followed by the operation of the chemical dilution and dilution machine (22.2%), use of the sealer (11.1%), autoclave use, incubator and Thermo disinfectant (11.1%).

When reporting on at least three topics they considered important for the performance of their work, the nursing professionals participating in the study mentioned 20 thematic areas: cleaning (01); Sterilization (01); Exposure time of materials in chemical solution (01); Validation (01); Storage (01); Sterilization time for each type of material (01); Biological tested (01); Importance of integrators (01); Programming of the autoclaves (01); Thermodisinfectant (01); Routines (01); Washing and disinfection of materials (01); Assembly of surgical boxes (02); High-level disinfection (01); Handling of disinfected/sterilized materials (01); Use of PPE (01); Teamwork (01); Work process (01); Autoclave handling (01); Traceability of materials (01).

It is perceived that the team shows distinct needs, involving the work process in its broader dimension. When compared to Table 2, few of the themes mentioned were performed in the unit during the last training sessions.

A study carried out in hospitals in the state of Paraná showed that 29.2% of the topics most frequently addressed in the training provided to the nursing staff already hired in the institutions were about cleaning, disinfection, and sterilization of materials.¹⁴

After the application of the test statistic using the chi-square test (p-value of 0.69), it was possible to show the lack of statistical significance among the mentioned variables. To verify if there were associations between the variables "receiving training" and "time working in the CME."

A disparate result was found in a study developed in the Northeast of Brazil, in which comparisons made between different institutions identified that the hospital that performed training more frequently, at admission and periodically, had a team with more knowledge about the normative when compared with institutions that did not perform the CE regularly.¹⁵

The continuity of the CE results in relevant aspects, first the social evolution and the need for monitoring, through the workforce of the man, that implies changes and the confrontation of new challenges due to the constant modification of the society. This change leads the individual to improve other capacities of action and work and to change his condition of development, amplifying indispensability of more education.¹⁶

QUALITATIVE DATA ANALYSIS

The data collected through the open questions are related to the thematic area "professional performance in CME." In this area, five thematic axes were identified, emerging the fol-

lowing categories related to the importance of the work developed in CME and if the professional feels valued before the work developed in this unit: assistance/procedures; Control of IRAS and patient safety; Shortage of human resources; Valuation of the professional; and perception about recognition of the CME professional.

ASSISTANCE/PROCEDURES

In this category, the professionals interviewed emphasized the importance of the CME regarding the good progress of the care practices developed in the hospital. This perception is evident in the following statements:

"It is important because any procedure to be performed at the hospital depends on the CME materials" (Professional 01).

"Extreme importance (with) any procedure performed at the hospital requires material provided by CME" (Professional 02).

"[...] very important for an adequate assistance" (Professional 05).

"It is of fundamental importance because if there were nobody to wash, pack and sterilize the materials used in patients undergoing clinical or surgical treatment, the hospital would stop" (Professional 06).

"It is of paramount importance because it is the sector that determines the workflow of all other sectors of the hospital" (Professional 07).

According to professionals, this sector is fundamental for the institution, since it is responsible for the entire process of receiving, cleaning, storing and distributing materials for the provision of care practices in the institution.^{11,17} With this, professionals show that there is a great deal of responsibility and work in the sector because it is a restricted sector, causing difficulty in understanding the other units of the institution about the real work process of CME.

Another issue evidenced by the workers is the units adjacent to the CME that provide direct care exerting a relationship of dependence on the proper functioning of this unit since the sector is perceived as a unit of support or indirect care regarding the supply of critical articles of disinfection in the direct care units.³

It is evident in this category that CME workers see the unit as a strategic unit of great importance and it directly influencing the quality of care provided to the population served at the institution.

CONTROL OF IRAS AND PATIENT SAFETY

The answers obtained in this category reflect the professionals' understanding of the relationship between the work developed in the CME unit with the control of IRAS and patient safety considered essential in a health institution:

"The work of the CME is of paramount importance for [...] services provided to the patient since it starts the infection control in the hospital" (Professional 03).

"Extremely relevant, given that if a CME fails, the patient will probably be harmed" (Professional 04)

"[...] it is where the control of hospital infections is applied. It has direct repercussions on the patient, so the CME needs continuous education without interruption, with well-trained staff in the control of the sterilized material" (Professional 07).

"Work that directly affects patient safety. As important as any other sector of the hospital [...]" (Professional 13).

The speeches show that through CME, the care process is initiated through a meticulous work method to prevent any failure in the processing of the reprocessable health products. This is because any error will be susceptible to adverse events related mainly to the development of a possible infection, directly affecting patient safety.

The CME is a support unit for the provision of services within the health institutions, with relevance for the prevention and control of IRAS when related to the activities developed in that place, specifically with means of contamination. The quality of the service provided in this unit will reduce the incidence of IRAS related to the cleaning, disinfection, and sterilization of health products.¹⁸

Therefore, by ensuring the adequate quality of the processed products, the patient's safety in the use of these utensils is increased. It is of fundamental importance to carry out permanent education programs that bring employees closer together and make them aware of the safety of the patient at CME¹¹, since the valorization and qualification of the team becomes an allied tool for care free of damage and quality.

DEVALUATION OF THE PROFESSIONAL

This category shows the statements of the interviewees who reported the feeling of devaluation within the CME and in other sectors of the institution:

"CME employees know the importance of work, but the institution as a whole does not have the same vision" (Professional 03).

"Appreciation only in CME. Unfortunately, the other sectors of the hospital only see us as "pot scrubbers," they do not know our work routine" (Professional 06).

"[...] the work done at CME is not visibly recognized by other hospital employees, [...] because of this view of colleagues, I do not appreciate the work done" (Professional 07).

"[...] some misinformed professionals who still do not understand the importance of the sector [...]" (Professional 08).

It is notable that the professional assigned to the CME realizes the importance of his work to the institution in which he provides service. However, he identifies the lack of acknowledgment of his work with the other employees and the managers of the hospital.

These characteristics were evidenced in a literature review study in which the nursing professionals who work in the CME feel devalued before the other professionals.⁵

The dissatisfaction of the professionals can be evidenced by the lack of commitment of the employees of other sectors and the institution. In some cases of the CME, there is a conjectured by the different ways of observing, thinking and doing their activities. To prevent this difficulty, a team committed to its work is essential, aiming for a pleasant atmosphere with valued and motivated employees.¹⁷

In this context, the best way to provide an understanding of the other sectors on the activities developed and the importance of the CME will be through technical demonstrations and elucidations, collaborating to the valorization of the nursing professionals who perform activities directed to provide care for safety and quality. Often, the goal the sector seeks is not always known to other departments.⁴

Therefore, health institutions should use standard operating protocols (POPs) and standard care protocols (PAPs) for employees to use them adequately and safely. In this way, it is essential that the services responsible for capacity building maintain CE programs, conducting training to update and improve staff members and other sectors periodically.

DEFICIT OF HUMAN RESOURCES

In this category, the lack of human resources in CME was identified in the speeches of the professionals:

"[...] lack of employees and great flow [...]" (Professional 02).

"... it is difficult to work with such a small team [...]" (Professional 04).

"[...] overwork, we are overloaded [...]" (Professional 05).

"[...] Lack of adequate conditions to work [...] Lack of competent and efficient hospital management [...]" (Professional 06).

According to the transcribed lines, the lack of human resources in CME is evident in most of the statements, and the reduced number of employees results in work overload and, consequently, precariousness in working conditions and the possibility of errors in the processes performed.

The shortage of human resources, as well as the lack of materials and adequate physical structure, limit the work process, indicating the need to seek resources that receive support from the institution and managers.^{19,20} The deficiency in the nursing team reduces the performance and functioning of the work, causing mental and physical exhaustion for the team, resulting in the low qualitative productivity and, consequently, the inconstancy of the care delivery.¹⁹

A study developed in Rio de Janeiro identified that work overload reflects on the quality of care and the care provided. Thus, the reduced quantity in the CME affects, mainly, the performance of the nursing service, aiming to fulfill the complex demands.²¹

The actions developed in CME are consolidated in the work process of the sector and lack specific skills, scientific knowledge to be fulfilled, besides the sufficient number of human resources to carry out the activities. By establishing a logical relationship between work process and human resources, CME becomes more valued, ensuring service quality.²²

In short, the scarcity of human resources in hospital institutions is notable in different states of the country, especially in CME. This fact results in an overload of work, compromising the assistance provided to the patients.²² Managers have to support summarized health institutions, to ensure the quantity of professionals and material resources for adequate and efficient care, leading to the quality of care provided.

SELF-PERCEPTION OF CME PROFESSIONAL

In this category, the professionals illustrated how they perceive the work developed by the CME nursing team by the institution in their testimonies:

"[...] They do not deem necessary human resources, they only send employees with physical restrictions or psychiatric restrictions ..." (Professional 06).

"[...] The CME is seen as a deposit of staff problems, which are also seen as employees of low intellectual ability or with psychological and/or psychiatric problems or even incompetent for direct care of patients" (Professional 07).

"[...] the team did not choose this sector by affinity, but they are restricted in this place (physical and/or psychological) [...]" (Professional 15).

The result of a study carried out in Rio de Janeiro addressed the shortage of human resources and the lack of knowledge by other teams of the work developed in the sector. This fact corroborates the report of the Professional 06, expressing the lack of human resources as something irrelevant to the institution in the CME.²³ In another research carried out in a university hospital in the north of Paraná, some members of the nursing team declare that they did not choose to work in CME, had their entry into the unit without preparation and in-depth knowledge of the sector, but they ended up complying with the need to relocate human resources in the institution.²⁴

These results also agree on the testimony of Professional 07 and Professional 15, since the employee does not have the right to choose when going to the sector, and there is sometimes no personal identification for the work practice at the place. Also, in the study, the participants were also approached for their transfer to the CME due to diseases that limited direct care to the patient.²³ These factors are evidenced in the statements, demonstrating the lack of recognition of the professional working in CME, the perception of professionals.

This category evidences the devaluation of the employees since the sector is characterized by including in their nursing team individuals that have some physical or mental limitation or even by the CME not being a place they are characterized and by the deficit of human resources.

CONCLUSION

This study traced the profile of the CME nursing team at a school hospital and identified the continuing education processes developed at the unit as well as the staff perceptions about the work process performed. The sample consisted of 16 participants, professionals of the nursing team, mostly female and nurses, statutory and working time in CME from one to 10 years.

Eleven pieces of training in the last two years were cited by professionals. The Chi-square test did not show statistical significance between the receipt of training and the time of performance in the sector. It should be noted that half of the participants did not receive training when starting their activities in the unit. The number of training mentioned by the participants shows the great demand of the team for in-service training.

The need for training described by professionals is imperative, reflecting the devaluation of the work developed in CME. The lectures of the professionals highlighted the workload, the overload, the shortage of human and material resources in the sector, and adequate conditions for the work. The study par-

ticipants perceive the importance of their work and the CME, describing the sector as fundamental for the quality of care, for the prevention and control of IRAS and patient safety, but they feel devalued by other professionals of the institution.

Working at CME is not always an option for the nursing team. It is still perceived that the employees who work in the sector are older, with health problems and interpersonal relationships, considered unfit to provide direct assistance to the patient.

From this perspective, it is clear the need to support these professionals, who recognize their practice as fundamental but are lacking in learning, personal appreciation, and recognition in the work process developed in the scope of improving the quality of care.

It is important to point out the need for more research involving the professionals of the CME nursing team, who seek to deepen the understanding of their work dynamics, potentialities and fragilities, as well as studies that include other sectors of the institution, seeking to foster reflections on CME. This unit has a prominent role for health care establishments (EAS) to provide safe, efficient and quality care.

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