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Factors influencing the self-rationing of nursing care in palliative care settings

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Abstract

Background The rationing of nursing care is a significant concern in palliative care settings, where resource limitations can prevent nurses from providing comprehensive patient care. This study aims to examine the factors influencing the rationing of nursing care among palliative care nurses, focusing on the impact of psychological factors and workplace characteristics.

Methods A cross-sectional survey was conducted using the Perceived Implicit Rationing of Nursing Care (PIRNCA) questionnaire among 104 nurses working in palliative care. Data on anxiety and depression levels were collected using the HADS scale. Multivariate regression analysis was employed to identify key predictors of care rationing, including depression, anxiety, and type of care setting.

Results The average PIRNCA score was 0.82 (SD = 0.53), indicating that care rationing occurs "rarely." The most frequently rationed tasks were emotional and psychological support, patient education, and assistance with mobility. Nurses with higher depression ($p = 0.002$) and anxiety levels ($p = 0.0012$) were more likely to ration care. Working in a home-based hospice was associated with increased care rationing ($p = 0.0012$), while working in a palliative care ward reduced it ($p = 0.0027$).

Conclusions Psychological distress, particularly depression and anxiety, significantly contributes to nursing care rationing in palliative care. Additionally, the type of care setting plays a critical role, with home-based hospice care being more prone to rationing. Interventions to support nurses' mental health and optimize resource allocation, particularly in home-based care, are essential to ensure comprehensive patient care in palliative settings.

Clinical trial number Not applicable.

Keywords Nursing care rationing, Palliative care, Depression, Anxiety, Home-based hospice, PIRNCA

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Introduction

Self-rationing of nursing care occurs when nurses themselves decide to partially or entirely omit necessary patient care due to limited time, staff shortages, or excessive workload [1]. This concept was first introduced by Kalisch [2], who developed the missed nursing care model. According to this model, rationing stems from several underlying issues, such as inadequate staffing levels, the time demands of new medical technologies, and the administrative burden of medical record-keeping [3]. Personal factors, including fatigue or personal life challenges, and workplace issues like conflicts among colleagues, also contribute. Frequent organizational changes, poor management andineffective communication within healthcare teams further exacerbate the problem [4, 5]. As a result of these individual and organizational challenges, nurses are often forced to prioritize tasks, which can lead to delays or omissions in care delivery [6]. Additionally, rationing can be influenced by nurses' clinical expertise, decision-making, and attitudes toward resource allocation for patients [7].

Palliative care is a holistic approach aimed at enhancing the quality of life for patients, both adults and children, as well as their families, who are facing life-threatening illnesses [8]. It focuses on preventing and relieving suffering by ensuring early detection, accurate assessment, and effective management of pain, along with addressing other physical, psychological, social, and spiritual challenges [9–11]. Nursing care is central to the delivery of palliative services. However, the rising demand for palliative care, coupled with limited resources, has raised concerns about the rationing of nursing care in this setting [12]. In Poland, palliative care services are publicly funded through the National Health Fund and provided in various settings, including home-based hospices, inpatient hospices, and hospital-based palliative wards.

Self-rationing of nursing care occurs when necessary patient care tasks are delayed, omitted, or not performed due to insufficient resources such as time, staff, or material support [13]. In palliative care, where patients often have complex needs, care rationing can have significant consequences on patient outcomes, including their emotional well-being and overall comfort [14].

The Perceived Implicit Rationing of Nursing Care (PIRNCA) questionnaire has been widely used to assess the extent and nature of care rationing in different healthcare settings. However, limited research has focused on the palliative care context [15].

This study aims to fill that gap by analyzing factors influencing care rationing among nurses working in various palliative care settings. The study also explores psychological factors, such as anxiety and depression, which are known to impair healthcare providers' ability to deliver optimal care. Additionally, the study examines the influence of workplace characteristics, such as the type of hospice care (home-based vs.inpatient), on care rationing. Understanding these factors can inform strategies to improve resource allocation and support for palliative care nurses, ultimately enhancing patient outcomes.

Materials and methods

Study design and participants

The research was conducted between March and September 2022 among 104 registered nurses working in various palliative care institutions across Poland, including home-based hospices, inpatient hospices, and hospital-based palliative care wards. Participants were recruited via convenience sampling from institutions that agreed to participate in the research, with all nurses having at least one year of experience in palliative care. Prior to participation, nurses were informed about the purpose of the study, and their consent was obtained. Depending on the institution's preference, questionnaires were distributed either in person or electronically. To ensure confidentiality, completed questionnaires were returned anonymously.

Data collection tools

Two validated questionnaires were used to collect data: the Perceived Implicit Rationing of Nursing Care (PIRNCA) questionnaire and the Hospital Anxiety and Depression Scale (HADS). PIRNCA Questionnaire: This tool assesses the frequency of nursing care rationing across multiple dimensions, including emotional and psychological support, patient education, physical care (e.g., mobility assistance), and communication. Each item is scored on a 5-point Likert scale ranging from 0 ("never") to 3 ("often"). A total score is calculated by averaging responses across items, with higher scores indicating a greater frequency of care rationing [16].

The reliability of the Polish version of the tool, as measured by Cronbach's alpha, demonstrated high reliability with a value of $\alpha = 0.957$ [17]. The PIRNCA questionnaire consists of 31 statements describing various nursing activities that respondents may have been unable to complete due to resource limitations (e.g., time or staff shortages). Examples of questionnaire items include: "In the last seven working days, how often were you unable to provide emotional or psychological support to a patient (or family) that you felt was needed?". "How often were you unable to assist a patient with mobility or repositioning due to time constraints?". "How often were you unable to provide adequate patient education regarding their health condition and treatment?" [17].

The HADS scale is used to measure anxiety and depression in non-psychiatric hospital settings. It includes 14 items, 7 measuring anxiety (HADS-A) and 7 measuring depression (HADS-D). Scores for each subscale range

Table 1 Socio-demographic characteristics of the study group

Parameter		Total (*N* = 104)
Age [years]	Mean (SD)	49.02 (10.51)
	Median (quartiles)	50.5 (45–55)
	Range	22–74
Sex	Woman	102 (98.08%)
	Man	1 (0.96%)
	No data	1 (0.96%)
Marital status	Single	29 (27.88%)
	In a relationship	74 (71.15%)
	No data	1 (0.96%)
Residence	Village	24 (23.08%)
	City	78 (75.00%)
	No data	2 (1.92%)
Education	Secondary education	25 (24.04%)
	Higher Bachelor's Degree	31 (29.81%)
	Higher Master's Degree	48 (46.15%)
	Other	0 (0.00%)
Place of work *	Inpatient hospice	51 (49.04%)
	Palliative medicine department	14 (13.46%)
	Home hospice	41 (39.42%)
	Other	12 (11.54%)
Work status	Primary	72 (69.23%)
	Additional	26 (25.00%)
	No data	6 (5.77%)
Experience in the profession of nurse [years]	Mean (SD)	25.49 (11.75)
	Median (quartiles)	28 (20–34)
	Range	0–49
	N	104
Experience in palliative care [years]	Mean (SD)	11.7 (7.85)
	Median (quartiles)	12 (4.5–20)
	Range	0–27
	N	103
Formal post-basic nursing specialization certified by a national exam	No	30 (28.85%)
	Yes	74 (71.15%)

* multiple choice question - percentages do not add up to 100

from 0 to 21, with higher scores indicating more severe symptoms of anxiety or depression [18].

Data analysis

The analysis of quantitative variables (i.e., those expressed numerically) was performed by calculating descriptive statistics such as mean, standard deviations, median, quartiles, as well as minimum and maximum values. The analysis of qualitative variables (i.e., those not expressed numerically) was conducted by calculating absolute frequencies and percentages for all possible values of these variables. Multivariate regression analysis was conducted to identify predictors of nursing care rationing. The dependent variable was the PIRNCA score, representing the frequency of care rationing. Independent variables included anxiety and depression (HADS-A and HADS-D scores), age, years of experience, type of care settings (home-based hospice, inpatient hospice, palliative care ward), and other demographic factors. A significance level of $p < 0.05$ was set for all analyses. A univariate and multivariate analysis of the potential predictors' influence on the quantitative variable was conducted using linear regression. The results are presented as regression parameters along with 95% confidence intervals. Explanatory variables were selected for the multivariate analysis based on their significance in univariate analyses, ensuring that the SPV (Subjects Per Variable) ratio was greater than 10. Collinearity of the explanatory variables included in the multivariate analysis was checked using the VIF (Variance Inflation Factor), with VIF > 5 indicating the presence of collinearity, and such variables were removed from the model. A significance level of 0.05 was adopted for the analysis. Therefore, all p-values below 0.05 were interpreted as indicating significant relationships. The analysis was performed using R software, version 4.4.0 [19].

Results

The socio-demographic characteristics of the 104 participating nurses are presented in Table 1. The data include age, gender, marital status, place of residence, education level, workplace type (home-based hospice, inpatient hospice, or palliative care ward), work status, and years of experience in both general nursing and palliative care.

The level of nursing care rationing was assessed using the PIRNCA questionnaire. The mean PIRNCA score among respondents was 0.82 (SD = 0.53). Since this value rounds to 1, it indicates that, on average, nurses reported rarely rationing care (see Table 2).

The most frequently rationed nursing activities included emotional and psychological support for patients (M = 1.17), patient education (M = 1.14), mobilization and repositioning of immobilized patient (M = 1.08), consultations with interdisciplinary team members (M = 1.06), and assisting the patient in walking (M = 1.06). These findings are presented in Table 3.

Participants' perceptions of patient care quality and job satisfaction were also assessed. The average score for

Table 2 Assessment of rationing of nursing care (PIRNCA)

Care rationing									
N	Missing data *	Value range	Mean	SD	Median	Min	Max	Q1	Q3
104	0	0–3	0.82	0.53	0.88	0	2.23	0.41	1.14

* or only "Not applicable" answers

Table 3 Rationed nursing activities

	Question	Never (0)	Rarely (1)	Sometimes (2)	Often (3)	Not applicable or no answer	Mean
1	Hygiene	41.35%	30.77%	8.65%	0.96%	18.27%	0.62
2	Skin care	51.92%	20.19%	12.50%	2.88%	12.50%	0.62
3	Bedding	39.42%	33.65%	13.46%	0.96%	12.50%	0.73
4	Walking assist	26.92%	32.69%	22.12%	4.81%	13.46%	1.06
5	Positions	28.85%	33.65%	18.27%	8.65%	10.58%	1.08
6	Bladder or bowel	37.50%	26.92%	23.08%	0.96%	11.54%	0.86
7	Food intake	48.08%	26.92%	11.54%	2.88%	10.58%	0.66
8	Physical comfort	47.12%	28.85%	11.54%	4.81%	7.69%	0.72
9	Medications	57.69%	27.88%	6.73%	0.00%	7.69%	0.45
10	Nutrition	48.08%	30.77%	7.69%	0.00%	13.46%	0.53
11	Wound care	51.92%	29.81%	10.58%	0.00%	7.69%	0.55
12	Intravenous port	42.31%	41.35%	8.65%	0.00%	7.69%	0.64
13	Safe practices	37.50%	31.73%	13.46%	1.92%	15.38%	0.76
14	Infections	53.85%	22.12%	8.65%	1.92%	13.46%	0.52
15	Education	23.08%	36.54%	25.96%	4.81%	9.62%	1.14
16	Preparation	37.50%	38.46%	12.50%	0.96%	10.58%	0.74
17	Emotional	26.92%	33.65%	27.88%	7.69%	3.85%	1.17
18	Psychological	51.92%	36.54%	6.73%	0.00%	4.81%	0.53
19	Behavior	35.58%	33.65%	19.23%	2.88%	8.65%	0.88
20	Safety	42.31%	29.81%	19.23%	0.96%	7.69%	0.77
21	Missed requests	37.50%	38.46%	14.42%	0.96%	8.65%	0.77
22	Waiting time	39.42%	32.69%	12.50%	2.88%	12.50%	0.76
23	Member team	25.96%	38.46%	25.96%	2.88%	6.73%	1.06
24	External unit	26.92%	36.54%	19.23%	0.96%	16.35%	0.93
25	Family member	29.81%	39.42%	16.35%	1.92%	12.50%	0.89
26	Delegations	27.88%	36.54%	18.27%	1.92%	15.38%	0.93
27	Patient data	31.73%	34.62%	23.08%	4.81%	5.77%	1.01
28	Care plan	37.50%	45.19%	8.65%	1.92%	6.73%	0.73
29	Assessment	41.35%	36.54%	13.46%	1.92%	6.73%	0.74
30	Nursing process	33.65%	47.12%	14.42%	0.96%	3.85%	0.82
31	Nursing plan	27.88%	50.96%	11.54%	2.88%	6.73%	0.89

Table 4 Nursing assessment of patient care quality and job satisfaction

PIRNCA	*N*	Missing data	Value range	Mean	SD	Median	Min	Max	Q1	Q3
Assessment of the quality of patient care	102	2	0–10	7.94	1.54	8	4	10	7	9
Job satisfaction assessment	103	1	0–10	6.96	1.84	7	2	10	6	8

Table 5 Results of the HADS questionnaire

Severity	HADS	
	Anxiety	Depression
No disorders	73 (70.19%)	85 (81.73%)
Mild symptoms	21 (20.19%)	16 (15.38%)
Severe symptoms	10 (9.62%)	3 (2.88%)

perceived quality of care was 7.94 (SD = 1.54), and the average score for job satisfaction was 6.96 (SD = 1.84), indicating relatively high evaluations of both aspects (Table 4).

The HADS questionnaire was used to assess anxiety and depressive symptoms. As shown in Table 5, nurses experiencing reduced functional capacity or higher levels of psychological distress (elevated HADS scores) reported significantly higher levels of care rationing.

Table 6 summarizes the associations between demographic, psychological, and workplace-related variables and care rationing. Marital status, education level, and work settings were significantly associated with the frequency of self-rationing behaviors. Both univariate and multivariate regression analyses demonstrated that psychological factors—such as anxiety and depression levels—as well as specific workplace characteristics, significantly impacted the extent of care rationing in palliative care settings.

Discussion

The results of this study provide valuable insights into the frequency and determinants of self-rationing of nursing care in palliative care settings. The overall finding that care rationing occurs "rarely" suggests that nurses

Table 6 Factors influencing nursing care rationing in palliative care: results of univariate and multivariate regression analysis

Characteristic		Univariate models				Multivariate model			
		Parameter	95%CI		*p*	Parameter	95%CI		*p*
Anxiety		0.041	0.01	0.073	0.012 *	-0.007	-0.047	0.034	0.747
Depression		0.056	0.029	0.084	< 0.001 *	0.058	0.022	0.095	0.002 *
Age [years]		0.007	-0.003	0.016	0.186	0.003	-0.006	0.012	0.539
Marital status	Single	ref.							
	In a relationship	0.062	-0.167	0.292	0.595				
Residence	Village	ref.							
	City	-0.121	-0.356	0.114	0.314				
Education	Secondary education	ref.							
	Higher Bachelor's Degree	0.053	-0.226	0.332	0.71				
	Higher Master's Degree	-0.115	-0.372	0.141	0.38				
Work in an inpatient hospice		-0.232	-0.432	-0.032	0.025 *	-0.203	-0.471	0.065	0.141
Work in the palliative medicine department		-0.242	-0.538	0.054	0.113	-0.378	-0.707	-0.049	0.027 *
Home hospice work		0.266	0.063	0.469	0.012 *	0.075	-0.187	0.336	0.577
Work status	Primary	ref.							
	Additional	0.127	-0.104	0.357	0.283				
Experience in palliative care [years]		0.005	-0.008	0.018	0.481				
Formal post-basic nursing specialization certified by a national exam	No	ref.							
	Yes	-0.094	-0.319	0.132	0.416				

* statistically significant relationship ($p < 0.05$)

generally strive to provide comprehensive care despite resource constraints. However, certain essential tasks, such as emotional and psychological support, patient education, and mobility assistance, were more frequently rationed. This indicates that when nurses are forced to prioritize their time, psychosocial care and physical support may be the first areas to suffer.

These findings are consistent with Ulrich's study, which suggests that time constraints and staff shortages may result in care requiring emotional involvement being overlooked [20]. Kalisch and colleagues also found that lack of time and staffing often leads to omissions in psychosocial care, which, although crucial for palliative patients, is frequently perceived as less urgent than physical needs [21]. One of the key findings of this study is the significant role of psychological factors in care rationing. Depression and anxiety were both identified as predictors of higher levels of care rationing. This is consistent with research by Koh and colleagues, which shows that mental health issues among healthcare providers can negatively impact their ability to provide high-quality care [22]. Studies shows that nurses in palliative care frequently experience professional burnout and stress, which reduces their ability to fully engage in patient care [23–26]. This work demands significant emotional resources, and persistent stress can diminish care quality. Psychological distress can reduce nurses' energy and cognitive capacity, leading to omissions in emotionally and physically demanding tasks such as patient education and mobility support [27, 28]. Workplace characteristics also emerged as significant factors in care rationing [29]. Nurses working in home-based hospice care reported higher levels of rationing compared to those in inpatient hospices. This may be due to the unique challenges of home-based care, such as geographic dispersion of patients, limited access to resources, and greater autonomy, which can increase the likelihood of care rationing. Schubert and colleagues showed that nurses working in resource-limited settings, such as home care, are more likely to have to choose which tasks to prioritize [30]. Research by Westbrook and co-authors also shows that task distribution and access to technology can significantly affect time spent with patients, especially in dispersed settings such as home care [12]. On the other hand, working in a palliative care ward was associated with lower levels of rationing, suggesting that structured environments with better access to resources may mitigate the need to ration care.

These findings underscore the importance of addressing psychological stress among palliative care nurses to reduce the need for care rationing. Interventions aimed at supporting mental health, such as counseling, peer support, and workload management, could help alleviate the burden on nurses and ensure that essential aspects of care are not compromised [31].

The research suggests that stress management programmers and access to psychological support can reduce professional burnout and improve the ability to deliver care, significantly affecting nurses' wellbeing and ability to cope with the challenges of working in palliative care settings [23]. Improving access to resources in home hospices could also reduce the frequency of care rationing, as suggested by Wakefield's research showing that logistical and technical support in dispersed settings reduces staff stress and improves quality of care [5]. While care rationing in palliative care is infrequent, it does affect key areas of patient support. Psychological factors and workplace characteristics play a significant role in determining when and how care is rationed. Addressing these issues can enhance the quality of palliative care and ensure that patients receive the comprehensive support they need.

Study limitations

This study has several limitations that should be considered when interpreting the results. The sample consisted *exclusively* of nurses working in palliative care settings in Poland, which may limit the generalizability of the findings to other regions or healthcare systems with differing structures, resources, and cultural attitudes towards palliative care. Comparative studies across countries and systems could help assess the broader applicability of these results. Although the study included a range of workplace settings - home-based hospices, inpatient hospices, and palliative care wards - the relatively small sample sizes within each subgroup may affect the robustness of some findings. Another important limitation is that data collection took place during the COVID-19 pandemic, which may have influenced nurses' workloads, emotional well-being, and perceived need to ration care. Future research with larger and more diverse samples across these settings could offer deeper insight into the unique challenges and rationing practices in each type of palliative care environment.

Practical implications

Future research could explore targeted interventions such as specialized mental health support programs tailored to palliative care nurses. In addition, an improved logistical framework for home care could help to ensure that core elements of care are not compromised.

Conclusions

This study provides valuable insights into factors influencing the rationing of nursing care in palliative care settings. While rationing of care among palliative care nurses was generally infrequent, core tasks - particularly

emotional and psychological support, patient education and mobility assistance - were more frequently rationed. These findings suggest that when resource constraints force prioritization, psychosocial and physical support may be the first areas affected. The results highlight the significant role of psychological factors, such as anxiety and depression, in increasing the likelihood of care rationing. Nurses experiencing higher levels of psychological distress may have limited energy and cognitive capacity, affecting their ability to engage in comprehensive patient care. These findings underscore the need for interventions aimed at reducing psychological stress among palliative care nurses, including counseling, peer support, and workload management.

Abbreviations

HADS	Hospital Anxiety and Depression Scale
M	Mean
PIRNCA	Perceived Implicit Rationing of Nursing Care
SD	Standard deviation

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Author contributions
Conceptualization, KW and BG; methodology, KW, IU and BG; software, KW and BG; formal analysis, KW and BG; investigation, KW and BG; data curation, KW and BG; writing—original draft preparation, KW, IU, MJ, MC and BG; writing—review and editing, KW, IU, MJ, MC and BG; supervision, BG; project administration, BG.; funding acquisition, I.U. All authors have read and agreed to the published version of the manuscript.

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Data availability
The data underlying this article will be shared on reasonable request to the corresponding author.

Declarations

Ethics approval and consent to participate
In accordance with applicable legal regulations, ethical approval from a bioethics committee was not required for this survey-based research. Specifically, under the provisions of the "Regulation of the Minister of Health of January 26, 2023, on the bioethics committee and the Appellate Bioethics Committee" [32], studies involving anonymous data collection and non-invasive survey methods fall outside the scope of mandatory ethics committee review. The study adhered to the principles of the Declaration of Helsinki and ensured participant confidentiality and anonymity throughout the research process. Participants were informed about the purpose of the study and provided informed consent prior to participation. They were also informed of their right to withdraw from the study at any time without any consequences.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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