

Nurses' Knowledge about Cancer Pain Management

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Conhecimento de Enfermeiros sobre o Manejo da Dor Oncológica

Conocimiento de Enfermeros sobre el Manejo del Dolor Oncológico

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ABSTRACT

Introduction: Cancer pain can affect physical, emotional and spiritual well-being of patients. The nurse has a fundamental role in controlling this symptom and the lack of knowledge of this professional can be a barrier to an adequate pain management. **Objective:** To evaluate nurses' knowledge about cancer pain management and its relationship with sociodemographic and professional training variables. **Method:** Cross-sectional study conducted with nurses from an Oncology Clinic in São Paulo State who were assessed with two instruments for sociodemographic/professional characterization and knowledge about cancer pain management, between July and September 2019. Fisher's exact test and Pearson's chi-square test were utilized to assess the association between variables. **Results:** The study included 93 nurses, predominantly females (81.7%), Catholic (36.6%), with an average of six years of experience as a professional. There was 50.5% of inadequate knowledge about cancer pain management and no association was found between knowledge, sociodemographic and professional training variables. **Conclusion:** Half of the nurses have inadequate knowledge about cancer pain management and the lack of knowledge was not associated with the variables analyzed. It is necessary to carry out educational interventions to improve nurses' knowledge and possibly the care to patients with cancer pain.

Key words: cancer pain; pain management; oncology nursing; nursing care.

RESUMO

Introdução: A dor oncológica pode afetar o bem-estar físico, emocional e espiritual dos pacientes. O enfermeiro tem papel fundamental no controle desse sintoma, e a falta de conhecimento desse profissional pode ser uma barreira para o manejo adequado da dor. **Objetivo:** Avaliar o conhecimento de enfermeiros sobre manejo da dor oncológica e sua relação com variáveis sociodemográficas e de formação profissional. **Método:** Estudo descritivo transversal, realizado com enfermeiros de um Centro Oncológico no Estado de São Paulo. Os enfermeiros foram avaliados por meio de dois instrumentos para caracterização sociodemográfica/profissional e avaliação do conhecimento sobre manejo da dor no câncer, entre julho e setembro de 2019. Aplicaram-se os testes exato de Fisher e qui-quadrado de Pearson para avaliar a associação entre as variáveis. **Resultados:** Participaram do estudo 93 enfermeiros, predominantemente do sexo feminino (81,7%), católicos (36,6%), com média de seis anos de atuação profissional. Houve 50,5% de conhecimento inadequado sobre o manejo da dor oncológica e não se encontrou associação entre o conhecimento, as variáveis sociodemográficas e de formação profissional. **Conclusão:** Metade dos enfermeiros tem conhecimento inadequado sobre manejo da dor oncológica, e a falta de conhecimento não esteve associada às variáveis analisadas. Há necessidade de realizar intervenções educativas para melhorar o conhecimento dos enfermeiros e possivelmente aprimorar a assistência aos pacientes com dor oncológica.

Palavras-chave: dor do câncer; manejo da dor; enfermagem oncológica; cuidados de enfermagem.

RESUMEN

Introducción: El dolor por cáncer puede afectar el bienestar físico, emocional y espiritual de los pacientes. El enfermero tiene un papel fundamental en el control de este síntoma y el desconocimiento de este profesional puede ser una barrera para el adecuado manejo del dolor. **Objetivo:** Evaluar el conocimiento de los enfermeros sobre el manejo del dolor por cáncer y su relación con las variables sociodemográficas y de capacitación profesional. **Método:** Estudio transversal, realizado con enfermeros de un Centro de Oncología en el Estado de São Paulo que fueron evaluados utilizando dos instrumentos para la caracterización sociodemográfica/professional y el conocimiento sobre el manejo del dolor por cáncer, entre julio y septiembre de 2019. Se aplicó la prueba exacta de Fisher y la prueba de chi-cuadrado de Pearson para evaluar la asociación entre variables. **Resultados:** El estudio incluyó a 93 enfermeros, predominantemente mujeres (81,7%), católicas (36,6%), con un promedio de seis años de experiencia profesional. Hubo un 50,5% de conocimiento inadecuado sobre el manejo del dolor por cáncer y no se encontró asociación entre el conocimiento y las variables sociodemográficas y de capacitación profesional. **Conclusión:** La mitad de las enfermeras tienen un conocimiento inadecuado sobre el manejo del dolor por cáncer y la falta de conocimiento no se asoció con las variables analizadas. Es necesario realizar intervenciones educativas para mejorar los conocimientos de las enfermeras y posiblemente mejorar la atención a los pacientes con dolor por cáncer.

Palabras clave: dolor en cáncer; manejo del dolor; enfermería oncológica; atención de enfermería.

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INTRODUCTION

Pain is “an unpleasant sensory and emotional experience associated with or resembling that associated with actual or potential tissue damage”¹, a complex multidimensional phenomenon that may or not be related to actual tissue damages and it is always a personal experience.

Cancer-related pain can occur because of a primary tumor, metastases, radiotherapy, chemotherapy and surgeries². Its world prevalence is high, it is estimated that 55% of the patients in antineoplastic treatment have pain, 39.3% feel pain after treatment and it increases to 66.4% at advanced disease, metastatic or terminal. In addition, 38% of the patients complain of moderate to severe pain³, a significant impact on their lives.

Further to being quite frequent in oncologic disease, pain increases the cost of care⁴, it is one of the most terrifying and debilitating symptoms the patients suffer because it affects the emotional, physical and spiritual well-being and contributes to the decline of the functional capacity, increase of dependence, mood changes, sleep disorders among others⁵.

The correct management of cancer pain is relevant because it can be alleviated in 80% to 90% of the cases with evidences-based strategies⁶ as it negatively impacts several domains as mentioned before (physical, emotional, psychologic and social).

In all the disease's stages, cancer pain management is one of the most important dimensions of the care to the patients⁷. The nursing team plays a key role to manage, control, identify, evaluate and report the pain, in addition to organizing the pharmacology therapeutic, prescription of non-pharmacological interventions and assessment of the outcomes⁸.

The poor knowledge the health professional has about cancer pain can be an obstacle to its correct management and may intensify the suffering and anguish of the patients⁹. Evaluate the nurses' knowledge about pain management to detect the gaps and offer support to devise educational strategies is essential for potential positive impacts on the quality-of-life of the patients and effective pain management^{10,11}.

Do the nurses who work at the admission of High Complexity Oncology Centers have sufficient knowledge about the correct management of cancer pain?

The objective of this study was to evaluate the nurses' knowledge about cancer pain management and its relation with sociodemographic variables and professional formation.

METHOD

Descriptive, cross-sectional, quantitative approach study conducted at the admission of adults at a High

Complexity Oncology Center in the State of São Paulo providing care to SUS's and private patients.

Nurses who worked in admission for at least three months were enrolled and those on maternity, paternity or disease leave during data collection period were excluded. The study population consisted in 119 nurses and all of them were invited to join.

An investigator of the department invited the participants to join and data were collected from July to September 2019 anonymously; after signing the Informed Consent Form (ICF), the nurses were handed the printed questionnaires to respond individually without any interference of the investigators who were the only ones to have access to these records.

Two questionnaires were utilized, one for sociodemographic and professional characterization of the nurse and the second to evaluate their knowledge about cancer pain management titled “Nurse's knowledge about cancer pain management – WHO (World Health Organization)”. The latter was developed as a master's degree dissertation based on recommendations of WHO to control cancer pain¹³ and improve the quality-of-life of the patients in pain.

The self-reported questionnaire to evaluate the nurse's knowledge is a 24-items Likert-scale type distributed in three domains (evaluation of the pain, management strategies and continuous care). Each domain has eight items and each one of them is scored as: always = 4.16 points; sometimes = 1.04 points and never = 0.

The questions of each domain were based in the following recommendations of WHO¹³ for adequate pain evaluation and management: believe the patient is right when he says he is in pain, evaluate the severity of the pain, evaluate the psychological status of the patient, history of the evolution of the pain, thorough physical examination, review all the required items for diagnostic investigation, search for alternative methods of pain relief, evaluate the level of pain control after the treatment initiation, determine the dose of the analgesic individually, be aware that oral medication is preferable and adjuvant drugs are necessary for some patients, treat insomnia and side effects, monitor the patient's progress, ensure the patient's well-being and its family (physically, psychologically, spiritually and socially), take care of the patient since the diagnosis until the final stages of the disease, promote a support system to help the patient to live as actively as possible.

The scores of the domains range from 0 to 33.28 and total score, from 0 to 100 points. The cutoff of total score is 67, being 22.4 for the domains pain assessment and continuous care and 22 for the domains pain management strategies, lower values than those mean the knowledge is unsatisfactory.

The study's variables were: sociodemographic and professional data (age, sex, religion, professional formation and experience), knowledge about pain management further to factors that may influence the knowledge of pain (sources of information about cancer pain and opinion about its treatment with analgesic opioids).

The data obtained with the two instruments mentioned were stored at the platform REDCap¹⁴ for better safety and future exportation to the software of statistical analysis.

The descriptive analysis of the variables was presented as absolute and relative frequency, mean, standard-deviation, median, minimum and maximum values. To evaluate the association among the qualitative variables and the variables of the questionnaire on the nurse knowledge, the Fisher exact test or Pearson's chi-square test was applied. The software IBM SPSS® version 25 was utilized for the statistical analyzes, and p-values <0.05 were considered significant.

The Institutional Review Board of the hospital where the investigation was conducted approved the study, report number 2735/19 (CAAE (Submission for Ethical Review): 14972719.6.0000.5432).

RESULTS

93 female nurses (81.7%) with mean age of 34.4 years old joined the study (Table 1).

The nurses reported oncology (69.1%), health management (14.3%), urgency and emergency (13.1%) as the most frequent graduation courses.

Most of the nurses (94.6%) affirmed they have attended recent trainings about cancer pain management, 98.9% of them believe cancer pain is manageable and 98.9% were favorable to the administration of analgesic opioids when needed.

The analysis of the knowledge about cancer pain management revealed that 50.5% of the nurses had unsatisfactory or poor knowledge (Table 2).

Nurses with satisfactory knowledge of pain management had high mean of knowledge not only in the general score but also in all the domains (pain assessment, control strategies and continuous care) compared to those with unsatisfactory knowledge ($p < 0.05$).

Table 3 shows that no association between the sociodemographic characteristics and knowledge about pain management was found.

Table 4 shows that no association between nurse's knowledge about cancer pain management and professional formation and experience was found.

The potential relation between the knowledge of pain management and institutional training, sources of information and opinion of the participants about the use

of opioids for pain treatment was also analyzed. However, no significant association among these variables was found as shown in Table 5.

DISCUSSION

The present study investigated the nurses' knowledge about cancer pain management and analyzed its relation with sociodemographic variables and professional formation. Nurses with bachelor's degrees of private universities and postgraduate courses predominated, mainly in oncology. Most of them claimed they have been trained on cancer pain management, but, in despite of this, half of them showed unsatisfactory knowledge about cancer pain management according to the instrument "Nurses' knowledge about cancer pain management – WHO"¹².

The nurses who participated of the investigation showed knowledge moderately better than a study with resident-nurses¹⁵ which adopted the same evaluation instrument and concluded that 68.2% of the participants had unsatisfactory knowledge associated with time of professional formation.

On the other hand, the level of knowledge of the nurses of the study herein was slightly lower than the nurses of a High Complexity Oncology Center of the State of Rio de Janeiro where most of them (54%) had satisfactory knowledge associated with professional experience and age¹⁶.

If compared with international studies, the most utilized instrument to evaluate the nurses' knowledge about pain management is Knowledge and Attitudes Survey Regarding Pain (KASRP)¹⁷ still not validated to Brazil; its content has arisen from WHO, American Pain Society and National Comprehensive Cancer Network guidelines and evaluates the knowledge and attitudes on pain. Notwithstanding the heterogeneity of the instruments utilized for that matter, a systematic review¹⁰ emphasized that in most of the studies, the nurses had low or moderate knowledge about cancer pain management revealing that in diverse settings, the knowledge is still unsatisfactory and needs improvement.

Within this scenario, many studies recommend educational initiatives that can improve the nurses' knowledge about pain management, possibly reflecting in better practices of pain relief^{18,19}.

Regarding the treatment of cancer pain, 98.9% of the study population affirm that is possible to control cancer pain and that opioids should be administered if prescribed. It is a positive result as one of the obstacles nurses face while managing pain is fear of addiction, tolerance and/or side effects of opioids, which can provoke reluctance in administering them²⁰.

Table 1. Sociodemographic and professional characteristics of nurses. São Paulo, SP, 2019

Variables	N (%)	Mean (standard-deviation)
Sex		
Female	76 (81.7)	–
Male	17 (18.3)	–
Age (years)		
20 to 29	29 (31.2)	
30 to 39	39 (41.9)	
40 to 49	23 (24.7)	34.4 (7.3)
50 to 59	2 (2.2)	
Religion		
Catholicism	34 (36.6)	–
Protestantism	26 (28.0)	–
Spiritualism	12 (12.9)	–
No religion	10 (10.8)	–
Others	11 (11.8)	–
Education		
Private University	92 (98.9)	---
Public University	1 (1.1)	---
Time since conclusion		
Up to 7 years	52 (55.9)	
More than 7 years	41 (44.1)	87.72 (55.2)
Professional time		
Up to 6 years	48 (51.6)	
More than 6 years	45 (48.4)	76.2 (55.9)
Time as nurse at admission of the institution		
Up to 5 years	52 (55.9)	
More than 5 years	41 (44.1)	63.3 (51.5)
Graduation		
Completed	64 (68.8)	–
Ongoing	20 (21.5)	–
None	9 (9.7)	–

Table 2. Scores of nurses' knowledge about cancer pain management. São Paulo, SP, 2019

Knowledge about cancer pain management	n (%)	Mean (standard-deviation)	Median	Minimum	Maximum
Satisfactory (>=66.6)	46 (49.5)	76.5 (6.6)	75.4	67.6	89.4
Unsatisfactory (<66.6)	47 (50.5)	56.4 (8.9)	59.3	34.3	66.5

Table 3. Sociodemographic characteristics of the nurses' knowledge about pain management. São Paulo, SP, 2019

Variables	Satisfactory knowledge	Unsatisfactory knowledge	Total	p-value
	n (%)	n (%)	n (%)	
Sex				
Female	39 (84.8)	37 (78.7)	76 (81.7)	0.626
Male	7 (15.2)	10 (21.3)	17 (18.3)	
Age-range				
20 to 29	10 (21.7)	19 (40.4)	29 (31.2)	0.086
30 to 39	23 (50)	16 (34)	39 (41.9)	
40 to 49	13 (28.3)	10 (21.3)	23 (24.7)	
50 to 59	0 (0)	2 (4.2)	2 (2.2)	
Religion				
Catholicism	20 (43.5)	14 (29.8)	34 (36.6)	0.576
Protestantism	12 (26.1)	14 (29.8)	26 (28)	
Spiritualism	6 (13)	6 (12.8)	12 (12.9)	
No religion	3 (6.5)	7 (14.9)	10 (10.8)	
Others	5 (10.9)	6 (12.8)	11 (11.8)	

Table 4. Comparison of nurses' knowledge about pain management according to professional characteristics. São Paulo, SP, 2019

Variables	Satisfactory knowledge	Unsatisfactory knowledge	Total	p-value
	n (%)	n (%)	n (%)	
Undergraduation				
Public university	0 (0)	1 (2.1)	1 (1.1)	1
Private university	46 (100)	46 (97.9)	92 (98.9)	
Graduation				
Completed	30 (65.2)	34 (72.3)	64 (68.8)	0.223
Ongoing	13 (28.3)	7 (14.9)	20 (21.5)	
No graduation	3 (6.5)	6 (12.8)	9 (9.7)	
Graduation Major*				
Oncology	31 (53.4)	27 (46.6)	58 (100)	0.438
Urgency and Emergency	4 (36.4)	7 (63.6)	11 (100)	0.546
Intensive Care	2 (50)	2 (50)	4 (100)	1
Others	19 (59.4)	13 (40.6)	32 (100)	0.243
Time since conclusion				
Up to 7 years	23 (50)	29 (61.7)	52 (55.9)	0.354
More than 7 years	23 (50)	18 (38.3)	41 (44.1)	
Period of professional work				
Up to 6 years	23 (50)	25 (53.2)	48 (51.6)	0.920
More than 6 years	23 (50)	22 (46.8)	45 (48.4)	
Nurse's time at the admission of the institution				
Up to 5 years	26 (56.2)	26 (55.3)	52 (55.9)	1
More than 5 years	20 (43.5)	21 (44.7)	41 (44.1)	

(*) More than one response for the same participant.

Table 5. Nurse's knowledge about pain management according to institutional training, sources of information and opinion about cancer pain and its treatment. São Paulo, SP, 2019

Variables	Satisfactory Knowledge	Unsatisfactory Knowledge	Total	p-value
	n (%)	n (%)	n (%)	
Did the institution provide training on cancer pain?				
Yes	45 (97.8)	43 (91.5)	88 (94.6)	0.361
No	1 (2.2)	4 (8.5)	5 (5.4)	
Duration				
<2 months	23 (52.3)	17 (42.5)	40 (47.6)	0.498
>2 months	21 (47.7)	23 (57.5)	44 (52.4)	
Source of information about cancer pain*				
Undergraduation	17 (54.8)	14 (45.2)	31 (100)	0.608
Graduation	24 (53.3)	21 (46.7)	45 (100)	0.606
Pain management training	43 (50)	43 (50)	86 (100)	1
Refresher courses in seminars and congresses	12 (63.2)	7 (36.8)	19 (100)	0.28
Professional practice	35 (46.7)	40 (53.3)	75 (100)	0.402
Treatment of cancer pain				
Cancer pain is untreatable	0 (0)	1 (2.1)	1 (1.1)	1
It is possible to control cancer pain	46 (100)	46 (97.9)	92 (98.9)	
Opioid to relief cancer pain				
If opioids are prescribed, they should be utilized	46 (100)	46 (97.9)	92 (98.9)	1
Opioids should be avoided as much as possible	0 (0)	1 (2.1)	1(1.1)	

(*) More than one response for the same participant.

This study findings did not show significant association among the level of knowledge, sociodemographic variables and professional formation. Some studies found significant relation between the level of knowledge and the following variables: be a staff member of the pain team, attend pain management courses, more time of professional experience, older professionals and work place^{16,21,22}, contrary to the results of this study.

A study developed in the United Arab Emirates²³ corroborates the results of the present study, reaching similar findings.

Despite the high rate of unsatisfactory or poor knowledge about pain management concluded by the study, most of the participants claimed they had institutional training. No significant association among training and level of knowledge was detected, reinforcing the necessity of more effective educational initiatives to instruct the nurses on that specific area of pain management.

The important gap of knowledge of nurses about cancer pain management of a High Complexity Oncology Center suggest the implementation of more effective educative interventions to improve their knowledge and strategies utilized to pain management.

As limitations of the study, the sample was obtained from only one institution and the instrument utilized to assess the knowledge failed to determine the psychometric properties at the moment of its elaboration, despite being submitted to content validation by experts and utilized in other national studies on the same subject.

The identification of the level of the nurse's knowledge about cancer pain management is an important aspect of the present investigation because it brought up the necessity of training for potential improvement of the care to the patient with cancer and quality-of-life, in addition to reducing healthcare costs.

CONCLUSION

Half of the nurses has unsatisfactory knowledge about cancer pain management. Lack of knowledge was not associated with sociodemographic variables and professional formation reported.

These findings call for educational interventions for nurses to improve this specific knowledge and possibly ameliorate the care to the patient with cancer pain.

These interventions can address periodic updates at the work place about assessment and management of cancer pain, mock drills, classes with modern methodologies and evaluations pre and posttest, discussion of clinical cases and others.

New studies should investigate the best strategies of educational interventions to refine the nurses' practices about cancer pain management.

CONTRIBUTIONS

Beatriz Uchoa Silva contributed substantially to the study design, acquisition, analysis and interpretation of the data, wording and critical review. Eliane Muta Yoshioka contributed to the wording and critical review. Marina de Góes Salvetti contributed to the interpretation of the data, wording and critical review. All the authors approved the final version to be published.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

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