









# Factors influencing the level of satisfaction of palliative patients with the activities of nurses: results of a cross-sectional study

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## ABSTRACT

### Background

This article focuses on the importance of nurses' work in the field of palliative care, emphasizing their role in providing comprehensive care and support to patients with incurable diseases.

### Purpose

The researchers analyzed both international and local scientific articles over the past 15 years to assess the importance of nurses' role in patient care in palliative medicine.

### Method and materials

Then, in the period from September to November 2022, a cross-sectional study was conducted. The aim of the study was to evaluate the activities of nurses in palliative care centers in Kazakhstan and determine the level of patient satisfaction with this care.

### Result

To do this, 99 patients from three palliative care centers in Kazakhstan were interviewed. In the second stage, Pearson's chi-squared ( $\chi^2$ ) statistical method was used to analyze potential relationships between various variables and patient satisfaction levels in relation to the work of nurses in palliative care centers. The third stage included a binary logistic regression analysis to assess the impact of nurses' behavior on patient satisfaction. The results of the statistical analysis indicate that the amount of information provided by nurses has an impact on the level of patient satisfaction with the quality of nurses' work. This assistance includes an integrated approach, which includes both medical care and psychological, social and spiritual support, providing comprehensive care for the patient and his loved ones.

### Conclusion

The results of this study can serve as a basis for strengthening the work of nurses, who are an integral element in the medical care system, playing a key role in supporting palliative patients at a difficult life stage.

### Keywords

palliative care; nurses; palliative patients; the role of nurses in palliative care; nurses in palliative care

## INTRODUCTION

The history of the development of palliative care has its roots for many centuries. However, the official recognition of palliative medicine and its development as an independent field of health care occurred in later times. The formation of palliative medicine as a separate field began in the 1960s and 1970s. Dame Cecily Saunders played an important role in this. Dame Cecily Saunders<sup>1</sup> made a huge contribution to understanding the

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needs and requirements of dying patients, developed the concept of pain relief and symptoms, which became the basis of palliative medicine. In 1967, St. Christopher Hospice was founded in London, which is considered the first officially recognized hospice specializing in palliative care. This event was the moment when palliative medicine began to receive widespread recognition<sup>2</sup>.

According to WHO, palliative care is a human right and a moral obligation of all health systems<sup>3</sup>. According to experts, optimal palliative care in many countries requires a favorable political environment, community empowerment, and scientific research in the field of palliative care<sup>4-7</sup>. Improving the organization of palliative care includes increasing the availability of medicines, creating effective training programs and training specialists in the field of palliative medicine, as well as systematically improving the quality of medical care. To improve the quality of palliative care, it is important to follow international standards and programs related to palliative care<sup>8</sup>.

According to available information, only 10% of those who need palliative care actually receive it. At the same time, the need to help people with serious illnesses will grow with the increasing age of the population and the spread of non-communicable diseases. According to statistics, it is expected that by 2060 the number of people in the world in need of palliative care will almost double<sup>9</sup>.

It is important to note that foreign programs and initiatives of WHO, as well as the European Association of Palliative Medicine (EAPC) have contributed to the development of palliative care in Kazakhstan. In 2011, the Republic of Kazakhstan adopted the National Program for the Development of Palliative Care for 2012-2016<sup>10</sup>. This was an important step in the official recognition of the need to develop palliative medicine in the country. During this period, there was an expansion of palliative services and hospices across the country, especially in large cities. Conferences, seminars and educational programs for medical professionals have begun, including with the participation of foreign experts in the field of palliative medicine<sup>11,12</sup>.

According to the Ministry of Health of the Republic of Kazakhstan, for 9 months of 2022, the number of palliative beds in the Republic of Kazakhstan amounted to 1906, of which 200 were opened in 2022. Today, between 107 and 135 thousand people in Kazakhstan

need palliative care, including an average of 6,000 children<sup>13</sup>. Accordingly, at the moment over 100,000 people need palliative care and access to palliative beds. This disadvantage may be due not only to a lack of funding, but also to a limited number of qualified specialists in the field of palliative medicine. To improve access to palliative care, it is extremely important to train nurses who are key performers in this area. However, it should be realized that only experienced and well-trained specialists can effectively train a new generation of specialists in high-quality palliative care.

It is important to emphasize that Kazakhstan is actively making efforts to improve palliative care. In February 2022, the Minister of Health of the Republic of Kazakhstan, A. Giniyat, held a meeting during which specific directions of action were formulated to solve current problems in the field of palliative care in the country. She also gave a number of tasks aimed at improving the quality of care for patients and their families in this area. In addition, an instruction was issued to develop a Roadmap for the development of palliative care for the period from 2022 to 2024, in which special attention is paid to expanding the role of nurses.

According to the research findings of both foreign and domestic experts, a nurse plays a unique role in providing high-quality palliative care and providing comfort to patients in the last stages of their lives<sup>(14-17)</sup>. In the field of palliative medical practice, nursing is a comprehensive system of management of medical care and general care for patients in the last stages of life. This system includes ensuring the physical, psychological, social and spiritual well-being of patients, as well as providing psychological support to families during illness and after loss<sup>18</sup>. As practice shows, a nurse, rather than a doctor, interacts more actively with the patient and his family, since her functions cover a wide range of services. This is evidenced by Jho H.J. and co-authors (2014), where they determined that nurses demonstrate a deeper understanding of patients in the last stages of cancer compared to doctors<sup>19</sup>.

According to Haun M.W. et al. (2017), targeted nursing measures in the early stages of palliative care can have a more positive impact on the quality of life and the intensity of symptoms in patients with advanced cancer compared with those who take only standard cancer treatment<sup>20</sup>.

Researchers from Palestine also point to the significant role of nurses in palliative care. According to Alnajjar

M.K. and co-authors (2019), nurses have the primary responsibility for providing optimal pain relief. According to the results of the study, the competence and attitude of the nurse play a key role in the successful implementation of the treatment process and influence the results of general therapy<sup>21</sup>.

Toba H.A. together with colleagues (2019) revealed that nurses effectively apply the practice of care and documentation in the care of palliative patients. Also, the results of a sociological study revealed that there are certain problems among working palliative care nurses, such as a lack of knowledge and difficulties in communicating with doctors<sup>22</sup>.

Darawad M. and the co-authors (2019) in their research work compared the level of knowledge and attitude to pain management of patients among doctors and nurses. A total of 207 respondents took part in the survey, of which 72 were doctors and 135 were nurses. According to the results of the survey, it was found that doctors had significantly higher knowledge and a more favorable attitude to pain management compared to nurses (62.3% vs. 51.5%, respectively)<sup>23</sup>. Nevertheless, it should be borne in mind that the field of activity of nurses in palliative care covers many tasks, but prescribing medicines is not within their authority.

Considering the significant role of the nursing service in palliative medicine, assessing the level of patient satisfaction is a significant point. Patient satisfaction serves as a key indicator of the effectiveness of palliative care, reflecting the ability of nurses to adequately provide the necessary care, including pain control, emotional support and relief of suffering in patients with severe illnesses<sup>24,25</sup>. The level of satisfaction also correlates with the quality of communication and interaction between nurses and patients and their loved ones, including the provision of medical and psychological care. The sociological survey plays an important role in assessing the level of patient satisfaction, providing valuable feedback on the quality of medical services<sup>26</sup>.

**The purpose of the study** is to investigate and identify factors that affect the level of patient satisfaction with the quality of work of nurses working in palliative care centers.

**Materials and methods.** Scientific publications were searched and analyzed in the databases PubMed, Cochrane library, MedLine, CINAHL using medical thematic headings and keywords to assess the existing

role of nurses in palliative medicine. The search depth is 15 years. The total volume of analyzed scientific articles was 33, of which 25 articles on nursing palliative care were selected.

#### *Data collection tool and methods*

At the next stage, in the period from September to November 2022, we conducted a study aimed at evaluating the work of nurses working in palliative care centers in Kazakhstan and assessing the level of patient satisfaction. For this purpose, 99 patients in palliative care centers were interviewed. The random sampling method was used. All patients in palliative care centers were interviewed. Nurses from the palliative care centers where the study was conducted assisted in conducting the survey. According to the research methodology, a cross-sectional (one-stage) sociological study was conducted. The survey was anonymous. After the survey, all the data from the questionnaires were copied into the Ms Excel database.

The questionnaire presented questions related to the following aspects: assessment of the first contact with medical staff; frequency of polite and respectful treatment of nurses to patients; level of patient confidence in the qualifications of nurses; assessment of the organization of nursing care; analysis of the basic communication style of nurses; level of attentiveness and quality of communication; occurrence and management of conflict situations; as well as assessment of how well do nurses perform medical appointments.

## **ETHICAL CONSIDERATIONS**

The researchers independently developed a questionnaire that included 30 questions. The questionnaire was examined by the Local Ethics Commission of the Kazakh National Medical University, Almaty, Kazakhstan. Conclusion of the Local Ethics Commission No. 1422 dated 06/29/2022.

#### *Statistical analysis.*

At the first stage of the study, a statistical analysis of the results of a survey of palliative patients regarding the assessment of nursing care and overall satisfaction with nursing care was carried out. A confidence interval was calculated, with a confidence level of 95%. The Wilson method was used to calculate the 95% confidence interval (CI) in order to assess the frequency of negative and positive assessments of patients' opinions. At the next stage, Pearson's chi-squared ( $\chi^2$ ) statistical method

was used to investigate possible relationships between variables and patient satisfaction levels regarding the quality of work of nurses working in palliative care centers. At the third stage, a binary logistic regression analysis was performed to assess the impact of nurses' behavior on patient satisfaction. Statistical data processing was carried out using the SPSS application program, version 22.0

## RESULTS

In the section "Materials and methods", the questions included in the questionnaire were indicated. However, the "Results" section presents only those answers that were statistically significant in establishing a relationship between the variables (all questions in the questionnaire) and the level of patient satisfaction, according to Pearson's chi-squared ( $\chi^2$ ) statistical method.

The courteous and respectful attitude of medical staff towards palliative patients is a fundamental aspect of high-quality and humane care, where caring for the patient in his last days is of particular importance. As part of the survey, there was a question about how often nurses treated patients politely and respectfully. It was also revealed how respectful and polite attitude on the part of nurses affects the level of patient satisfaction with the quality of medical care provided by nurses (table 1)

**Table 1.** Patients' answers to the question "During your stay in the hospital, how often did the nurses treat you politely and respectfully?", and their relationship with the level of satisfaction with the quality of nursing care

Answers	Patient satisfaction with the quality of nursing care		Total
	Yes %, 95 % CI	No %, 95 % CI	
Never	9,1 (7,22;10,98)	3,0 (1,06;4,94)	12
Sometimes	26,3 (24,61;27,99)	0	26
As a rule	12,1 (10,25;13,95)	0	12
Always	49,5 (48,1;50,9)	0	49
Total	97,0 (96,66;97,34)	3,0 (1,06;4,94)	99

A total of 99 people were interviewed, and of them 97% (97 people) noted that the nurses behaved politely

and respectfully, while 3% (3 people) believe that such an attitude was not always there. The results of the statistical analysis indicate that the polite and respectful attitude of nurses towards patients has an impact on the level of patient satisfaction with the quality of nurses' work. Confirmation of the statistical significance of the revealed difference was carried out by calculations using the Pearson agreement criterion ( $\chi^2$  - 22,4, df - 3, p-value = 0,0001).

It is important that medical staff have sufficient resources and time to provide high-quality and personalized care for each patient. Which, of course, requires optimization of work processes, training of medical personnel and adequate financing of the healthcare system. It was decided to verify this statement and assess how the amount of time devoted to patients affects their level of satisfaction with the quality of nursing care (table 2).

**Table 2.** Patients' answers to the question "Does the nurse devote enough time to patients?" and their relationship with the level of satisfaction with the quality of nursing care

Answers	Satisfaction with the quality of nursing care		Total
	Yes %, 95 % CI	No %, 95 % CI	
Yes	83,8 (83,01;84,59)	1,0 (0;2,96)	84
No	15,2 (13,39;17,01)	0,0	15
Total	99,0 (98,8;99,2)	1,0 (0;2,96)	99

The survey results showed that 84.0% (84 patients) believe that nurses devote enough time to patients, while 16.0% (15 patients) express the opposite opinion. The results of the statistical analysis indicate that the amount of time allocated to patients has an impact on the level of satisfaction with the quality of nurses' work. Calculations performed using the Pearson agreement criterion revealed that the established difference is statistically significant ( $\chi^2$  - 65,37, df - 3, p-value = 0,0001).

Getting answers from a nurse to all the questions that patients are interested in is important. Below are the answers of patients to the question: "Do you receive answers from the nurse to all your questions?" (table 3).



**Table 3.** Patients' answers to the question: "Do you get answers from a nurse to all your questions?", and their relationship with the level of satisfaction with the quality of nursing care

Answers	Satisfaction with the quality of nursing care		Total
	Yes %, 95 % CI	No %, 95 % CI	
Yes	76,8 (75,85;77,75)	2,0 (0,05;3,95)	78
No	1,0 (0;2,96)	0,0	1
I don't know	10,1 (8,23;11,97)	0,0	10
It's hard to answer	9,1 (7,22;10,98)	0,0	9
I will refrain from answering	0,0	1,0 (0;2,96)	1
Total	97,0 (96,66;97,34)	3,0 (1,06;4,94)	99

The majority of patients (76.8%) noted that they always received answers from nurses to all their questions. 9.1% of patients said that it was difficult for them to answer this question. Statistical analysis revealed that feedback affects the degree of patient satisfaction with the quality of nurses' activities. Calculations performed using the Pearson agreement criterion revealed that the established difference is statistically significant ( $\chi^2 - 32,68$ ,  $df - 4$ ,  $p\text{-value} = 0,0001$ ).

Patient satisfaction with how a nurse performs doctor's appointments is not only important for the quality of care, but also for the safety and comfort of patients. This affects the quality of medical appointments. We decided to assess the level of patient satisfaction with regard to how nurses perform medical appointments prescribed by doctors (table 4).

**Table 4.** Respondents' answers to the question: "Are you satisfied with how a nurse performs doctor's appointments?" and their relationship with the level of satisfaction with the quality of nursing care

Answers	Satisfaction with the quality of nursing care		Total
	Yes %, 95 % CI	No %, 95 % CI	
Yes	80,8 (79,94;81,66)	1,0 (0;2,96)	81
No	13,1 (11,26;14,94)	1,0 (0;2,96)	14
I will refrain from answering	3,0 (1,06;4,94)	1,0 (0;2,96)	4
Total	96,9 (96,55;97,25)	3,0 (1,06;4,94)	99

80.8% of patients noted satisfaction with the way nurses carry out doctors' appointments. On the other hand, 13.1% of respondents expressed dissatisfaction with the quality of the nurses' appointments. 3.0% of patients refrained from answering this question. The results of the statistical analysis indicate the influence of the level of satisfaction with how a nurse performs doctor's appointments on the overall level of satisfaction with the quality of nurses' work. Calculations performed using the Pearson agreement criterion confirm the statistical significance of the revealed difference ( $\chi^2 - 8,26$ ,  $df - 2$ ,  $p\text{-value} = 0,0001$ ).

Informing patients about the rules for taking medications, taking tests and other prescriptions is an important component of quality medical care that promotes patient safety, participation and satisfaction. Our questionnaire also included a question about whether nurses provide information to patients about the rules of taking medications and procedures for taking tests prescribed by a doctor. Below are the answers received from patients to this question.

**Table 5.** Patients' answers to the question "Do nurses give you information about the rules of taking medications, taking tests prescribed by a doctor?", and their relationship with the level of satisfaction with the quality of nursing care

Answers	Satisfaction with the quality of nursing care		Total
	Yes %, 95 % CI	No %, 95 % CI	
Yes	96,0 (95,61;96,39)	2,0 (0,05;3,95)	97
No	1,0 (0;2,96)	1,0 (0;2,96)	2
Total	97,0 (96,66;97,34)	3,0 (1,06;4,94)	99

As can be seen from the table, 96% of patients replied that nurses give full information about the rules of taking medications, taking tests prescribed by a doctor. The results of the statistical analysis demonstrate that this information has a direct impact on the level of patient satisfaction with the quality of nursing work. Confirmation of the statistical significance of the revealed difference was carried out by calculations using the Pearson agreement criterion ( $\chi^2 - 15,33$ ,  $df - 1$ ,  $p\text{-value} = 0,0001$ ).

The amount of information provided by nurses plays a crucial role in ensuring the safety, effectiveness of treatment and the level of patient participation and

satisfaction. Below are the answers of the respondents to the question: “Do you consider the amount of information received sufficient?” (table 6).

**Table 6.** The respondents’ answers to the question: “Do you consider the amount of information received sufficient?”, and their relationship with the level of satisfaction with the quality of nursing care

Answers	Satisfaction with the quality of nursing care		Total
	Yes %, 95 % CI	No %, 95 % CI	
Yes	97,0 (96,66;97,34)	2,0 (0,05;3,95)	98
No	0,0	1,0 (0;2,96)	1
Total	97,0 (96,66;97,34)	3,0 (1,06;4,94)	99

The majority of the surveyed patients (97.0%) replied that the amount of information received from the nurses was sufficient. The results of the statistical analysis indicate that the amount of information provided by nurses has an impact on the level of patient satisfaction with the quality of nurses’ work. Confirmation of the statistical significance of the revealed difference was carried out by calculations using the Pearson agreement criterion ( $\chi^2= 32,33$ . df- 1, p-value= 0,0001).

At the next stage, a binary logistic regression analysis was performed to assess the impact of nurses’ activities on patient satisfaction (table 7).

A binary logistic regression analysis conducted to assess the impact of nurses’ work on patient satisfaction revealed the following: a friendly attitude of nurses increases patient satisfaction tenfold, while a more businesslike approach improves satisfaction twice. It was also found that patients’ satisfaction with nurses’ performance of medical appointments increases their satisfaction level by six times. The results also indicate that a heavy workload on nurses can reduce patient satisfaction by 1.6 times. Unfortunately, other aspects of nursing work have not demonstrated a significant impact on patient satisfaction according to the analysis.

## DISCUSSION

Nurses play a key role in palliative medicine, providing comprehensive support and care to patients with incurable diseases. In Kazakhstan, palliative care is a young field that dates back to 2011. Based on the first regulatory documents adopted, it can be argued that the palliative care service in the country began a new stage of development 12 years ago. Nevertheless, according

to statistics from the Ministry of Health of the Republic of Kazakhstan, currently more than 100,000 people need palliative care and access to palliative beds. This indicates the need for further development of the palliative care service, with special emphasis on expanding the role of nurses.

An analysis of both domestic and international data has shown that the global need for palliative medicine will continue to grow due to an increase in chronic noncommunicable diseases, an aging population and a number of infectious diseases. Timely provision of palliative care will contribute to reducing unjustified inpatient treatments and requests for medical services. The researchers emphasize the role of nurses in palliative medicine, providing comprehensive care and support for patients with incurable diseases. Therefore, the further development and improvement of palliative care with an emphasis on strengthening the nursing service is a priority.

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It follows from the result of binary logistic regression that the friendly attitude of nurses increases the level of patient satisfaction tenfold, while a more businesslike approach improves satisfaction twice. This highlights the importance of the human element in palliative care and confirms that the compassionate, warm attitude, professional competence and effectiveness of nurses can significantly improve the perception of care by patients. It was also found that patient satisfaction with nurses’ performance of medical appointments increases their satisfaction level by six times, which emphasizes the importance of accuracy and attentiveness in nursing care.

However, the results also show that the increased workload on nurses has a negative impact on patient satisfaction. This indicates the need to ensure an adequate level of staff and workload management in

**Table 7.** The results of a binary logistic analysis of the study of the relationship of indicators of nurses' activity with the level of patient satisfaction.

Questions (with multiple answers)		B	S.E.	Wald	df	Sig.	Exp(B)	95,0% C.I. for EXP(B)	
								Lower	Upper
Step 1	What, in your opinion, plays a role in the work of a nurse			0,087	2	0,957			
	Appearance	-0,295	1,537	0,037	1	0,848	0,745	0,037	15,154
	Communication skills with people	0,145	1,506	0,009	1	0,923	1,156	0,060	22,138
	What kind of communication style of nurses prevails in the department			0,282	2	0,868			
	Practical	0,815	1,534	0,282	1	0,595	2,260	0,112	45,730
	Friendly	18,603	12 248,658	0,000	1	0,999	10,95	0,000	.
	Patient satisfaction with how the nurse performs doctors' appointments	1,866	1,618	1,330	1	0,249	6,461	0,271	154,016
	The reasons for the poor quality of the nurse's work			0,104	2	0,949			
	Low level of professional knowledge and skills	0,290	1,505	0,037	1	0,847	1,337	0,070	25,513
	A lot of pressure on nurses	0,519	1,615	0,103	1	0,748	1,681	0,071	39,815
	Constant	1,935	2,249	0,740	1	0,390	6,924		

palliative care facilities so that nurses can devote enough time and attention to each patient. Unfortunately, the regression analysis did not reveal a significant impact of other aspects of nursing work on patient satisfaction, which may indicate the need for more in-depth research of these aspects in the future. Overall, these results highlight the value of a human approach to palliative care and the need for a balance between emotional support and professional competence.

## CONCLUSIONS

The study highlights the importance of providing high-quality nursing care, psychological and social support to improve the overall condition of palliative care patients. A humane and compassionate approach, as well as a warm and attentive attitude from nurses, play

a key role in providing quality medical care to patients, which is an integral part of the goals of palliative care. All conclusions were confirmed by the results of a sociological study conducted by the authors. The results of the study also reveal the need to further strengthen educational programs and trainings for nurses, which will allow them to provide even more effective care and support to patients at all levels – from physical health to emotional and psychological well-being. After all, it is through high-quality interaction and an individual approach that the best results in palliative care can be achieved, improving the quality of life and satisfaction of palliative patients.

## Limitations

The study used a cross-sectional method, which may not provide a representative sample of the opinion of

all palliative patients. The survey participants were selected from among the patients who were in palliative care centers in Almaty, Astana and Shymkent, which potentially excluded the opinion of other patients from other regions of Kazakhstan.

The data collected through the questionnaire was based on the participants' self-reported responses. This creates the possibility of biased answers when participants answer questions based solely on their opinions..

The study focused solely on assessing patients' opinions about the quality of medical care provided and the activities of palliative care nurses. Other factors such as the equipment of medical institutions, length of stay, and medical care have not been thoroughly studied, potentially overlooking additional influencing variables.

### Data Availability Statement

The original results presented in the study are included in the article/additional material, additional requests can be sent to the corresponding author.

### Author contributions

IB: Conceptualization, writing an original project, conducting a survey, collecting data, writing an article. AG: Project administration, writing the original project, editing the article. MD: Methodology, editing, analysis and data processing. AM: Data collection and editing. KM: Reviewing and editing, visualization.

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### Conflict of interest

The authors state that the study was conducted in the absence of any commercial or financial relationships that could be interpreted as a potential conflict of interest..

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