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INVESTIGATING THE PREVALENCE, PATTERNS AND PREDICTORS OF RATIONED NURSING CARE AT INTENSIVE CARE UNITS

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Abstract ***Background:*** *Rationed nursing care is a significant and widespread problem jeopardizing patient safety and quality of nursing care, mainly in an outpatient setting.* ***Objective:*** *To explore the prevalence, patterns and predictors of rationed nursing care among nurses working in intensive care units in Slovakia.* ***Method:*** *The study has adopted a cross-sectional design. Data were collected using the Perceived Implicit Rationing of Nursing Care instrument (PIRNCA). The respondents were intensive care nurses (N = 279) from seven hospitals in Slovakia.* ***Results:*** *The mean level of rationed nursing care was 1.68 (SD = 0.91). The prevalence of rationed nursing care was significantly predicted by nurse education, specialization training, overtime hours, intention to leave the profession, perceived staff adequacy. Quality of patient care and job satisfaction were the most significant predictors of rationed nursing care ($p \leq .05$).* ***Conclusions:*** *Hospital management should immediately address the predictors of rationed nursing care in intensive care units to increase quality and safe care, thus improving patient outcomes. Further examination of the quality of patient care and job satisfaction of nurses and their associations with rationed nursing care is needed in intensive care units.*

Keywords *rationed care, nursing, nurses, intensive care*

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1 INTRODUCTION

The rationed nursing care phenomenon represents a topic discussed among nursing researchers worldwide. In literature, the phenomenon is often defined as withholding necessary nursing care activities by nurses during their working shifts (Schubert et al., 2007). The phenomenon occurs in the healthcare system when available resources are insufficient to deliver adequate nursing care to patients (Jones, 2014). These resources refer mainly to labour or material resources, communication, teamwork or time (Kalisch, Williams, 2009; Jones et al., 2015). Worldwide, up to 98 % of registered nurses (RNs) have not provided at least one nursing care activity to patients during their working shifts (Jones et al., 2015). Besides, 87.6 % of Slovak RNs rationed at least one nursing care activity in the past seven working shifts (Kalánková et al., 2020). Several authors pointed out that the prevalence of rationed nursing care differs across unit types (Bagnasco et al., 2020; Campbell et al., 2020). RNs working at medical-surgical care units have a greater chance of reporting rationed nursing care than RNs working in intensive care units (ICUs) (Bragadóttir et al., 2017; Higgs et al., 2020; Palese et al., 2015) or occupational care units (Kalisch et al., 2013). However, the prevalence of rationed nursing care at ICUs is still relatively high, representing a serious issue requiring further research. Overall, frequently reported nursing care activities, which nurses withheld include mainly the independent ones, so RNs are competent to initiate based on their knowledge and skills, such as emotional or psychological support, changing the patient position, ambulation with the patient, patient teaching or documentation of provided care (Jones et al., 2015; Chaboyer et al., 2021). Withholding necessary care activities, especially the independent ones, lead to potentially severe visible or hidden consequences for patients and influence the quality of care and patient safety in general (Gustafsson et al., 2020; Kalánková et al., 2020; Recio-Saucedo et al., 2018). Furthermore, based on results of international studies (Harvey et al., 2020; Suhonen et al., 2018; Rooddehghan et al., 2018), the significance of the problem of rationed nursing care is highlighted by its ethical and moral impact on RNs, mainly in the context of care prioritization due to resource availability, but also withholding care activities that may lead to moral dilemmas and raise ethical issues about the provision of nursing care.

Most studies focused on examining rationed nursing care at adult medical-surgical care units (Campbell et al., 2020; Higgs et al., 2020); however, only a few studies investigated rationed nursing care at ICUs, mainly at neonatal ICUs (Tubbs-Cooley et al., 2015; Rozensztrauch et al., 2021). Generally, ICUs are more complex and demanding on nursing care because of specifics related to the care provided and advances in technology and therapeutics, which continually push boundaries of clinical care (Ogboenyiya et al., 2020). Therefore, RNs need to develop the

technical competencies necessary for providing safe and quality care. They are often confronted with the unexpected rise in patient volume, unbalanced patient assignments, urgent patient situations, such as worsening patient's condition, and tension or communication breakdowns with other services, such as transfusion centre or radiology examination (Schubert et al., 2013). These growing demands may exceed the availability of RNs and consequently result in time pressure leading to omissions in care. At ICUs, life-saving care activities are rationed at least, while the most commonly rationed activities are related to comfort care. Moreover, RNs prioritize potentially life-saving activities over "less important", such as patient teaching or discharge planning (Schubert et al., 2013; Jones et al., 2016). Like standard care units, the biomedical model of care is highlighted in ICUs (Młynarska et al., 2020). However, nursing care has a strong potential to influence patient outcomes during hospitalization and direct the patient convalescence after discharge from an ICU. Therefore, it is necessary to investigate the prevalence of rationed nursing care and identify factors contributing to it at ICUs to eliminate this phenomenon from the intensive care setting, thus improving patient and nurse outcomes during and after patients' hospitalization. To the authors' knowledge, no similar study focusing on rationed nursing care at ICUs has not been conducted in Slovakia.

2 METHODS

The study was approved by the Ethical Committee of Jessenius Faculty of Medicine in Martin, Comenius University in Bratislava with the ref. no. 30/2017 (EC 30/2017).uAim
To explore the prevalence, patterns and predictors of rationed nursing care among nurses working in ICUs in Slovakia.

2.1 Design

The study adopted the cross-sectional design.

2.2 Sample

This is a sub-study of a larger research project conducted in 2020 (Kalánková et al., 2020; Gurková et al., 2020). All university (N=3) and teaching hospitals (N=8) in Slovakia were asked to participate in the study. After obtaining permission from hospitals (n=7), nurse managers were asked to participate in data collection. In this study, only ICUs were included. Registered nurses (RNs) were selected purposefully based on predefined criteria. RNs were included if they were a) shift-working and b) provided care to adult patients. In contrast, RNs were excluded if they a) occupied managerial positions and b) provided care at gynaecology or anesthesiology care units.

2.3 Data collection

Data were collected during the year 2018 using the specific instrument for measuring rationed nursing care – The Perceived Implicit Rationing of Nursing Care instrument (PIRNCA) initially developed by Jones (2014). The instrument was validated in the Slovak Republic on a sample of registered nurses (RNs) from different hospitals based on the provider (Gurková et al., 2020) and later on a sample of RNs from university and teaching hospitals using different analysis methods (Kalánková et al., 2020). The PIRNCA instrument consists of 31 items representing different care areas, such as prescribed treatment plan, coordination and documentation of care, fundamental nursing care, emotional support, and patient teaching. The instrument is self-reported and designed for RNs. The responses are evaluated on a 5-point frequency scale (0 – not applicable, 1 – never, 2 – rarely, 3 – sometimes, 4 – often). The instrument contains additional information about socio-demographic data. The Cronbach alpha coefficient of the original instrument was 0.91. In our study, the internal consistency of the PIRNCA instrument was 0.93.

2.4 Data analysis

Data were analyzed using the statistical program IBM SPSS Statistics, version 25.0. In analysis, descriptive and inferential statistics were used. Regarding descriptive statistics, frequency (%), absolute values (n), mean (m) and standard deviations (SD) were calculated. Results were tested on the significance level $p \leq .05$. The PIRNCA questionnaire was analyzed according to the author's recommendation of the original instrument (Jones, 2014). Variables, such as age, nurse experience (in total and in the current position), education, specialization training, type of shifts, overtime hours, missed hours, intention to leave the position, perceived staff adequacy, quality of patient care and job satisfaction were analyzed concerning the prevalence of rationed nursing care. These associations were investigated through multiple regression analysis.

3 RESULTS

Two university-based and five teaching hospitals in the Slovak Republic participated in the current study. The sample consisted of 279 RNs (response rate of 61.47 %), most of them were females (n=272; 97.5 %), with an average age of 46 years (range from 20 to 67 years), who worked at ICUs. The sample characteristics are reported in Table 1.

Table 1
Sample characteristics (N = 279)

Variable			
		N = 279	%
Age	20 – 30 years	37	13.2
	31 – 40 years	73	26.2
	41 – 50 years	110	43.8
	51 – 60 years	43	15.4
	More than 60 years	4	1.4
	m ±SD (range)		
	46 ±8.1 (20 – 67)		
Nurse experience in the current position	Up to 5 years	68	24.3
	6 – 10 years	59	21.1
	11 – 15 years	37	13.3
	16 – 20 yeas	34	12.2
	More than 21 years	91	29.1
	m ±SD (range)		
	12.3 ±3.4 (1 – 45)		
Nurse experience in total	Up to 5 years	31	11.1
	6 – 10 years	24	8.6
	11 – 15 years	30	10.7
	16 – 20 years	51	18.3
	More than 21 years	143	51.3
	m ±SD (range)		
	17.7±3.9 (1 – 49)		

Variable		N = 279	%
Education	Secondary vocational school	60	21.5
	Higher education in nursing	68	24.4
	Bachelor education in nursing	64	22.9
	Master or PhD education in nursing	87	31.2
Specialization training	Yes	66	23.7
	No	213	72.4
Type of shifts	8 or 10-hour shifts	44	15.8
	12-hour shifts	213	76.3
	Rotation of 8 and 12-hour shifts	22	7.9
Overtime hours*	None	60	21.5
	Less than 12 hours	67	24.0
	More than 12 hours	152	54.5
Missed hours*	None	199	71.3
	1 shift	34	12.2
	2 – 3 shifts	24	8.6
	More than 4 shifts	22	7.9
Intention to leave the position	Up to 6 months	10	3.6
	Up to 1 year	30	10.7
	No intention	239	85.7
Perceived staff adequacy	100 % of the time	20	7.2
	75 % of the time	105	37.6
	50 % of the time	87	31.2
	25 % of the time	50	17.9
	0 % of the time	17	6.1

*in the past three months

3.1 The prevalence of rationed nursing care among RNs at ICUs

The mean level of rationed nursing care was 1.68 (SD = 0.91), and the prevalence of rationed nursing care at ICUs was 38.6 %. Generally, 89.0 % of nurses rationed one or more nursing care activities necessary for the ICU patients in the past seven working shifts. The average number of rationed nursing care activities was 13.8 per nurse. Using the PIRNCA instrument, we identified rationed nursing care activities as the least and the most frequently reported among ICU nurses (see Table 2). The least frequently reported rationed nursing care activities were administering enteral or parenteral nutrition (20.8 %), changing intravenous access sites, tubing, and/or dressing (20.8 %) and administering medication (including intravenous medication) (21.1 %). In contrast, the most frequently reported nursing care activities were a timely response to request/need in less than 5 minutes (64.9 %), an important conversation with the member of the multidisciplinary team about patient care (59.1 %) and reviewing the multidisciplinary patient documentation (50.8 %).

Table 2
Prevalence of rationed nursing care at ICUs

	Care activities*	% of rationing greater than never	m	SD
1	Routine hygiene care	27.3	1.30	0.85
2	Routine skin care	28.7	1.29	0.83
3	Changing soiled bed linen	45.5	1.56	0.87
4	Assistance with needed ambulation	40.1	1.44	0.88
5	Mobilization of changing patient position	42.7	1.47	0.82
6	Timely assistance with bowel or bladder elimination	40.5	1.47	0.89
7	Assistance with the intake of food or fluid	32.3	1.39	0.88
8	Promotion of physical comfort	37.3	1.43	0.81
9	Administer medications	21.1	1.19	0.65
10	Administer enteral or parenteral nutrition	20.8	1.17	0.70
11	Provide wound care	21.5	1.19	0.71
12	Change intravenous access sites, tubing, and/or dressing	20.8	1.18	0.62
13	Adherence to recommended guidelines for safe patient handling	48.0	1.64	1.04
14	Adhere to infection control practices	34.4	1.39	0.78
15	Providing the amount of teaching for the patient or his/her family	52.3	1.64	0.97
16	Preparing patients for treatments, tests, or procedures	30.5	1.35	0.72
17	Emotional or psychological support	41.9	1.81	1.04
18	Monitoring of the patient's physiological status	24.0	1.24	0.68
19	Monitoring of the patient's affect and behavior	49.8	1.59	0.94
20	Monitoring of the patient's physical safety	34.4	1.39	0.80
21	Following-up on patient status changes	33.7	1.51	0.85
22	Timely response to request/need in less than 5 minutes	64.9	1.92	0.97
23	Important conversation with team members	59.1	1.70	0.97
24	Important conversation with an external agency	41.6	1.29	1.12
25	Important conversation with a patient or family member about discharge	40.9	1.45	0.97
26	Provide adequate supervision of or follow-up on delegated activities	42.8	1.45	0.85
27	Reviewing the multidisciplinary patient documentation	50.8	1.63	0.95
28	Documentation of the initiation or revision of plan of care	42.3	1.53	0.85
29	Documentation of assessments and monitoring activities	39.8	1.53	0.86
30	Documentation of all of the nursing care provided	41.6	1.57	0.89
31	Evaluation of the plan of care	45.2	1.56	0.89

*Abbreviated items of the PIRNCA instrument (© used with permission)

3.2 Evaluation of quality of patient care and job satisfaction among RNs at ICUs

The average number of points for measuring the quality of patient care was 7.94 (SD = 1.69), which indicates that RNs evaluated the quality of care provided to their patients as high. Similarly, the average number of points assessing the job satisfaction was 7.24 (SD = 2.58), which indicates that RNs were satisfied with their current job at ICUs.

3.3 The prevalence of rationed nursing care at ICUs and its association with selected socio-demographic characteristics

Multiple regression analysis was conducted to examine the relationship between the prevalence of rationed nursing care and selected potential predictors (socio-demographic characteristics). The results are presented in Table 3. Model 1 (R2 = 0.399; Adj R2 = 0.363; F = 11.432) revealed that variables explained almost 40 % of the prevalence of rationed nursing care. Rationed nursing care was significantly associated with the following predictors: nurse education, specialization training, overtime hours, intention to leave the profession, perceived staff adequacy, job satisfaction, and job experience. Higher prevalence of rationed nursing care was reported by RNs with higher education in nursing (university education) than RNs with secondary medical education (β=.140, p=.045). Also, RNs with specialization training reported more rationed nursing care in the past seven working shifts (β=.187, p=.009). Besides, RNs with more overtime hours reported more rationed nursing care (β=.112, p=.002). In contrast, RNs who had no intention to leave the current position reported less rationed nursing care (β=-.160, p=.033). RNs who perceived staff adequacy more of the time reported, at the same time, higher prevalence of rationed nursing care (β=.098, p=.029). Besides, RNs who subjectively evaluated the quality of care higher at their workplace reported less rationed nursing care in their practice in the past seven working shifts (β=-.135, p=.000). Moreover, RNs who were more satisfied in their job reported less rationed nursing care in the past seven working shifts (β=-.110, p=.000).

Table 3
Predictors of rationed nursing care at ICUs

Variables	Rationed nursing care	
	β	p
(Constant)		0.000***
Age	0.087	0.373
Education	0.140	0.045*
Specialization training	0.187	0.009**
Nurse experience in total	-0.051	0.626
Nurse experience in the current position	0.018	0.815
Type of shifts	-0.070	0.238
Overtime hours	0.112	0.002**
Missed hours	0.075	0.186
Intention to leave the position	-0.160	0.000***
Perceived staff adequacy	0.098	0.029*
Quality of patient care	-0.135	0.000***
Job satisfaction	-0.110	0.000***

β - Standardized Beta Coefficient, *p ≤ 0.05; **p ≤ 0.01, *** p ≤ 0.001

4 DISCUSSION

The study aimed to explore the prevalence, patterns and predictors of rationed nursing care at ICUs in selected teaching and university hospitals in Slovakia. The study has highlighted the importance of investigating rationed nursing care at ICUs, based on high estimates of the phenomenon, up to 38.6 % in Slovakia and approximately 30 % in European countries (Schubert et al., 2008; Schubert et al., 2009; Zúñiga et al., 2015). High estimates of rationed nursing care are associated with nurse shortage. In 2018, 10 000 RNs were missing in the healthcare system in Slovakia, and the number of RNs is still continuously decreasing. For example, in 2021, the Slovak healthcare system lacked more than 12 000 RNs (Megyesiová et al., 2021). In line with international studies (Kiekkas et al., 2021; Uchmanowitz et al., 2020; VanFosson et al., 2018), the percentage of RNs who withhold at least one nursing care activity might reach 100 % internationally. For example, in the American context, the percentage of these RNs reached 97 % (Jones et al., 2016). In European countries, such as Poland, the Czech Republic or Croatia, was the percentage very similar (Zeleníková et al., 2020). In our study, further evaluation of the prevalence and patterns of rationed nursing care focused on the average number of nursing care activities being rationed per RN, which was determined as 13.8. In most studies, the average number of nursing activities being rationed varied across socio-cultural contexts. For example, Czech nurses had not provided 9.66 nursing care activities, Polish nurses 15.32 and Croatian nurses 17.45 of nursing care activities at an average. Moreover, American nurses' average number of rationed

nursing care activities ranged between 17.39 and 24.1 (Campbell et al., 2020; VanFosson et al., 2018; Zeleníková et al., 2020). Based on the results, it seems that RNs have reported a similar inability to provide necessary nursing care activities for their patients worldwide. Concerning the most frequently reported nursing care activities being rationed, the results varied nationally. In line with previous studies (e.g. Jones et al., 2015; Campbell et al., 2020; Gurková et al., 2020), the top five frequently rationed nursing care activities were those related to independent nursing care activities, such as a timely response to request/response of the patient or monitoring of the patients' affect and behaviour. In contrast, the least rationed nursing care activities were dependent, often related to the prescribed treatment plan, such as administering enteral or parenteral nutrition or providing wound care (Jones, 2014; Jones et al., 2015; Schubert et al., 2013). In line with many studies, the most frequently reported nursing care activities being rationed are those provided autonomously by RNs based on their knowledge, skills, and competence. On the contrary, among the most frequently provided care activities are those dependent on physicians' prescriptions (Jones, 2014). It might be explained by the more thorough audit of providing dependent nursing care activities by nurse managers and physicians and the more visible impact on a patient treatment plan if any dependent activities were rationed (Jones et al., 2015).

Regression analysis revealed some significant predictors of rationed nursing care. For example, nurse age has significantly affected the prevalence of rationed nursing care at ICUs in Iceland. More rationed nursing care was reported by nurses who were 34 years old and younger than their colleagues aged 45 to 54 years old (Bragadóttir, Kalisch, 2018). In our study, most of the respondents were aged between 41 to 50 years; however, similarly to Młynarska et al. (2020), we have found no significant relationship between the prevalence of rationed care and nurse age. Nurse education has been significantly associated with the prevalence of rationed nursing care. However, the results of international studies have shown differences across countries. For example, nurses working in critical care with graduate certificates or diplomas could not complete more nursing care activities than nurses with bachelor, master or higher degrees in nursing. In contrast, Australian diploma nurses perceived less rationed nursing care than RNs (Chapman et al., 2016). Moreover, nurse education has not been proved to be a significant predictor of rationed nursing care at ICUs in Poland (Młynarska et al., 2020). The results' variability might be explained through meaningful differences in nurse education worldwide and various awareness of antecedents of rationed nursing care (Bacaksiz et al., 2020). We assume that RNs with university education in Slovakia were aware of the concept of rationed nursing care during their professional training. Due to their increased awareness of the topic probably reported more nursing care activities being left undone. Besides, in our study, specialization training of ICUs nurses was another predictor significantly associated with rationed nursing care. Only one study

has investigated the relationship between the prevalence of rationed care and specialization training to the authors' knowledge (Młynarska et al., 2020). However, no significant association has been proven. We may assume that RNs working in Slovakia with the completed training might be aware of their competencies, thus knowing that they should provide more nursing care activities, which may lead to the rationing of some activities than RNs who did not have a specialization. Our study has not identified nurse experience in the current position and nurse experience in total as significant predictors of rationed nursing care. Most RNs in our study worked for more than 21 years and less than five years in the current position. Several studies proved that RNs with less experience reported more rationing nursing care activities (Al-Kandari, Thomas, 2009; Bacaksiz et al., 2020). Type of shifts has not been significantly associated with the prevalence of rationed nursing in our study. On the contrary, in studies exploring the impact of shift type on RNs working at medical-surgical care units, the relationship was evident and significant (Gurková et al., 2020; Kiekkas et al., 2021). Higher rates of rationed nursing care were observed during daily shifts when the workload is more prominent than night shifts. However, RNs in ICU need to evaluate the patients' health conditions every hour; also, the careful monitoring of patients is highly recommended due to the greater risk of worsening the health condition. Therefore, no apparent differences were between rating rationed nursing care during the days or night shifts in our sample.

The prevalence of rationed nursing care was significantly predicted by the number of overtime hours in the past three months. Overtime hours related to nursing staffing (Cho et al., 2016) varied across hospitals in different countries meaningfully and significantly impacted adverse events, errors, or near-misses (Liu et al., 2018). However, research examining staffing and overtime hours and their impact on rationed nursing care is mainly carried out in high-income countries with relatively adequate staffing. Therefore, international studies have frequently reported no significant associations between overtime hours and rationed nursing care (Kalisch et al., 2013; Kalisch, Lee, 2010). However, staffing levels in Slovakia are low, showing that we have approximately 5.7 practising nurses per 1000 population, compared to other OECD countries, such as Norway (17.7 nurses), Switzerland (17.2), Iceland (14.5) or Finland (14.3) Alarmingly, the number of nurses per capita continuously fell over the period, similarly to Israel, Ireland or the United Kingdom (OECD, 2019). Regarding staffing, perceived staff adequacy has also been determined as a significant predictor of rationed nursing care estimates. Nurses who perceived adequate staffing 100 % of the time reported less rationed nursing care than their colleagues who perceived adequate staffing on their shift by 25 % or 0 % of the time. Similar to our results, Bragadóttir and Kalisch (2018) described that nurses who perceived adequate staffing 100 % of the time reported significantly less rationed nursing care than those who perceived the

adequacy 50 % of the time or 0 % of the time. The fewer RNs perceive that the staff is adequate, the more rationed nursing care report (Campbell et al., 2020; Bacaksiz et al., 2020). Naturally, with nurse shortage, the number of overtime hours increases. Moreover, recent statistics on overtime hours have shown that registered nurses in Slovakia had 3.4 % of overtime hours out of the overall number, which might be considered significantly high (Szalay, 2016). Unfortunately, the shortage of staff dominates in many countries worldwide and represents a global problem. However, lower estimates of rationed nursing care, quality care, or higher patient safety might be revealed in areas where nurses have lower overtime hours (Gurková et al., 2021). In contrast, rationed nursing care was not significantly predicted by missed hours in the past three months due to the illness or injury. According to Dhaini et al. (2017), nurses might miss the shift due to physical or emotional exhaustion, depersonalization or overall burnout syndrome. It might also be associated with nurse shortage, increased workload and overtime hours.45 Intention to leave the position was confirmed to be a significant predictor of the prevalence of rationed nursing care. In line with several studies (Gurková et al., 2020; Rozensztrauch et al., 2021), if nurses had intentions to leave the position, they rationed more nursing care activities. RNs' intentions to leave the position might be conditioned by various factors presented in ICUs, such as higher demands on care, time pressure, unexpected rise in patient volume, urgent patient situation, frequent interruptions but many others including organizational aspects, blame culture, poor teamwork or communication within the nursing team (Młynarska et al., 2020) and these might also be presented in our sample of RNs. The issue of intentions to leave the position calls for further research, mainly to identify factors that contribute to it. Job satisfaction predicted the prevalence of rationed nursing care at ICUs. Our results are consistent with many international studies (Gurková et al., 2020; Uchmanowitz et al., 2020; Zeleníková et al., 2020), showing that the estimates of rationed care increase with low job satisfaction. In general, the more the nurses are satisfied with their job, the less rationed nursing care report. This trend has been confirmed in several international studies (Bragadóttir et al., 2017; Młynarska et al., 2020). A recent Polish study (Młynarska et al., 2020) also revealed the significant associations of rationed nursing care at ICUs with low job satisfaction, which was further correlated with the fatigue of RNs. Furthermore, job satisfaction positively affects the overall work performance of nurses, thus the nurses' ability to ensure all necessary nursing care activities to patients (Młynarska et al., 2020; Rozensztrauch et al., 2021). The last variable that significantly predicted the prevalence of rationed nursing care was the quality of patient care. The trend is similar to job satisfaction. With the better evaluation of the quality of patient care, the estimates of rationed nursing care decrease. Similarly, with poor or dangerously low quality of patient care, the estimates of rationed nursing care increase

(Młynarska et al., 2020). Job satisfaction and quality of patient care should be considered very important indicators of rationed nursing care at ICUs (Chaboyer e al., 2021).

Several limitations should be acknowledged, including the purposive method of selecting respondents and the study's cross-sectional design. Therefore, study results cannot be generalized by the whole population of ICU nurses. Despite the fact that data were collected during the year 2018, the issue is very actual and emphasized in Slovakia. Another limitation might be using the self-report instrument, which often leads to social desirability in the respondents' responses.

5 CONCLUSIONS

The prevalence of rationed care at ICUs in Slovakia is considered high, with a prevalence value of 38.6 %. Given that up to 89 % of nurses rationed one or more nursing activities in the past seven working shifts and the number of rationed nursing care activities was 13.8 per one nurse, it is very important to focus on further studies on nurses working in ICUs'. In ICUs, the nurses provide highly specialized care to patients, and often some activities that are not life-saving may be rationed. We identified that in Slovakia, most rationed activities are independent ones, such as a timely response to request/need in less than 5 minutes or monitoring the patients' affect and behavior. In contrast, activities that are not usually rationed reflect physicians' prescriptions, such as enteral or parenteral nutrition administration or changing intravenous access sites, tubing and dressing. Our study determined several predictors of the prevalence of rationed nursing care related to hospital, unit or staff variables. The hospital management should address these predictors, as it seems that these predictors are similar to those identified in medical-surgical care units across the world. Also, because research at ICUs is not standard, more studies in this area are needed in order to be able to compare our identified statements in the future at the international level and reach a consensus on rationed care in the provision of nursing care in ICUs.

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