



The Role of Nursing Staff in Pain Management of Patients with Cancer

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Abstract

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BACKGROUND: Nurses spend more time with patients than any other member of the health-care team. They play a critical, active, and very important part in controlling cancer patients' pain and alleviating suffering.

AIM: This study aimed to explore current nursing practices in the oncology hospital and the level of knowledge they possess about pain and its management in clinical settings.

METHODS: This is a transversal type study developed on the basis of cluster sampling type on nurses in the Oncology Hospital, Tirana. The study was conducted in 2016–2018, and the sample consisted of 119 nurses.

RESULTS: In total, 119 questionnaires were completed by oncology hospital nurses. Regarding the gender of was seen a predominance of women nurses compared to men 78.15% and 21.85%, respectively. Furthermore, the nurses aged 30-39 years old presented the higher number (34.4%) of participants. Nurses of different genders, education levels, and places of birth showed statistically significant differences. Only 23.5 % of nurses had pain training and education, and less than half of nurses (43.7%) had 5–10 years in oncology hospital. In this study, knowledge and practice of nurse's participant on non- and pharmacological pain management were more than 55%. Related to the pain assessment, 36.1% were based on the information provided by the patients, while 31.1% of nurses had used the Visual Analog Scale for pain assessment. According to the ways of pain management, almost 76.5% of nurses think that the best ways of pain management were pharmacology and 71.4% selected opioid analgesic medication, while 28.6% selected non-opioid analgesic medication. Contacting the physician for the prescription of opioids was cited as the main delaying process by 43.7% of participants.

CONCLUSIONS: The results of the study demonstrated that the nurses had limited knowledge of pain management because of nontraining courses for consequence, all of it was associated with a poor attitude toward pain management. Most of them did not have formal training in pain management either at the local level. Many of them are familiar with the oral route of administration of opioids, but still, the logistics of administration is not clear to them. Nowadays, training and education in pain management is a necessity for medical staff, especially for nurses because the adequate knowledge is vital in the provision of quality pain management to patients.

Introduction

Cancer patients will experience pain at some time or other. This pain can be due to cancer's direct damage to the body or from the treatment [1]. Pain prevalence in cancer patients increases with the progression of the disease. It has been reported that 20%–50% of the patients with cancer experience the pain at first admission; about 30%–40% of them experience the pain during the treatment; and 60%–70 % of them experience the pain at terminal stage. Besides, 33% of the cancer patients whose treatment is finalized experience chronic pain [2], [3]. In most of the cases, the low pain control quality was attributed to the under-dosage of medications, insufficient intake scheduling, and hesitancy toward using a strong opioid [4], [5].

Living with cancer brings with it important daily changes that require personal and family reorganization in the social, organic, emotional, and spiritual spheres. After all, pain assessment is not an easy practice to control because the pain is subjective and reactions given to pain by individuals vary too much [2]. In this context,

nursing is inserted into these patient's care, aiming at visualizing this population needs, as well as rethinking a care program directed to the current problem [6], [7]. Furthermore, nurses should reinforce and encourage the behaviors relieving the pain, reduce the tendency to be addicted to analgesics, and strengthen the positive coping methods [3], [8], [9], [10]. On the other hand, nurses spend more time with patients than any other member of the health-care team. They play a critical, active, and very important part in controlling cancer patients' pain and alleviating suffering. In controlling cancer pain, the nurse needs to understand the psychological state of the cancer patient, cancer pain, cancer pain treatment, deleterious effects of unrelieved cancer pain and patient's socio-cultural background. It also includes nursing interventions such as giving tender nursing care, preventing pain, educating, advocating, communicating, comforting, supporting, and counseling the patient. The nurse must use both pharmacological and non-pharmacological treatments to individualize treatment, know all the drugs that are used for the treatment of cancer pain, how these drugs relieve pain and what their side effects are [11]. This study aimed

to explore current nursing practices in the oncology hospital and the level of knowledge they possess about pain and its management in clinical settings.

Methods

This cross-sectional transversal study was developed on the basis of cluster sampling on nurses in the Oncology Hospital, Tirana and licensed nurses who have performed the internship at this hospital. The undertaken study investigates the knowledge, point of views, and confidence of nurses about pain management in patients with cancer hospitalized in the "Mother Theresa" Oncology Hospital. The study was conducted in 2017–2019, and the sample consisted of 119 nurses.

The study protocol included the administration of an anonymous standardized and structured questionnaire. To the demographic and socio-economic information part of questionnaire are included variables such as age, gender, place of birth, and level of education. To the part of assessment and management factors, pain is included in variables such as providing nursing care type for oncology patients, the action of the nurse after receiving the maximum dose of analgesic from the patient, the most accurate judgment of pain in cancer patients, the purpose of pain management in cancer patients, the decision of the nurse to administer the analgesic, knowledge of nonmethods medicated in patients, etc.

The Statistical Package SPSS 20.0 (SPSS Inc., Chicago, IL, USA) were used for data analyses. The categorical variables are presented in percentages and frequencies. The Chi-square test with Yates's correlation was used to compare the proportions and the ratio. The OR probabilities were used for estimating the association of variables. Pearson parametric correlation and Spearman non-parametric correlation were used to evaluating the relationship between the variables. Statistical tests are two-sided; the level of statistical significance is set for $\alpha \leq 0.05$. Point scores were associated with the 95% confidence interval rating. Tables and graphs were used to visualize the data and results.

Results

The demographic characteristics of oncology nurse's participants (N = 119) in this study are presented in Table 1. Regarding the gender of was seen a predominance of women nurses compared to men in percentage 78.15% (93/119) and 21.85% (26/119), respectively. There was found to be a significant

Table 1: The demographic characteristics of oncology nurse's participants of the study

Variables	Frequency (%) of nurses	χ^2 (p)
Gender		
Men	26 (21.85)	78.7 (0.01)
Women	93 (78.15)	
Age groups (years)		
25–29	32 (26.9)	6.1 (0.07)
30–39	41 (34.4)	
40–49	27 (22.7)	
50–54	19 (16)	
Place of birth		
Central albania	58 (48.7)	347.5 (<0.001)
South albania	32 (26.9)	
North albania	29 (24.4)	
Education level		
Bachelor	71 (59.7)	821 (0.01)
Master (professional/sciences)	48 (40.3)	

association between the women and men for $\chi^2 = 78.7$; p-value resulted in 0.01.

According to the age groups, 26.9% (32/119) of nurses were too young only 25 until 29 years old. Nurses between the age of 30 until to 39 years old were 34.4% (41/119) of participants, them with age 40 until to 49 years old were 22.7% (27/119) of participants and the last age groups were the nurses from 50 until to 59 years old with the lower percentage only 16% (19/119). There was not found a significant association for the age groups of interview nurses $\chi^2 = 6.1$; p = 0.07.

Based on the place of birth of interview nurses, most of them were from the Central part of Albania, 48.7% (58/119). The other 26.9% (32/119) were from the South part of Albania and only 24.4% (29/119) were from the North part of Albania. There was found a highly significant association for the place of birth of interview nurses for $\chi^2 = 347.5$; p < 0.001.

In addition, the demographic characteristics of all participants are asked regarding their education level. More than half, 59.7% (71/119), of the nurses have a bachelor's diploma and 40.3% (48/119) have a Master's (professional/sciences) diploma. There was found to be a significant association for the education level of interview nurses $\chi^2 = 821$; p = 0.01 [Table 1].

Overall, 119 subjects were conducted in this study, the distribution of interviewed nurses according to work-related information, and pain education are presented in Table 2. Based on oncology clinical departments distribution, most of the interview nurses were part of the chemotherapy department 27.7% (33/119), followed by the gynecology and oncology radiation department with 16% respectively (19/119) and surgery departments with 11.8% (14/119) of interview nurses. The other departments were in percentage; 8.4% (10/119) for the oncology resuscitation department, 7.5% (9/119) oncology operating room, and 4.2% (5/119) for some of the departments such as oncology chemotherapy, oncology service consultation, and imaging department. Meanwhile, all the nurses were asked for their work experience, if they have pain training and experience in nursing care for patients with cancer [Table 2]. There was found a strong association for oncology clinical departments $\chi^2 = 83.9$, p = 0.025.

Table 2: Work-related information, and pain education of nurses

Variables	Frequency (%) of nurses	χ^2 (p)
Oncology clinical departments		
Surgery department	14 (11.8)	83.9 (0.025)
Gynecology department	19 (16.0)	
Chemotherapy department	33 (27.7)	
Oncology operating room	9 (7.5)	
Oncology radiation department	19 (16.0)	
Oncology chemotherapy department	5 (4.2)	
Oncology resuscitation department	10 (8.4)	
Oncology service consultation	5 (4.2)	
Imaging department	5 (4.2)	
Work experience (years)		
<5	25 (21)	3.1 (0.01)
5–10	52 (43.7)	
10–20	27 (22.7)	
>20	15 (12.6)	
Pain training and education		
Yes	28 (23.5)	10.24 (0.04)
No	91 (76.5)	
Nursing care		
Yes	88 (73.9)	265.2 (<0.01)
No	31 (26.1)	

Almost 21% (25/119) of nurses had less than 5 years as a nurse profession, 43.7% (52/119) of participants had a work experience between 5 and 10 years, 22.7% (27/119) had 10 until to 20 years and only 12.6% (15/119) had more than 20 years. Furthermore, about 76.5% (91/119) of interview nurses had referred that they had not frequent any pain training and education in pain management of patients with cancer, but, in contrast of that, 23.5% (28/119) of nurses apply and management the pain of cancer's patient throughout their daily work. There were found a strong association for work experience, pain training and education, and nursing care with $p < 0.05$.

Table 3 shows the knowledge of nurses toward pain management. Some of the questions are presented only with the correct answers of nurses. The data is presented in frequency and percentage. The pain assessment of patients with CA among the nurse's participant of this study was based on the information provided by the patients in 36.1% (43/119) of cases, by family in 18.5% (22/119) of cases, by the doctor in 14.3% (17/119) of cases. While 31.1% (37/119) of cases, while 31.1% (37/119) used the Visual Analogue Scale for pain assessment. There was no found significant association for the assessment of pain, $p = 0.061$.

Knowledge that nurses possessed related to the question who is the purpose of the pain management, about 59.7% (71/119) of nurses showed a predominance of answers for the reducing suffering of patients. Meantime 52.1% (62/119) think the purpose in pain management was to improving the quality of life in patients with CA. Reflection of stress on the medical staff serving and reflection of stress on family members of relatives resulted in 41.2% (49/119) and 45.4% (54/119), respectively. No significant association was found for the purpose of pain management, $p = 0.061$.

All the time exists a contradiction between the medical staff (nurses and doctors), the family of patients with Ca and pharmacists regarding the judgment of the intensity of the patient's pain. This paper has analyzed the perception of the accurate intensity of pain judgment in patients with CA. Based on the

Table 3: Knowledge of nurses toward pain management

Variables	Frequency (%) of nurses	p
Assessment of pain were done by?		
Patients	43 (36.1)	0.061
Family	22 (18.5)	
Doctor	17 (14.3)	
VAS	37 (31.1)	
What is the purpose of pain management?		
Reducing suffering of patients	71 (59.7)	0.4
Improving the quality of life in patients	62 (52.1)	
Reflection of stress on the medical staff serving	49 (41.2)	
Reflection of stress on family members of relatives	54 (45.4)	
The most accurate judgement of the intensity of the patient's pain is done by		
Treating physicians	30 (25.2)	<0.005
Patient's primary nurses	41 (34.4)	
Patients	41 (34.4)	
Pharmacists	3 (2.5)	0.015
Patient's spouse or family	4 (3.5)	
Patients should be encouraged to endure as much as possible the pain before using an opioid (false)	84 (68.14)	
How are the ways of pain management?		
Pharmacology	91 (76.5)	0.037
No pharmacology	28 (23.5)	
Medications used for pain management are (true)		
Opioid analgesic	85 (71.4)	0.054
and non-opioid analgesic	34 (28.6)	
Other methods of pain management besides medication are		
Physical activity	38 (31.9)	0.08
Music therapy	24 (20.2)	
Massage therapy	20 (16.8)	
Yoga	17 (14.3)	
Acupuncture	11 (9.2)	
Hypnotism	9 (7.5)	
One or more medications are used for pain (true)	92 (77.3)	
Nursing actions		
Slight increase in dose	19 (16)	<0.01
Explain the risk of large doses	12 (10.1)	
Ensuring that the treatment will work	14 (11.8)	
Call the doctor	74 (62.2)	
In which percentage patients that taking opioid analgesics become addicted to them?		
<1	12 (10.10)	0.03
5–10	18 (15)	
25	37 (31.10)	
>25	52 (43.70)	
Opioids should not be used in patients with a history of substance abuse (true)	101 (84.9)	0.45
Opioids used for continuous pain treatment does have side effects? (true)	105 (88.2)	0.002
The recommended route of administration of opioid analgesics for patients with persistent cancer-related pain is Intravenous or/and others	109 (91.6)	0.004
Is overdose with analgesic dangerous? (true)	97 (81.5)	0.7
Which analgesics can be administered by nurses even without the knowledge of the doctor		
Opioid analgesic	67 (56.3)	0.03
Non-opioid analgesic (true)	52 (43.7)	

VAS: Visual Analogue Scale.

analyzed collected data, the judgment of pain intensity resulted in 25.2% (30/119) by treating physicians, patient's primary nurses, and patients resulted in the same percentage 34.4% (41/119), pharmacists in 2.5% (3/119) and patient's spouse or family in 4.5% (4/119). There was found a strong significant association for the most accurate judgment of the intensity of the pain, $p < 0.005$. In addition to the questions, all nurses were asked if they should encourage patients to endure as much as possible the pain before using an opioid. There were two options for this question true or false. Most of the nurses, 68.14% (246/361), correctly answered this question, while the other nurses think that it's better to endure the pain as much as possible as they can before using opioids. There was found a significant association for this question $p = 0.015$.

Despite that, the nurses are asked who are the ways of pain management. Almost 76.5% (91/119) of nurses think that the best ways of pain management

were pharmacology and 23.5% of nurses think that ways were no pharmacology. There was found a significant association for this question $p = 0.037$.

According to the medication used for pain management of patients with CA, 71.4% (85/119) of nurses selected opioid analgesic medication and 28.6% (34/119) of nurses selected non-opioid analgesic medication. There was no found an association for the medication used for pain management $p = 0.054$.

Another question for the evaluation of knowledge of nurses for pain management was who are the other methods that on patients may apply of pain management besides medication. Physical activity was recommended by 31.9% (38/119) of nurses, musical therapy was recommended by 20.2% of nurses, massage therapy by 16.8% (20/1119) of nurses, yoga, acupuncture, and hypnosis were recommended by 14.3% (17/1119), 9.2% (20/1119), and 7.5% (9/1119) of nurses, respectively. There was no found significant association for the other methods of pain management besides medication $p = 0.08$.

Nurses are asked that one or more medications are used for pain and the correct answer was given by 77.3% (92/119) of nurses. No significant association was found about this question $p = 0.62$.

Related to nursing action, 16% (19/119) of them responded for the slight increase in dose, 10.1% (12/119) for explaining the risk of large doses, 11.8% (14/119) for ensuring that the treatment will work and most of nurses are calling the doctor 62.2% (74/119). There was found a significant association for nursing action p -value < 0.01 .

In addition to the knowledge of nurses toward pain management, all participants of this study were asked related to patients' percentage of becoming addicted after taking opioid analgesics. About 10.10% of nurses think that opioid analgesics become addicted to less than 1% of patients, 15% of nurses think that 5%–10% of patients become addicted to opioid analgesics, 31.1% of nurses think that 25% of patients become addicted and 43.7% of nurses think that more than 25% of patients become addicted. There was seen a significant association with $p = 0.03$.

To other questions in Table 3 are presented only the correct answer. Hence, 84.9% (101/119) of nurses referred that opioids should not be used in patients with a history of substance abuse, 88.2% (105/119) of nurses referred that opioids used for continuous pain treatment have side effects, 91.6% of nurses referred that the recommended route of administration of opioid analgesics for patients with persistent cancer-related pain is Intravenous or/and others and 81.5% (97/119) of nurses referred that the analgesic overdose is dangerous. For the question of which analgesics can be administered by nurses even without the knowledge of the doctor, 56.3% (67/119) of nurses referred for opioid analgesics and 43.7%

(52/119) of nurses referred non opioid analgesics. There were found a significant association for some of the presented question, and no significant association was seen for the question that analgesic overdose is dangerous, $p = 0.7$.

Discussion

Nowadays, pain assessment continues to remain an essential focus of nursing practice. The nurse's role is challenging, she must demonstrate that she is clinically proficient and competent. She has to use creative assessment skills, clinical judgment, psychological support, advocacy, and good communication skills in such a way that the contribution of drugs, nursing care, nursing, and other nonpharmacological treatments are maximized to the patient's benefit. [11]. Although important for all clinicians and families of CA patients, nurses are frequently the professionals who spend the most time with patients and families. This is the first study conducted in the Oncology Hospital of Tirana, and about 119 nurses were enrolled as participants. Out of all these nurses, there 78.15% were women and 21.85% were men. Most of nurses (34.4%) participants of the study belong to 30–39 years old and less of them (16%) belong to 50–59 years old. Nurses of different gender, education levels, and place of birth showed statistically significant differences.

Despite that all nurses were part of the oncology hospital located in the tertiary hospital center Mother Theresa, learning resources are relatively scarce and learning opportunities are relatively few. This study revealed that only 23.5% of nurses had pain training and education and related to work experience, and less than half of nurses (43.7%) had 5–10 years in oncology hospital.

Meantime, 73.9% of nurses were part of nursing care in the pain management of patients with CA. Furthermore, work information, and pain education of nurses showed statistically significant differences by univariate analysis.

Nurses' role in controlling cancer pain include believing the patient, assessing pain, identifying the root of the problem, planning the care, administering medication, evaluating effectiveness, ensuring good pain control, and individualizing treatment. Patient's/family's beliefs and attitudes toward cancer pain are substantial in pain management [2]. Related to the pain assessment, 36.1% were based on the information provided by the patients, while 31.1% of nurses had used the Visual Analog Scale for pain assessment.

With the questionnaire in Table 3, we measured at the same time the knowledge and attitudes of

oncology nurses in relation to pain, according to different dimensions such as: general knowledge and attitudes regarding cancer pain; pain assessment and pain intervention; knowledge and attitudes related to analgesic drugs. Related to the purpose of pain management, 59.7% of nurses answered for the reducing suffering of patients, while 52.1% think, the purpose in pain management was to improving the quality of life in patients with CA.

The mean scores regarding the knowledge and attitude on pain management in patients with CA, in some studies, range from 35% to 72%. In this study, knowledge and practice of nurse's participant on non-and pharmacological pain management were more than 55%. This finding is higher than other researches. For instance, the mean knowledge and attitude of nurses in one study conducted by Panlican *et al.*, in 2020, resulted 20.39% [12], while the findings of Gretarsdottir *et al.* [13] and Yildirim *et al.* [14] were 26.1% and 35%, respectively. Despite that, a better result was found to other researches such as the studies done by Stanley and Pollard [15] with 66%, Mocerri and Drevdahl [16] with 76%.

According to World Health Organization (WHO), analgesic management of pain which is a three-step approach provides an effective treatment of pain at various levels of severity [17]. This approach involves the use of non-opioid and opioid medications. Regarding to the judgment of the intensity of the patient's pain it was found that the judgment of nurses and patients was 34.4%, respectively, and in 25.2% was by treating physicians.

According to the ways of pain management, almost 76.5% of nurses think that the best ways of pain management were pharmacology and 71.4% selected opioid analgesic medication, while 28.6% selected non-opioid analgesic medication. Furthermore, there are some other methods that patients may apply for pain management besides medication. Hence, regarding this questionnaire, the most predominant method was physical activity and was recommended by 31.9% of nurses.

One of the serious problems in pain management is patients' wrong attitudes toward the effects of analgesics. Persons have negative attitudes such as believing that analgesics cause addiction, being concerned about analgesics' detrimental effects, or fearing that they will tolerate more and more analgesics in time [3], [18]. In addition to the questionnaire about the knowledge of nurses toward analgesic addiction used for pain management, about 43.7% of nurses think that more than 25% of patients become addicted and 88.2% of nurses referred that opioids used for continuous pain treatment have side effects. Contacting the physician for the prescription of opioids was cited as the main delaying process by 43.7% of participants.

Conclusions

Pain in cancer patient populations continues to be a major problem. The results of the study demonstrated that the nurses had limited knowledge of pain management because of non-training courses for consequence, all of it was associated with a poor attitude toward pain management. Most of them did not have formal training in pain management either at the local level. Many of them are familiar with the oral route of administration of opioids, but still, the logistics of administration are not clear to them. Nowadays, training and education in pain management is a necessity for medical staff, especially for nurses because adequate knowledge is vital in the provision of quality pain management to patients. Interventions also are a drastic needed regarding the educating of nurses that will help them to strengthen their knowledge toward pain.

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