journal homepage: http://kont.zsf.jcu.cz
DOI: 10.32725/kont.2023.011

KONTAKT / Journal of nursing and social sciences related to health and illness

Original research article

Rationing of nursing care and nurses' perception in acute inpatient care in selected regions of the Czech Republic

Iva Marková *, Darja Jarošová

University of Ostrava, Faculty of Medicine, Department of Nursing and Midwifery, Ostrava, Czech Republic

Abstract

Introduction: Rationing of nursing care in clinical practice is related to the global shortage of nurses. Based on the assessment of nursing interventions, nurses confirmed the occurrence rate of assigned care, which is closely related to the nurses' satisfaction and turnover in clinical practice.

Goal: This research aims to discover the occurrence of and reasons for rationing of nursing care in selected hospitals in the Czech Republic.

Design: Cross-sectional descriptive study.

Methods: The sample group included 629 nurses working in standard inpatient wards at 11 hospitals in the Czech Republic. The data was collected between June 2020 and June 2021 using the PIRNCA questionnaire.

Results: The most frequently assigned interventions included: early response, emotional support, and patient education. The reasons mentioned were the patients' composition, condition, and sufficient staff. Significant differences were found among nurses according to age group ($p = 0.0183$) and education ($p < 0.001$). Only 14.47% of the interviewed nurses intended to leave their jobs.

Conclusions: Czech nurses confirmed the occurrence of rationing of nursing care and the reasons that led them to it. The obtained evidence should be used as the basis for changes that positively influence the situation, as well as for the prevention of rationing of nursing care. The phenomenon should also be included in the training of future nurses. Further research and evaluation can bring valuable findings.

Keywords: Intervention; PIRNCA; Rationing of nursing care

Introduction

"Rationing of nursing care" is a globally researched phenomenon in clinical nursing practice. Many different translations and emerging terms are the reason the common term "unfinished nursing care" is used (Jones et al., 2021; Kalánková et al., 2020a; Mandal et al., 2020; Willis et al., 2021; Zeleníková et al., 2019). This term describes the lack of nurses in clinical practice and deals with quality and safe nursing care (Cho et al., 2019; Harvey et al., 2018; Jarošová and Zeleníková, 2019; Witczak et al., 2021). Existing studies are focused on assessing and fulfilling nursing care interventions, or the reasons for postponing them (Blackman et al., 2018; Gurková et al., 2019; Jarošová et al., 2021; Jones et al., 2019; Uchmanowicz et al., 2020; Willis et al., 2021). They also monitor the impact on nurses, especially from the point of view of nurse satisfaction and whether they are considering leaving their job (Sanner-Stiehr et al., 2021; Zeleníková et al., 2020). The term "rationing care" was first used in the European Schubert's concept in 2007 and has been further developed and adapted for the needs of American nurses (Jones, 2014; Schubert et al., 2007).

Currently, the Perceived Implicit Rationing of Nursing Care (PIRNCA) tool is often used. It has been translated and validated for European countries (Kalánková et al., 2020b; Palese et al., 2021; Uchmanowicz et al., 2020), including the Czech Republic (Zeleníková and Jarošová, 2017). Evaluation and monitoring of unfinished nursing care affect the favourable development of clinical nursing care, especially regarding innovative approaches and nurses' behaviour (Dutra and Guirardello, 2021; Emiralioğlu and Sönmez, 2021; Kalánková et al., 2019; Schubert et al., 2021; Zeleníková et al., 2020). The findings showed it is possible to favourably affect the conditions in clinical practice. Further research could reveal and confirm nursing care's weak points and elements. The evidence shows it is possible to create recommendations regarding prevention and nurses' education, especially in assessment, procedures, and appropriate responses when affecting rationing of nursing care.

This research aims to determine when rationing of nursing care in selected hospitals in the Czech Republic occurs and the reasons for it.

Materials and methods

629 practical and general nurses working at standard inpatient wards in eleven hospitals of four selected regions in the Czech

* **Corresponding author:** Iva Marková, University of Ostrava, Faculty of Medicine, Department of Nursing and Midwifery, Syllabova 19, 703 00 Ostrava-Vítkovice, Czech Republic; e-mail: Z18558@student.osu.cz
http://doi.org/10.32725/kont.2023.011

Submitted: 2022-11-08 • Accepted: 2023-04-24 • Prepublished online: 2023-04-27
KONTAKT 25/2: 93–99 • EISSN 1804-7122 • ISSN 1212-4117

Republic participated in the research. We conducted intentional/quota selection in South Moravia, Pardubice, Vysočina, and Prague (centre). We chose this method due to ongoing research in these and other regions of the Czech Republic. We wanted to avoid duplication and overloading clinical workplaces already participating in a study. This study included nurses with at least one year of clinical practice, working for more than six months at one workplace and working mornings and in shifts. All the nurses involved worked in institutional – acute inpatient care at standard inpatient wards. They provided direct care to adult patients in state hospitals. Hospitals were divided by size: large (over 750 beds) and small (up to 450 beds). We addressed one large and two or three small hospitals in the region. We took the already ongoing similar research into account (we used a different tool, *e.g.*, MISSCARE Survey).

We collected the data between June 2020 and 2021 in general internal departments, cardiology, geriatrics, neurology, surgical departments, urology, traumatology, neurosurgery, and orthopaedics. The study was approved by the LF OU Ethics Committee. We used the Czech version (Zeleníková and Jarošová, 2017) of the standardised questionnaire PIRNCA – Perceived Implicit Rationing of Nursing Care (Jones, 2014). The questionnaire contains 31 items that deal with nursing interventions. Nurses indicate whether the intervention could be completed or had to be postponed and how often. The answers deal with the last 7 working shifts. The answers are marked on a verbal five-point scale (1 *it was not necessary* – 2 *never* – 3 *rarely* – 4 *sometimes* – 5 *often*). When assessing the reasons for the assigned care, the nurses indicated whether they agreed with the statement on a four-point Likert scale (1 – *strongly disagree*, 2 – *disagree*, 3 – *agree*, 4 – *strongly agree*). Part of the questionnaire included collecting the nurses' sociodemographic characteristics and assessing their satisfaction at the workplace on a 10-point scale, where 10 was the highest and best overall assessment of their satisfaction. We used the "pencil-paper" method to collect data. All the nurses involved were personally informed about the aim and significance of this study. We assured them of research anonymity. They agreed with the research by filling out the questionnaire and submitting it. The nurses put the completed questionnaires in envelopes and boxes at the department. The boxes contained 78.17% of filled in questionnaires.

Data processing

We entered coded data into tables in MS Excel and processed them with descriptive statistics (relative and absolute frequency, arithmetic mean, standard deviation). For the PIRNCA instrument, we used a composite intervention score across all instrument items and interpreted each intervention individually. We verified the instrument's internal consistency using Cronbach's alpha 0.931, which indicates its reliability (high consistency). We used Mann–Whitney two-sample and Kruskal–Wallis multiple-sample tests for comparison and STATA version 14 at the 5% significance level.

Results

629 nurses were involved in the study (the average age of the nurses was 38 years, and the average length of practice was 15 years). The majority (89.35%) were general nurses and only 10.65% were practical nurses. More than half of them (50.08%) had only secondary education.

There were 165 (26.23%) nurses working as general nurses with specialisation – 109 (31.50%) nurses in large hospitals and 56 (19.79%) nurses in small hospitals. In large hospitals, 346 (55.01%) nurses participated in the study; in small hospitals, 283 (44.99%) participated. The number of nurses by workplace was almost equal (48.17% in surgery and 51.83% in internal medicine). The majority worked in shifts (73.45%), 89.83% worked more than 40 hours per month, and overtime hours reached 30 per month. The average number of treated patients per nurse per shift was 15. Only 91 (14.47%) nurses intended to leave their job within 12 months. The nurses' overall satisfaction was assessed on a 10-point scale, with 10 being the highest. The best score was 6.21. The mean item/intervention scores ranged from 1.98 to 3.05. The PIRNCA total score was 2.59, and Cronbach's alpha was 0.0931. The assessment of individual PIRNCA tool items for the last seven shifts is shown in Table 1.

The five most frequently rationing or incomplete interventions in the sample group, with a mean item value of less than 2.5. Mean item values ranged from 2.51 to 3.05:

- timely response to patient request 3.05 (76.15%)
- emotional and psychological support of the patient and his family 2.89 (74.56%)
- education of the patient and his family 2.58 (48.33%)
- changing soiled bed linen 2.52 (43.56%)
- monitoring the patient's emotional state and behaviour 2.51 (43.57%)

The five least assigned interventions, with mean values from 2.03 to 2.20:

- wound care and dressings 2.20 (21.46%)
- IV treatment inputs, probes and cover exchange 2.18 (20.51%)
- interview with external agency 2.16 (31.48%)
- administration of drugs, including infusion therapy 2.15 (14.40%)
- administration of enteral/parenteral nutrition 2.03 (11.29%)

Additional results can be seen in Table 1, which shows the PIRNCA tool assessment across the entire sample group of 629 nurses with regard to the division of hospitals by size. The answers show the item total and average value, and the percentage. The items are listed by the tool. They are not categorized but can be divided into four areas after assessment. These areas are the physical and psychological comfort of the patient, the follow-up care and its planning and the nurses' administrative activities. In this study, we determined the five most rationing interventions by hospital size that correspond with the results.

Nurses also gave reasons for the delegation or non-completion of care when assessing such care. Values were averaged for each statement. These values ranged from 3.03 to 2.12 (the highest value was 5.0). The most common reasons were the composition and condition of patients, 3.03 (82.67%), and the lack of staff, 2.94 (76.31%) – see Table 2.

We found a statistically significant difference when comparing the result of PIRNCA and the nurses' age and education. The PIRNCA value significantly statistically increases here. In the case of nurses' education, the highest values appear for nurses with the highest level, *i.e.*, university education. We found a statistically significant difference regarding the number of treated patients (Table 3).

Table 1. PIRNCA tool assessment – individual items in both types of hospitals

PIRNCA – items	Large hospitals *N* = 346 (55.01%)			Small hospitals *N* = 283 (44.99%)			Total *N* = 629 (100%)		
	mean value	SD	%	mean value	SD	%	mean value	SD	%
Routine hygiene care	2.20	0.66	26.01	2.27	0.70	26.14	2.24	0.68	26.07
Routine skin care	2.21	0.62	21.79	2.25	0.62	23.32	2.23	0.62	22.58
Changing soiled bed linen	2.46	0.76	39.59	**2.59****	0.76	**48.41****	**2.52****	0.76	**43.56****
Assisting a patient with walking	2.41	0.73	37.58	**2.57****	0.71	**50.88****	2.48	0.72	43.56
Mobilization and positioning and compliance with recommendations	2.45	0.69	41.91	2.50	0.70	44.17	2.47	0.69	42.93
Assisting a patient with evacuation	2.19	0.54	20.82	2.30	0.60	28.97	2.24	0.57	24.48
Assisting with food and fluid intake	2.24	0.59	25.43	2.30	0.67	30.03	2.27	0.63	27.50
Caring for the physical comfort of a patient	2.38	0.69	32.37	2.44	0.69	37.10	2.41	0.69	34.50
Medication administration, including intravenous therapy	**2.13***	0.44	**13.01***	**2.17***	0.51	**17.31***	**2.15***	0.47	**14.50***
Administration of enteral or parenteral nutrition	**1.98***	0.47	**8.38***	**2.10***	0.53	**17.84***	**2.03***	0.50	**11.29***
Providing wound and dressing care	**2.15***	0.48	17.63	2.25	0.53	26.15	**2.20***	0.50	**21.46***
Treatment of IV insertions, probes, and replacement of covering	**2.11***	0.49	15.90	2.26	0.56	26.14	**2.18***	0.53	**20.51***
Safe handling and compliance with recommendations	2.45	0.78	40.17	**2.56****	0.80	**43.82****	2.50	0.79	41.82
Preventing infection and following procedures	2.17	0.48	17.43	2.26	0.54	26.50	2.21	0.51	21.46
Patient and family education	**2.58****	0.78	**47.40****	**2.57****	0.77	**49.47****	**2.58****	0.78	**48.33****
Preparing a patient for examination or treatment	2.19	0.53	20.23	2.29	0.59	29.33	2.24	0.56	24.32
Emotional and psychological support for a patient/family	**2.86****	0.73	**75.15****	**2.93****	0.81	**73.85****	**2.89****	0.77	**74.56****
Monitoring physiological functions	2.21	0.53	20.81	2.24	0.56	21.91	2.22	0.54	21.31
Monitoring a patient's emotional state and behaviour	2.25	0.85	43.06	2.50	0.89	44.17	**2.51****	0.87	**43.57****
Monitoring a patient's physical safety	2.30	0.61	29.48	2.24	0.67	27.91	2.27	0.64	28.78
Monitoring and documentation of changes in a patient's condition	2.36	0.74	33.82	2.37	0.74	38.16	2.36	0.74	35.78
Timely response to a patient's request	**3.05****	0.90	**75.44****	**3.06****	0.82	**77.03****	**3.05****	0.87	**76.15****
Interview within a multidisciplinary team	2.35	0.86	40.18	**2.57****	0.79	**46.10****	2.40	0.85	42.92
Interview with an external agency	**2.12***	0.88	**30.07***	**2.21***	0.54	**33.22***	**2.16***	0.93	**31.48***
Interview with a patient/family before discharge	2.28	0.74	33.52	2.40	0.88	40.98	2.34	0.81	36.88
Supervision over rationing activities	**2.51****	0.88	**47.40****	2.49	0.87	43.53	2.50	0.88	46.10
Checking a patient's documentation (multidisciplinary)	2.43	0.74	39.60	2.50	0.79	40.28	2.46	0.76	39.90
Documenting and reviewing the nursing care plan	2.26	0.68	28.32	2.39	0.72	35.68	2.32	0.70	31.64
Documentation of evaluation and monitoring activities	2.32	0.65	29.77	2.40	0.65	36.75	2.36	0.65	32.91
Documentation of all nursing care	2.36	0.65	30.93	2.45	0.70	39.93	2.40	0.69	32.12
Evaluation of the nursing care plan	2.34	0.72	32.95	2.43	0.81	37.46	2.38	0.77	34.98

Notes: The mean value of each intervention is the sum of statements indicating consent and frequency of care delegation (2 to 5). Values above 2.5 (bold, underlined) are considered significant for delegation and frequency. Values below 2.5 are the least rationing and their frequency is low. No problem is found in the delegation or non-completion of care. * the least rationing interventions; ** the most frequently rationing interventions.

Table 2. Reasons for rationing of nursing care

Reasons for rationing of nursing care (N = 629)	Mean value	Standard deviation	Agreed opinion
Composition and status of patients	3.03	0.70	82.67%
Lack of personnel	2.94	0.78	76.31%
Availability of aids and materials	2.48	0.74	47.38%
Handing over and taking over the shift	2.20	0.69	30.68%
Communication in the team	2.13	0.71	28.78%

Notes: We showed the average value of all items with the percentage in the entire sample group.

Table 3. Differences in assigned nursing care concerning selected hospital and nursing variables

PIRNCA	Quantity	Mean value ± SD		Median	P-value
Size of the hospital					
Large hospitals	347	1.37	0.43	1.29	0.5859*
Small hospitals	282	1.38	0.36	1.29	
Department type					
Surgical departments	326	1.38	0.40	1.29	0.7378*
Internal departments	303	1.37	0.41	1.29	
Age					
20–30	186	1.33	0.35	1.29	
31–40	174	1.42	0.45	1.35	**0.0183****
41–50	205	1.41	0.41	1.29	
51 and above	64	1.29	0.38	1.23	
Education					
Secondary Health ed.	315	1.35	0.40	1.26	**<0.001****
Higher Vocational ed.	125	1.31	0.37	1.23	
University education	189	1.46	0.42	1.42	
Length of nursing practice (years)					
1–5	152	1.35	0.37	1.29	
6–10	94	1.43	0.42	1.29	
11–15	74	1.38	0.36	1.35	0.5194**
16–20	99	1.31	0.36	1.23	
21–25	89	1.46	0.52	1.32	
26 and above	121	1.37	0.38	1.26	
Number of patients treated by a nurse during a shift					
5–10	61	1.31	0.40	1.19	
11–15	336	1.36	0.40	1.29	**0.0106****
16–20	182	1.40	0.42	1.29	
21 and above	50	1.49	0.40	1.44	

Notes: * Mann–Whitney two-sample and ** Kruskal–Wallis multiple-sample statistical tests were performed. Statistically significant difference $p < 0.05$.

Discussion

Our study demonstrated the occurrence of rationing of nursing care in the environment of standard inpatient wards in the Czech Republic. Studies in Central Europe have confirmed the same problem, *i.e.*, demographically, culturally, and nursing-wise (Friganovic et al., 2020; Gurková et al., 2019; Kalánková et al., 2020b; Uchmanowicz, 2020; Zeleníková et al., 2020). The most common reason for rationing of nursing care is the lack of staff, and this concurs with the studies of Blackman et al. (2018), Dutra and Guirardello (2021), Friganovic et al. (2020), Jarošová et al. (2020), and Zhao et al. (2020). It is closely related to the time the nurses have available to provide nursing care. We found the condition of a patient to be the main reason for rationing of care. The composition of the patients confirms this conclusion (Gurková et al., 2021a). We can assume the reason is related to the period of data collection; it was carried out when the covid-19 pandemic situation worsened. Similar studies have not yet been published due to the postponement or discontinuation of research. One possible study carried out and prematurely terminated during this period was by Gurková et al. (2021b). It dealt with the working environment of nurses. However, most of the studies show that the severest reasons are the lack of staff and the time nurses have available for care (Cho et al.. 2019; Emiralioğlu and Sönmez, 2021; Gurková et al., 2019; Jarošová et al., 2021; Kalánková et al., 2020b; Zeleníková et al., 2020). Hospital size appears to be a significant factor influencing the incidence and frequency of rationing of nursing care (Dutra and Guirardello, 2021; Emiralioğlu and Sönmez, 2021; Gurková et al., 2019: Jarošová et al., 2021; Zeleníková et al., 2020). We did not find statistically significant differences, and this concurs with the study of Kalánková et al. (2020b).

Rationing nursing care is monitored and assessed by the type of nursing unit. Significant differences were found in intensive care units (Dutra and Guirardello, 2021; Friganovic et al., 2020; Jarošová and Zeleníková, 2019; Kalánková et al., 2020b; Witczak et al., 2021). This study was focused on standard inpatient surgery wards and interns. We did not find statistically significant differences here. However, the pandemic situation may have influenced these findings. Standard inpatient wards had to be changed and care was more intensive. This study agrees with the results of the studies of Gurková et al. (2019), Uchamnowicz et al. (2020) and Witczak et al. (2021) in that PIRNCA total scores rise with nurses' age and education.

Nurses with longer clinical experience and higher education are more likely to report and better identify hidden rationing of nursing care. Because of their clinical experience and theoretical knowledge, they can detect this negative phenomenon more easily. They are also better in prioritizing and the impact of rationing on clinical nursing care.

A higher frequency of rationing of nursing care occurs due to a higher number of patients a nurse oversees during a shift. On average, there are 15 patients per nurse (Cho et al., 2019; Emiraloğlu and Sönmez, 2021; Friganovic et al., 2020; Jarošová et al., 2021; Kalánková et al., 2020b; Zeleníková et al., 2020). We can confirm the reasons given by the nurses: the lack of staff and the time available for the nurse to provide care. Early response to the patient's request (Jones, 2014; Kalánková et al., 2020b; Zeleníková et al., 2019), psychological and emotional support to the patient and their family, and patient education were found to be the most frequently rationing interventions, which is in line with European studies (Jarošová et al., 2021; Kalánková et al., 2020b; Uchmanowicz et al., 2020).

The monitoring of emotional state and behaviour is listed among the five most rationing interventions in the study by Kalánková et al. (2020b). The least rationing interventions were found in relation to a patient's mental comfort (Gurková et al., 2019; Jarošová et al., 2021; Kalánková et al., 2020b; Uchamnowicz et al., 2020; Witczak et al., 2021; Zeleníková et al., 2020). These are interventions administering enteral and parenteral nutrition, medication, IV insertions, wounds, and general hygiene. Nurses perform these interventions without time delay and delegation, which may be due to fear that incomplete care will be proven, and they will have to provide a necessary explanation, and possibly receive a penalty from the head nurse or doctor for non-compliance (Friganovic et al., 2020; Scott et al., 2019). Interventions related to the psychological area and follow-up care, especially important interviews (Gurková et al., 2019; Zeleníková et al., 2019), are less obvious and more quickly detectable. The administration is pushed aside when care is prioritized (Kalánková et al., 2019). This study revealed significant aspects and factors in the monitored environment. It can be the basis for the development of strategies related to reducing rationing of care and preventing an unwanted reduction in the quality of care in standard inpatient wards.

Limitations

The main limitation of this study was the worsened epidemic situation in the Czech Republic during data collection. This influenced the situation in clinical practice, the numbers, and the composition. The complexity of the care of treated patients varied and there were changes in the organisation of how the nursing care was provided. The outputs cannot be generalised to the entire population of nurses in clinical practice. The data were obtained from eleven hospitals in the four participating regions. We used intentional quota sampling, but the representation of nurses was found to be adequate.

Conclusions

The research confirmed the occurrence of rationing of nursing care in all participating hospitals to the same extent. This phenomenon appears in all standard departments, regardless of the treatment unit type. Understanding this phenomenon seems to be crucial in the professional society of nurses. Clinical practice nurses explain the reasons for its occurrence and areas where it occurs. The reports of nurses providing direct care are essential for detecting this phenomenon. This phenomenon constantly appears in clinical practice, and awareness of it is necessary. One possibility is to transfer theoretical knowledge and practical experience to students, future nurses, or nurses during the adaptation process. Preventive and strategic programmes should be part of managerial activities in healthcare facilities. Options for spreading this awareness of nurses are clinical seminars, lectures and conferences focused on this topic, where discussions can be developed, and the direction of further research, regular monitoring and specific interventions can be outlined. That way, the connection between the theoretical basis and clinical practice is laid out as essential. Both reasons and areas can be unveiled, and it would be possible to resolve them at the beginning of the development of this phenomenon. Current trends that are positively affecting global rationing of nursing care include monitoring and the constructive critical assessment of individual areas of care concerning the environment where nursing care is provided, effective communication and multidisciplinary cooperation, teamwork, ongoing education and expanding knowledge about this phenomenon. Staffing is crucial. Regular and long-term monitoring of the current state of clinical practice is appropriate. Repeated measurement of the phenomenon with proper tools is essential.

Ethical aspects and conflict of interests

The authors have no conflict of interests to declare.

Přidělovaná ošetřovatelská péče a její vnímání sestrami v akutní lůžkové péči ve vybraných krajích České republiky

Souhrn
Úvod: Přidělovaná ošetřovatelská péče je jedním z termínů popisujících fenomén, který se objevuje v klinické praxi a souvisí s globálním nedostatkem sester. Na základě hodnocení ošetřovatelských intervencí sestry potvrzují frekvenci a míru výskytu přidělované péče. Úzce souvisí se spokojeností a fluktuací sester v klinické praxi.
Cíl: Cílem výzkumu bylo zjistit výskyt a důvody přidělované ošetřovatelské péče ve vybraných nemocnicích v České republice.
Design: Průřezová deskriptivní studie.
Metody: Soubor tvořilo 629 sester pracujících na standardních lůžkových odděleních 11 nemocnic v ČR. Sběr dat proběhl od června 2020 do června 2021 pomocí dotazníku PIRNCA.
Výsledky: K nejčastěji přidělovaným intervencím patřily: včasná reakce, emoční podpora, edukace pacienta. Jako důvod byly uvedeny skladba a stav pacientů a dostatek personálu. Signifikantní rozdíly byly zjištěny u sester podle věkových skupin (p = 0,0183) a ve vzdělání sester (p < 0,001). Záměr odejít ze zaměstnání projevilo pouze 14,47 % oslovených sester.
Závěr: České sestry potvrzují výskyt přidělované ošetřovatelské péče a důvody, které je k přidělování vedou. Získané důkazy mají být základem pro změny vedoucí k pozitivnímu ovlivnění situace a v rámci prevence výskytu přidělované ošetřovatelské péče. Povědomost o tomto fenoménu by měla být zahrnuta do přípravy budoucích sester. Další výzkumy a hodnocení v průběhu času mohou přinést cenná zjištění.

Klíčová slova: intervence; PIRNCA; přidělovaná ošetřovatelská péče

References

1. Blackman I, Papastavrou E, Palese A, Vryonides S, Henderson J, Willis E (2018). Predicting variations to missed nursing care: A three-nation comparison. J Nurs Manag 26(1): 33–41. DOI: 10.1111/jonm.12514.
2. Cho SH, Lee JY, You SJ, Song KJ, Hong KJ (2019). Nurse staffing, nurses prioritization, missed care, quality of nursing care and nurse outcomes. Int J Nurs Parct 26(1): e12803. DOI: 10.1111/ijn.12803.
3. Dutra CKDR, Guirardello EB (2021). Nurse work environment and its impact oon reasons for missed care, safety climate and job satisfaction: A cross-sectional study. J Adv Nurs 77(5): 2398–2406. DOI: 10.1111/jan.14764.
4. Emiralioğlu R, Sönmez B (2021). The relationship of nursing work environment ans innovation support with nurses' innovative behaviours and outputs. J Nurs Manag 29(7): 2132–2141. DOI: 10.1111/jonm.13354.
5. Friganovic A, Režić S, Kurtović B, Vidmanić S, Zelenikova R, Rotim C, et al. (2020). Nurses' perception of implicit nursing care rationing in Croatia – A cross-sectional multicentre study. J Nurs Manag 28(8): 2230–2239. DOI: 10.1111/jonm.13002.
6. Gurková E, Adamkovič M, Jones T, Kurucová R, Kalánková D, Žiaková K (2019). Factor analysis, validity of the perceived implicit rationing of nursing care instrument and prevalence and patterns of unfinished nursing care in Slovakia. J Nurs Manag 28(8): 2036–2047. DOI: 10.1111/jonm.12887.
7. Gurková E, Bartoníčková D, Mikšová Z, Labutíková M, Chocholková D (2021a). Reasons for unfinished nursing care from the perspective of nurses from regional and university hospitals. Kontakt 23(4): 281–288. DOI: 10.32725/kont.2021.06.
8. Gurková E, Mikšová Z, Šateková L (2021b). Missed nursing care in hospital environment during the COVID-19 pandemic. Int Nurs Rev 69(2): 175–184. DOI: 10.1111/inr.12710.
9. Harvey CL, Baret C, Rochefort CM, Meyer A, Ausserhofer D, Ciutene R, Schubert M (2018). Discursive practice – lean thinking, nurses' responsibilities and the cost to care. J Health Organ Manag 32(6): 762–778. DOI: 10.1108/JHOM-12-2017-0316.
10. Jarošová D, Zeleníková R (2017). Škála pracovního prostředí ošetřovatelské péče (PES-NWI) [Practice Environment Scale of the Nursing Work Index (PES-NWI)]. [online] [cit. 2022-01-22]. Available from: https://dokumenty.osu.cz/lf/uom/uom-publikace/pracovni-prostredi-spoluprace-kompetence/pes-nwi-cz.pdf
11. Jarošová D, Zeleníková R (2019). Unfinished nursing care – the first pilot study in the Czech Republic. Kontakt 21(4): 388–394. DOI: 10.32725/kont.2019.048.
12. Jarošová D, Gurková E, Zeleníková R, Plevová I, Janíková E (2021). Hospital and unit variables in missed nursing care in acute care Hospital: A cross-sectional study. J Clin Nurs 30(7–8): 1099–1110. DOI: 10.1111/jocn.15655.
13. Jones TL (2014). Validation of the Perceived Implicit Rationing of Nursing Care (PIRNCA) Instrument. Nurs Forum 49(2): 77–87. DOI: 10.1111/nuf.12076.
14. Jones TL, Drach-Zahavy A, Sermeus W, Willis E, Zeleníková R (2021). Understanding Missed Care: Definitions, Measures, Conceptualizations, Evidence, Prevalence and Challenges. In: In: Papastavrou, E, Suhonen R (Eds). Impacts of Rationing and Missed Nursing Care: Challenges and Solutions. Springer, Cham. DOI: 10.1007/978-3-030-71073-6_2.
15. Jones TL, Willis E, Amorim-Lopes M, Drach-Zahavy A (2019). Advancing the science unfinished nursing care: Exploring the benefits of cross-disciplinary knowledge exchange, knowledge integration and transdisciplinary. J Adv Nurs 75: 905–917. DOI: 10.1111/jan.13948.
16. Kalánková D, Bartoníčková D, Žiaková K, Kurucová R (2020a). Missed and rationed care: What do we know? – Review of qualitative studies. Ošetrovateľstvo: teória, výskum, vzdelávanie 10(1): 18–23.
17. Kalánková D, Kurucová R, Bartoníčková D, Žiaková K (2019). Factors contributing to implicit rationing of nursing care: Qualitative responses to a survey of Slovak nurses. Kontakt 21(3): 248–253. DOI: 10.32725/kont. 2019.027.
18. Kalánková D, Suhonen R, Stolt M, Kurucová R, Katajisto J, Žiaková K, et al. (2020b). Psychometric testing of perceived implicit rationing of nursing care (PIRNCA). J Adv Nurs 76(6): 1469–1482. DOI: 10.1111/jan.14351.
19. Mandal L, Seethalakshmi A, Rajendrababu A (2020). Rationing of nursing care, a deviation from holistic nursing: A systematic review. Nurs Philos 21(1): e12257. DOI: 10.1111/nup.12257.
20. Palese A, Longhini J, Danielis M (2021). To what extent Unfinished Nursing Care tools coincide with the discrete elements of The Fundamentals of Care Framework? A comparative analysis based on a systematic review. J Clin Nurs 30(1–2): 239–265. DOI: 10.1111/jocn.15543.
21. Sanner-Stiehr E, Stevanin S, Mikkonen S, Kvist T (2021). Job satisfaction and generational nursing characteristics among registered nurses in the United States, Italy and Finland:

Results of a survey study. J Nurs Manag 29(8): 2364–2373. DOI: 10.1111/jonm.13397.

22. Schubert M, Ausserhofer D, Bragadóttir H, Rochefort CM, Bruyneel L, Stemmer R, et al. (2021). Interventions to prevent or reduce rationing or missed nursing care: A scoping review. J Adv Nurs 77(2): 550–564. DOI: 10.1111/jan.14596.
23. Schubert M, Glass TR, Clarke SP, Schaffert-Witvliet B, De Geest S (2007). Validation of the Basel extent of rationing of nursing care instrument. Nurs Res 56(6): 416–424. DOI: 10.1097/01.NNR.0000299853.52429.62.
24. Scott AP, Harvey C, Felzmann H, Suhonen R, Habermann M, Halvorsen K, et al. (2019). Resource allocation and rationing in nursing care: A discussion paper. Nurs Ethics 26(5): 1528–1539. DOI: 10.1177/0969733018759831.
25. Uchmanowicz I, Kołtuniuk A, Młynarska A, Łagoda K, Witczak I, Rosińczuk J, Jones T (2020). Polish adaptation and validation of the Perceived Implicit Rationing of Nursing Care (PIRNCA) questionnaire: a cross-sectional validation study. BMJ Open 10(4): e031994. DOI: 10.1136/bmjopen-2019-031994.
26. Willis EB, Zeleníková R, Bail K, Papastavrou E (2021). The globalization of missed nursing care terminology. Int J Nurs Pract 27: e12859. DOI: 10.1111/ijn.12859.
27. Witczak I, Rypicz Ł, Karniej P, Młynarska A, Kubielas G, Uchmanowicz I (2021). Rationing of Nursing Care and Patient Safety. Front Psychol 12: 676970. DOI: 10.3389/fpsyg.2021.676970.
28. Zeleníková R, Drach-Zahavy A, Gurková E, Papastavrou E (2019). Understanding the concept of missed nursing care from a cross-cultural perspective. J Adv Nurs 75(11): 2995–3005. DOI: 10.1111/jan.14189.
29. Zeleníková R, Gurková E, Friganovic A, Uchmanowicz I, Jarošová D, Žiaková K, et al. (2020). Unfinished nursing care in four central European countries. J Nurs Manag 28(8): 1888–1900. DOI: 10.1111/jonm.12896.
30. ZhaoY, Ma D, Wan Z, Sun D, Li H, Sun J (2020). Associations between work environment and implicit rationing of nursing care: A systematic review. J Nurs Manag 28(8): 1841–1850. DOI: 10.1111/jonm.12895.