journal homepage: http://kont.zsf.jcu.cz
DOI: 10.32725/kont.2018.001

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

Review article

Application of measuring tools in the assessment of the phenomenon of rationing/missed/unfinished care

Dominika Kalánková [1] *, Elena Gurková [2], Renáta Zeleníková [3], Katarína Žiaková [1]

[1] *Comenius University in Bratislava, Jessenius Faculty of Medicine in Martin, Department of Nursing, Martin, Slovak Republic*
[2] *The University of Bielsko-Biała, Faculty of Health Sciences, Department of Nursing and Emergency Medicine, Bielsko-Biała, Poland*
[3] *University of Ostrava in Ostrava, Faculty of Medicine, Department of Nursing and Midwifery, Ostrava, Czech Republic*

Abstract
Introduction: The phenomenon of rationing/missed/unfinished care is a current subject of foreign research in nursing. Its quantification can be achieved only through specific measuring tools. With their use, it is possible to identify not only the nursing activities that nurses do not perform during their shift, but also the reasons which lead to the occurrence of this phenomenon.
Aim: The aim of our contribution is to analyze approaches to the operationalization of the concept of rationing/missed/unfinished care and to provide an overview of tools to measure it.
Methods: The method of content analysis of research studies published in the scientific databases PubMed, ScienceDirect, and ProQuest was used in the processing of paper.
Results: In our contribution, we analyzed three approaches and measuring tools which were developed for measuring the phenomenon – MISSCARE Survey, BERNCA/PIRNCA, and TU instruments. We identified differences in the range of activities, time period, scoring and evaluation.
Conclusion: We conclude that the phenomenon is mostly related to independent nursing activities and the most frequent reason for its occurrence is the insufficient number of nursing staff. Based on the analysis, we note that the phenomenon not only significantly influences patient satisfaction but also the job satisfaction of nurses – and this is reflected in the quality of provided care. We emphasize the need to be concerned about the mentioned phenomenon using specific measuring tools in studies conducted in the Slovak Republic.

Keywords: Care; Measuring tools; Missed; Nursing; Rationing; Unfinished

Introduction

The concept of rationing/missed/unfinished care is a multidimensional universal phenomenon that is discussed in an international context mainly with reference to the global lack of nurses and the implications of this shortage for health care quality – particularly patient safety. From the historical point of view, the phenomenon was initially examined in the medical fields (Jones, 2015) as a result of the imbalance between funding shortages and healthcare costs reduction or, more specifically, the imbalance of cost-saving measures on the one hand and the rising healthcare demands on the other. It has become the subject of systematic research in nursing over the past decade, mainly in relation to the continuing trend of the deepening global nursing shortage. These factors have prompted an extensive number of qualitative and quantitative researches in various countries, including international comparative studies, from which the best known is the RN4CAST Study (Aiken et al., 2014; 2017; 2018; Ausserhofer et al., 2014). The observed indicators (the consequences of the phenomenon) were for example postoperative mortality (Aiken et al., 2018; Schubert et al., 2012); falls (Kalisch and Lee, 2012; Lucero et al., 2010); nosocomial infections (Lucero et al., 2009; 2010; Schubert et al., 2008); pressure ulcers (Schubert et al., 2008; 2009); adverse events, medication errors (Lucero et al., 2010; Schubert et al., 2008; 2009); satisfaction of the patients with the provided care (Hessels et al., 2015; Schubert et al., 2009). Several authors (Aiken et al., 2018; Kalisch and Lee, 2012) consider rationing/missed/unfinished nursing care to be a significant mediator of the relationship between the personal care assurance (the number of staff) and indicators of the care provided (falls, patient mortality) – meaning that the negative impact of the nursing shortage on the quality of the provided care is mediated particularly by the phenomenon of rationing/missed/unfinished nursing care. This care has negative consequences, not only for the patients themselves and the care provided, but also for the nurses.

Systematic reviews of studies referring to the phenomenon (Jones, 2015; Papastavrou et al., 2016) pointed out its negative influence on the job satisfaction of nurses and their intentions to leave the workplace (Jones, 2014; Kalisch

* **Author for correspondence:** Dominika Kalánková, Comenius University in Bratislava, Jessenius Faculty of Medicine, Department of Nursing, Malá Hora 5, Martin 036 52, Slovak Republic; e-mail: kalankova1@uniba.sk
http://doi.org/10.32725/kont.2018.001

Submitted: 2018-04-25 • Accepted: 2018-10-24 • Prepublished online: 2019-01-10
KONTAKT 21/1: 65–73 • EISSN 1804-7122 • ISSN 1212-4117

et al., 2011). Papastavrou et al. (2016) categorized the aims of rationing/missed/unfinished nursing care research into three areas. According to the authors, the first research area concentrated on the clarification of the phenomenon in the context of organizational aspects of health care and the work environment of nurses. The results of the studies in this area (Al-Kandari and Thomas, 2009; Ausserhofer et al., 2014; Hessels et al., 2015; Kalisch et al., 2009a; Schubert et al., 2008) contribute to a systematic mapping of the associated factors, or more precisely, predictors of the phenomenon; such as the work environment, patient-nurse ratio, performing non-nursing interventions, nursing workload, unexpected increase in the number of patients (or an unplanned increase in care demands, material or resources), communication barriers within the team or in the nurse-patient relationship and, last but not least, ineffective delegation of the tasks (Ausserhofer et al., 2014; Jones, 2015; Kalisch et al., 2009a; 2011). According to Jones (2015), the number of nurses along with the work environment characteristics are clearly stronger predictors than the individual characteristics of the nurses (e.g. age, education, length of practice, etc.). Individual factors (antecedents/causes) were incorporated into several conceptual frameworks of rationing/missed/unfinished nursing care: Kalisch's model of missed care (Kalisch et al., 2009a), Lucero's model of process of care and outcomes (Lucero et al., 2009), Hessels' adapted model of missed care (Hessels et al., 2015), Schubert's model of the implicit rationing of nursing care (Schubert et al., 2007) or Bail's conceptual framework of failure to maintain (Bail and Grealish, 2016).

The second area of research (Halvorsen et al., 2008; 2009) focuses on the philosophical and ethical aspects of the implicit rationing of the nursing care phenomenon, especially in relation to the decision-making process of the selection interventions – in particular, the identification of priorities in nursing care.

According to Papastavrou et al. (2016), the third research area focuses on the examination of implicit rationing of nursing care per se, as well as of its implications on the quality of the care and on patient safety (Jones, 2015; Kalisch et al., 2009a; Lucero et al., 2010; Schubert et al., 2008; Sochalski, 2004). Based on the review of research studies in this area, Jones (2015) and Papastavrou et al. (2016) have identified the interventions most frequently missed or withheld in the clinical practice due to insufficient resources (personal, time, material, skill-mix). Results in this area point out a high prevalence of these interventions with considerable variability depending on the tool used (its sensitivity and specificity). According to Jones (2015), the differences in the level and the occurrence frequency of the most frequent undone/unfinished interventions depend on the approach to their measuring. In the systematic reviews (Jones, 2015; Papastavrou et al., 2016), the inconsistency in terminology and the different terms (e.g. *missed nursing care, unfinished care, care left undone, implicit rationing of nursing care*) to describe the phenomenon is denoted, which has a negative effect on its systematic mapping (Papastavrou et al., 2016). In the first quantitative study of rationing/missed/unfinished nursing care published by *International Hospital Outcomes Research Consortium* – IHORC in the USA, the term nursing care left undone was used (Aiken et al., 2001; Jones, 2015).

However, various different terms have consequently appeared in other American and European studies: *missed nursing care* – the USA (Kalisch, 2006), Australia (Henderson et al., 2017); *implicit rationing of nursing care* – Switzerland (Schubert et al., 2007); *task incompletion* – Kuwait (Al-Kandari and Thomas, 2009); *care left undone* – European countries (Ausserhofer et al., 2014), the United Kingdom (Leary et al., 2014); *failure to maintain* – Australia (Bail and Grealish, 2016); *unmet nursing care needs* – the USA (Lucero et al., 2009), and others. We have found various translations of the above-mentioned terms in Slovak and Czech scientific literature, e.g. care rationalization, rationing of care, missed care, unfinished care (Gurková and Jakubcová, 2017; Zeleníková et al., 2017).

The approaches to the conceptualization and further operationalization of rationing/missed/unfinished nursing care are divided into three groups by Jones (2015) – the approach focusing on unfinished interventions, the approach taking into account the implicit rationing of nursing care and the approach addressing missed care. Each of these approaches is characterized by specific conceptual definitions, theoretical frameworks as well as measuring tools. Within the mentioned approaches, several assessment tools have been developed, not only to evaluate the individual aspects of the mentioned nursing care but also to examine the causes leading to the phenomenon (Jones et al., 2015). The measuring tools target the identification of unfinished, undone interventions together with the reasons leading to these phenomena. Aspects of this nursing care may be possibly evaluated either from the point of view of the patient or from the nurses' perspective (Papastavrou et al., 2014). Based on the measurement findings, it is possible to identify and take the necessary precautions to eliminate the occurrence of rationing/missed/unfinished nursing care. The aim of this paper is the analysis of the approaches to the operationalization of the concept of rationing/missed/unfinished nursing care and to provide an overview of the tools used for its measurement.

Materials and methods

This article was processed as an overview study using the method of content analysis of the studies published within the scientific databases PubMed, ScienceDirect, and ProQuest available in the Comenius University Academic Library (where the study was conducted). The search was realized through the stated keywords: missed, unfinished, rationing, care, nursing, measuring tools using the Boolean operators "AND" and "OR". In the initial phase of the search, 189 studies were acquired. The selection was narrowed by using the search criteria: language (English, Slovak), publishing year (2000–2017) and full-texts. The specific time range and the year of the start point were chosen because of the fact that the first qualitative and quantitative studies in this field have been published since that time. Using these criteria 85 studies were found. 25 studies were found in PubMed, 21 in ScienceDirect, and 9 studies in ProQuest. After removing 30 duplicates, 55 studies were obtained and then used when processing the overview study (Fig. 1).

Results

Measuring tools of the phenomenon of rationing/missed/unfinished care

More than 20 measuring tools examining this phenomenon can be found in the literature concerning nursing care. All the realized researches using measuring tools represent one of the three research approaches to the phenomenon of rationing/missed/unfinished care (Jones et al., 2015). The individual re-

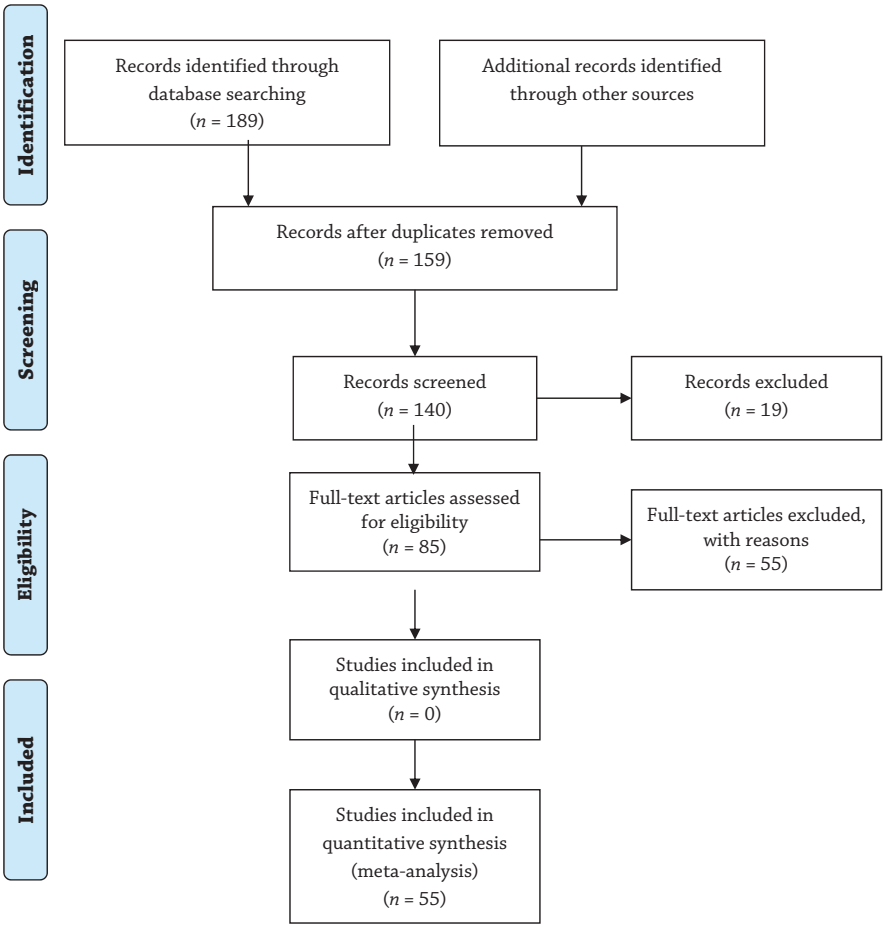

Fig. 1. Flow diagram – PRISMA recommendation

search approaches differ in the utilization of the terms and in the measuring tools and criteria for data collection in relation to time range. As has already been mentioned, Jones (2015) divides the approaches to the phenomenon on the basis of conceptualization and further operationalization of rationing/missed/unfinished care into three categories – the missed care approach developed from the model of Kalisch (2006); the approach of implicit rationing of care developed within the *"Rationing of Nursing care in Switzerland (RICH) Study"* (Schubert et al., 2007), and the approach of unfinished interventions published in *"International Hospital Outcomes Research Consortium (IHORC)"* (Sochalski, 2004). The common feature of the measuring tools of the individual approaches is that these tools ask the nurse to evaluate the care she provided during her previous working shifts, to identify the elements which she was not able to finish (or the tasks she missed most frequently due to lack of time), communication or material resources (Kalisch et al., 2009a; Kalisch and Williams, 2009). Within the unfinished care approach (Halvorsen et al., 2008), the nurses are asked to take their latest shift into account. In implicit rationing of care (Jones, 2014; Schubert et al., 2007) nurses assess their last seven working shifts. In the missed care approach (Kalisch and Williams, 2009) nurses are asked to mark the frequency of missing the individual elements of care. All of the measuring tools are valid and reliable (Jones et al., 2015; Papastavrou et al., 2014). In the following sections, we describe only these, which specifically assess the individual approaches to the phenomenon of rationing/missed/unfinished care (Table 1).

Unfinished care and the Task undone instrument

Unfinished care was identified as a part of the nursing care process constructed between the organizational system structure and the outcomes. It is a common phenomenon in the conditions of acute care facilities (Jones et al., 2015). One of the first tools for measuring unfinished care was the Task undone tool (TU). Its items were developed based on the literature review of the tools focusing on the nurses' perception of quality of the provided care and a qualitative research (data were collected using the method of focus groups). The tool was tested in the USA, and data about the psychometric characteristics are reported in a single study (Lucero et al., 2009). This instrument originated from Lucero's model of the process of care and its outcomes (Lucero et al., 2009) and was used in a well-known international RN4CAST Study (Aiken et al., 2014; 2017; 2018; Ausserhofer et al., 2014). In Sochalski's study (2004) and in the study by Lucero et al. (2009), the tool was used in the context of unfinished activities with the reflection of the quality of the provided nursing care. Several modifications of the instrument were developed and the modifications of the tool recently being used are TU-5, TU-7, TU-9, and TU-13. The number behind each abbreviation represents the number of items in the tool. The tool focuses on the tasks left undone by the nurse during the last working shift. It also includes nursing tasks related mainly to planning, documentation, hygiene care, education, coordination and patient discharge, and emotional support. Compared to other measuring tools it includes the smallest number of items. The items are

Table 1. Measuring tools of the phenomenon of rationing/missed/unfinished care

Instrument	Author, year	Country of origin	Areas of the assessment	Number of items	Evaluation description	Psychometric properties
MISSCARE Survey	Kalisch and Williams (2009)	the USA (Michigan)	3 parts: 1st part (20 items) – demographic data of nurses and data regarding the clinical environment of the nursing practice; part A (24 statements) – elements of missed nursing care (individual needs of the patient; discharge planning and patient education; basic nursing care; regular assessment); part B (17 statements) – reasons for missed nursing care (labor, communication and material resources)	41	part A – the nurse evaluates the aspects of missed nursing care during the past 7 working shifts on Likert scale (0 – not applicable (e.g., on night shift), 1 – never missed, 5 – always missed); part B – the nurse evaluates reasons for occurrence by Likert scale (1 – not reason for missed care, 4 – very significant reason)	(α = 0.93); reliability of test-retest 0.87
Basal Extent of Rationing Nursing Care (BERNCA)	Schubert et al. (2007)	Switzer-land	daily living activities; care - support; rehabilitation, instructions, education; monitoring – safety; documentation	20	the nurse evaluates the frequency of unfinished nursing care activities during the past 7 working shifts on Likert scale (0 – never, 3 – often)	α = 0.93
Perceived Implicit Rationing of Nursing Care (PIRNCA)	Jones (2015)	USA (Texas)	assistance with physical care; implementation of prescribed treatment plan; emotional support and teaching; surveillance/vigilance; coordination of care and discharge planning; documentation	31	the nurse evaluates the frequency of unfinished particular activities (direct. delegated) during the past 7 working shifts on Likert scale (0 – never, 3 – often; response option – not needed)	α = 0.97
The Neonatal Extent of Work Rationing Instrument (NEW-RI)	Rochefort and Clarke (2010)	Canada (Quebec)	life support and technologically-oriented nursing care; parental support, teaching and infant comfort care; patient surveillance; discharge planning	52	the nurse evaluates the frequency of realized tasks; prioritization of tasks and frequency of missed activities during the last 30 days on Likert scale (1 – very rarely, 4 – very often)	α = 0.81–0.93 (4 subscales)
Task undone (TU-5)	Zhu et al. (2012)	China	patient surveillance; preparing patients and families for discharge; skin care; pain management; treatment and procedures	5	response option: YES/NO; the nurse evaluates the last working shift	*not reported*
TU-7	Aiken et al. (2001)	USA (Pennsyl-vania)	patient and family education; preparing patients and families for discharge; comfort/interview with patients; documentation of nursing care; hygiene; development or updating of nursing care planns	7	response option: YES/NO; the nurse evaluates the last working shift	α = 0.73
TU-9	Al-Kandari and Thomas (2009)	Kuwait	patient and family education; preparing patients and families for discharge; comfort/interview with patients; documentation of nursing care; hygiene; treatment and procedures	9	response option: YES/NO; the nurse evaluates the last working shift	*not reported*
TU-13	Ausserhofer et al. (2014)	12 Euro-pean countries	patient surveillance; documentation of nursing care; adequate timing of administration of medications; interview with patients; development or updating of nursing care planns; education of patients and/or family; turning;oral hygiene; pain management; care planning; preparing patients and families to discharge; skin care; treatment and procedures	13	response option: YES/NO; the nurse evaluates the last working shift	*not reported*

dichotomous. The score is calculated as the sum of all items in the tool (Jones et al., 2015).

Missed care and MISSCARE Survey

The missed care approach originates from the Kalisch's conceptual framework of missed care (Kalisch, 2006; Kalisch et al., 2009a). Kalisch (2006) developed her model based on qualitative research. The focus groups method was used when collecting the data (the research sample consisted of 107 registered nurses, 15 licensed practical nurses, and 51 healthcare assistants). The result of the qualitative study was the identification of 9 areas of missed care and 7 areas of the most frequent reasons for missed care. Within the continuity of the findings from the focus groups, she created a model of missed nursing care based on a conceptual analysis, which she identified as the necessary nursing care for a patient that was partially or fully omitted by the nurse even though the patient needed or required this care (Kalisch et al., 2009b). In her conceptual framework, she identified 9 components of missed nursing care and 7 areas of the most common reasons for missed care in acute care settings. Based on the presented conceptual framework, the tool *MISSCARE Survey* (MISSCARE) was developed and tested. The items in this tool are based on the results of qualitative research, conceptual analysis, and pilot testing. The tool comprises 3 parts. The first part contains 20 closed and semi-closed items related to the demographic data of the nurses and to the clinical environment of the nursing practice. The following part – part A, contains 24 items and evaluates how often the listed nursing activities are missed or omitted. The 5-point Likert scale is used and it ranges from "always missed" to "never missed". The third part – part B, contains 17 items. On the 4-point Likert scale ranging from "a very significant reason" to "no reason for missed care", nurses mark the reasons for missed care based on their best belief (Kalisch et al., 2009a).

Implicit rationing of care and the BERNCA, PIRNCA, and NEW-RI instruments

The approach of implicit (hidden) rationing of nursing care originates from Schubert's conceptual framework (Schubert et al., 2007). The implicit rationing of care is defined as the withholding of the necessary nursing activities due to lack of resources (personnel, time, material, and skill-mix). According to Schubert et al. (2008), the implicit rationing of nursing care occurs in the process of providing nursing care, however, as opposed to the explicit (external) rationing it is based on the decision of the nurse (as a reflection of her values, beliefs, team rules etc.). Based on the inducted conceptual framework, the *Basel Extent of Rationing of Nursing Care* (BERNCA) instrument was developed and tested. The areas of assessment in the BERNCA tool include daily living activities, care – support, rehabilitation, instructions, education, monitoring-safety, and documentation. Unlike the tool MISSCARE Survey, the main focus in the BERNCA instrument is placed on the planning and evaluation of the provided nursing care. However, items regarding the treatment, examinations and treatment procedures are missing (Jones et al., 2015). The tool is developed in order for the nurses to evaluate the frequency of unfinished activities of nursing care that should have been provided in the past seven working shifts (Schubert et al., 2007). It contains 20 items which are evaluated on the frequency scale from 0 (never) to 3 (often). Later the score was changed by adding the option "not needed". Individual items of the tool are calculated as the mean score (Schubert et al., 2008; 2009).

The BERNCA is a reliable and valid instrument to measure the implicit rationing of nursing care, developed and tested among German and English speaking nurses who work in European hospitals, but it was not evaluated in the conditions of American practice (Jones et al., 2015). Jones (2014) created and consequently adapted the American version of the BERNCA, called the *Perceived Implicit Rationing of Nursing care Instrument* (PIRNCA). This tool was adapted to be used by American medical-surgical nurses in their work environment, and the psychometric characteristics' evaluation has proven its good validity and reliability (Jones et al., 2015). Jones (2014) added activities originating from specific competencies of nurses in the USA. Compared to the original version of the BERNCA, it contains a wider range of interventions. It contains 31 items which represent the necessary activities focused on nursing assessment, problem identification, care planning, the realization of interventions and the evaluation of the provided care. Among the interventions, she included, e.g., early response to the patient's need or request, documentation assessment by the team providing care, providing basic hygiene care, documentation of all nursing interventions/care, patient education, providing emotional and psychological support, communicating the important information with other members of the team and the nursing care plan evaluation (Jones, 2015). Compared with the original version of the BERNCA, items in the PIRNCA instrument are evaluated on the frequency scale from 1 (never) to 4 (often), with the option "not needed" (0) included. The score is calculated as the mean of all the items.

Another instrument developed in the USA is called *The Neonatal Extent of Work Rationing Instrument* (NEW-RI), which was adapted for use in the work environment of neonatal intensive care units and was translated to English and French languages (Jones et al., 2015). The tool has been used only twice (Rochefort and Clarke, 2010; Rochefort et al., 2016).

Discussion

From the chronological point of view, the first published studies were based on the approach of unfinished interventions using the tools known as Task Undone. Aiken et al. (2001) compared unfinished care in Germany, the United States and Canada using the TU 7 instrument in their well-known study. More than half of the nurses stated that the most frequently unfinished interventions were interviewing the patients, developing or updating nursing care plans (Aiken et al., 2001) and education of patients or family. The same conclusions were later made by Aiken et al. (2013) based on their study in the conditions of 12 European countries, where the lack of time was determined to be the main reason for the incompletion of nursing activities. Sochalski (2004) found a strong relationship between unfinished care and the quality of nursing care and patient safety through this tool. Ausserhoffer et al. (2014) found that unfinished nursing care is widespread in all European countries in the RN4CAST study using the TU-13 tool. The most frequent unfinished nursing activities in different countries using the TU tool have been identified and they comprise the following: interviews with the patients, patient education, development and updating the nursing care plans (Aiken et al., 2001; 2013; Ball et al., 2014; 2016; Lucero et al., 2010), patient safety and patient surveillance (Ausserhofer et al., 2014; Zhu et al., 2012), and the adequate documentation of nursing care (Al-Kandari and Thomas, 2009) due to lack of time during the last shift of nurses (Ball et al., 2014; 2016).

The second quantitative tool is the MISSCARE Survey. The results of the validation study confirmed good psychometric properties of the MISSCARE Survey in the USA (Kalisch and Williams, 2009). Authors tested the instrument on a sample of 459 registered nurses. The study results showed a significant prevalence of missed nursing care in acute care hospitals. The missed patient assessment was found in 44% responses of respondents, while basic nursing care and the related activities were reported in 73%. The most frequently omitted interventions included: ambulation, assessing the efficacy of the medication, turning, oral cavity care, patient education, and the administration of the medication to the patient in time. The least omitted areas included patient assessment and bedside glucose blood control. The most frequent reasons for omitting nursing interventions include staff resources (acute admissions, healthcare workers categorization, etc.), material resources (medication, devices, equipment, etc.), and communication (tension within the team, communication failure in the team, inadequate shift take-over, etc.). Since 2009, the tool has been translated into several languages: English, Turkish, Portuguese, Arabic, Icelandic (Jones et al., 2015) and tested not only in the Anglo-American cultural context (Castner and Dean-Baar, 2014; Friese et al., 2013; Kalisch and Lee, 2012; Kalisch et al., 2009a; 2011; Valles et al., 2016), but also in many European countries – Iceland (Bragadóttir et al., 2014), Italy (Palese et al., 2015), Cyprus (Papastavrou et al., 2016) and in the Arab countries (Rehem et al., 2017), Asia (Cho et al., 2015; Srulovici and Drach-Zahavy, 2017), Australia (Henderson et al., 2017), and New Zealand (Harvey et al., 2015). The tool is intended to be used by nurses but a version for patients was also tested (Kalisch et al., 2014). Through the MISSCARE Survey, the most common aspects of missed care and the causal factors of this phenomenon (Friese et al., 2013) were identified within the acute care. Phelan et al. (2017) also used this survey in their Irish study in community care settings and found that higher levels of missed care (70% prevalence in basic nursing activities) are related to the characteristics of the individual nurse, particularly if work experience is shorter than 5 years, age and unpaid overtime. The most frequent missed intervention occurrences in the studies using MISSCARE Survey were reported to be interventions related to patient mobilization with an emphasis on turning of the patient every two hours, ambulation for three times a day or more (Gurková and Jakubcová, 2017; Srulovici and Drach-Zahavy, 2016; Valles et al., 2016;), oral hygiene (Hernández-Cruz et al., 2017), patient education (Moreno-Monsiváis et al., 2015), emotional support (Kalisch and Lee, 2012; Kalisch et al., 2009a; 2011), mostly from the reason of a shortage of nursing staff and assisting staff (Gurková and Jakubcová, 2017; Henderson et al., 2017; Kalisch et al., 2009a; Phelan et al., 2017). The tool's pilot testing was performed in the Slovak Republic by the authors Gurková and Jakubcová (2017) on a research sample consisting of 92 nurses from 4 hospitals in the eastern region of Slovakia. The authors confirmed the good internal consistency of both the tool's subscales; part A and part B (Cronbach alpha ranged from 0.95–0.97). Due to the low number of respondents in the study, we can only consider the results to be indicative, with low validity and range of generalization, requiring further testing on a larger representative sample.

The third most widely and commonly used tool is the BERNCA, used in the Swiss study *Rationing of Nursing Care in Switzerland* (RICH) (Schubert et al., 2008) and in the modification of TU-13 in the well-known international RN4CAST study (Aiken et al., 2014; 2017; 2018; Ausserhofer et al., 2014). The BERNCA was originally tested in acute care settings, but later it was revised and adapted for use in nursing homes (Zúñiga et al., 2015). It has been translated into several languages (French, Greek, and English) and tested in European countries, especially in Switzerland (Dhaini et al., 2017; Schubert et al., 2008; 2009; Zúñiga et al., 2015). According to the study of Jones (2015) conducted in the US, the results of studies suggest that implicit rationing of nursing care is a common phenomenon in conditions of hospital care and occurs in all its aspects, e.g., physiological and psychological needs, nursing documentation and others. VanFosson et al. (2017) compared unfinished care in the Burn Progressive Care Unit (BPCU) and the Burn Intensive Care Unit (BICU) in the United States using the PIRNCA instrument. In the Czech Republic, this tool was tested in a pilot study on a sample of 100 nurses from two medical facilities. The following activities have been identified by the nurses as the most frequent unfinished activities: timely response to the request of the patient/family, supervision of the delegated activities, the evaluation and revision of the care plan, providing emotional and psychological support to the patient, monitoring of the emotional status and the patient's behavior, as well as controlling the medical documentation. In addition to the unfinished activities, the nurses stated the reasons for unfinished care: the inadequate number of staff, inadequate numbers of the assistive staff, unexpected patient admissions and discharges, and unexpected deterioration of the patients' health condition (Zeleníková et al., 2017). Rochefort and Clarke (2010) first used the NEW-RI tool to identify the nursing activities mostly rationed due to lack of time: activities related to discharge planning, parental support and teaching, and comfort care of the patients. In a newer study, Rochefort et al. (2016) confirmed the previous results and added a new finding: more than half of the nurses are dissatisfied with pain relief management. We can conclude that the following activities were identified among the most frequently rationing nursing activities: the education of patients and families (Jones, 2015; Srulovici and Drach-Zahavy, 2017), emotional support (Ausserhofer et al., 2014; Jones, 2015; VanFosson et al., 2017; Zeleníková et al., 2017; Zúñiga et al., 2015), the adequate documentation of the provided nursing care (Ausserhofer et al., 2014; VanFosson et al., 2017; Zeleníková et al., 2017; Zúñiga et al., 2015) and developing of the nursing care plans (Ausserhofer et al., 2014; Zeleníková et al., 2017; Zúñiga et al., 2015) due to lack of staff (Zeleníková et al., 2017) or emotional exhaustion of the nurses (Dhaini et al., 2017).

The conclusion from the above mentioned results is that the differences in the individual approaches caused a considerable variability of research results aimed at monitoring the level of prevalence of this phenomenon. For example, the dominating interventions in the missed care approach (based on Kalisch's conceptual framework) are the interventions to support patient mobility, whereas interventions on patient health status monitoring (Jones, 2015) dominated in the implicit rationing of care approach (based on Schubert's framework). The approach of unfinished care (based on Lucero's model) was dominated by interventions assessed regarding the quality of nursing care. Based on the results of the previously conducted studies a conclusion can be drawn that the above-mentioned phenomenon is most relevant to independent nursing activities, including communication with the patient, emotional support of the patient, education of the patient and a family, documentation of the provided nursing care, development or updating of nursing care plans, discharge planning, and basic activities such as turning, ambulation with the patient, feeding, and hygiene care (Ausserhofer et al., 2014; Ball et al., 2014; 2016; Dhaini et al., 2017; Jones, 2014; Rochefort and

Clarke, 2010). Similar results are achieved using all the mentioned evaluation tools, as has been confirmed by the pilot studies carried out in the conditions of the Slovak and the Czech Republic. Based on the analysis of the sources, we can state that the main reason for this phenomenon is the lack of nursing staff and the associated time shortage for the performing of specific nursing activities (Hernández-Cruz et al., 2017; Hessels et al., 2015; Kalisch et al., 2009a; Rochefort et al., 2016). The correlation between the occurrence of the phenomenon in nursing care units and the patient outcomes, with an emphasis on increased mortality (Schubert et al., 2012), the formation of pressure ulcers (Castner and Dean-Baar, 2014) and an increased incidence of nosocomial infections (Lucero et al., 2009) was clearly confirmed. The studies have also shown a link between the phenomenon and patient satisfaction, but also with the job satisfaction of the nurses (Papastavrou et al., 2014; Zúñiga et al., 2015).

Conclusions

Rationing/missed/unfinished nursing care represents a three-dimensional phenomenon incorporating *the problem* (lack of time and resources); *the process* (clinical decision-making of nurses to prioritize and ration the care) and *the result* (unfinished care, errors of omission, failure to maintain). The aim of the overview study was to point out the phenomenon of rationing/missed/unfinished care in relation to the use of the selected measuring tools. Inconsistency in the conceptualization was manifested in different approaches to the operationalization of the concept, and consequently in the variability of research findings focused on the monitoring of its level, particularly its prevalence.

In our overview, we analyzed three approaches and the tools which originated from these approaches to measure rationing/missed/unfinished care – the MISSCARE Survey, the BERNCA/PIRNCA and the Task Undone instruments. Each of these tools differs in the extent of the activities monitored, time period (last shift versus last 7 shifts or a non-specified period), scoring and evaluating (when evaluating dichotomous items, response rates versus sum score). The approach focused on missed care using the measuring tool MISSCARE Survey (studies originated from Kalisch's conceptual framework) was dominated by the interventions focusing on patient mobility support, basic nursing care, emotional support of the patient and education.

The communication and interpersonal relationships, material and personnel workplace maintenance were determined as the most common reasons for missed care in several countries. On the contrary, in the approach focused on implicit rationing of care (studies originating from Schubert's conceptual framework) the interventions related to the monitoring of health status of the patients were dominant. Moreover, 6 indicators related to the implicit rationing of nursing care were identified. At the same time, the concept of prioritization of nursing activities and the process of clinical decision-making of nurses dominates here. The most frequent reason for the phenomenon of implicit rationing of nursing care is, according to several foreign authors, the time shortage to carry out individual nursing activities. The approach of unfinished activities (studies originating from Lucero's model) is connected with the quality of the provided nursing care in a number of studies and was used in the RN4CAST study. The most frequent unfinished nursing activities were identified in the scope of this approach, e.g. interviewing the patient, education or planning of the nursing care, mainly because of time shortage – whereby these findings also correspond with the results of studies using tools for measuring and evaluating the implicit rationing of care.

To conclude, we would recommend addressing the issues of rationing/missed/unfinished care from the point of view of conducting studies using measuring tools specific for the given phenomenon in the Slovak Republic (where the similar research is still in its early stages). We emphasize the need to pay attention to the work environment of nurses and to determine precautions which can eliminate the occurrence of this now much-discussed phenomenon.

Conflict of interests
The authors declare that they are not aware of any conflict of interests regarding the presented contribution.

Acknowledgements
The contribution was supported by the project COST OC-2015-2-20085 Rationing Missed Nursing Care: An international and multidimensional problem.

Využitie hodnotiacich nástrojov v posúdení fenoménu prideľovanej/chýbajúcej/nedokončenej starostlivosti

Súhrn
Úvod: Fenomén prideľovanej/chýbajúcej/nedokončenej starostlivosti je aktuálnym predmetom zahraničných výskumov v ošetrovateľstve. Jeho kvantifikáciu je možné dosiahnuť len prostredníctvom špecifických hodnotiacich nástrojov. S ich využitím je možné identifikovať nielen ošetrovateľské aktivity, ktoré sestry nerealizujú počas svojej služby, ale aj dôvody, ktoré vedú k vzniku tohto fenoménu.
Cieľ: Cieľom nášho príspevku je analýza prístupov k operacionalizácii konceptu prideľovanej/chýbajúcej/nedokončenej ošetrovateľskej starostlivosti a vytvorenie prehľadu nástrojov k jeho meraniu.
Metódy: Pre jeho spracovanie bola využitá metóda obsahovej analýzy odborných štúdií publikovaných vo vedeckých databázach PubMed, ScienceDirect a ProQuest.
Výsledky: V príspevku sme analyzovali tri prístupy a hodnotiace nástroje, ktoré boli vyvinuté k hodnoteniu fenoménu – MISSCARE Survey, BERNCA/PIRNCA a TU nástroje. Identifikovali sme rozdiely v rozsahu sledovaných činností, časového rozmedzia, skórovaní a vyhodnocovaní.
Záver: Dospeli sme k záveru, že fenomén sa najviac týka nezávislých ošetrovateľských aktivít a najčastejším dôvodom jeho vzniku je nedostatok ošetrujúceho personálu. Na základe analýzy konštatujeme, že fenomén významnou mierou ovplyvňuje nielen

spokojnosť pacientov, ale aj pracovnú spokojnosť sestier a významne sa odráža v kvalite poskytovanej starostlivosti. Vyzdvihujeme potrebu venovať sa spomínanému fenoménu s využitím špecifických hodnotiacich nástrojov aj v podmienkach Slovenskej republiky.

Kľúčové slová: hodnotiace nástroje; chýbajúca; nedokončená; ošetrovateľský; prideľovaná; starostlivosť

References

1. Aiken LH, Clarke SP, Sloane DM, Sochalski JA, Busse R, Clarke H, et al. (2001). Nurses' reports on hospital care in five countries. Health Aff (Millwood) 20(3): 43–53. DOI: 10.1377/hlthaff.20.3.43.
2. Aiken LH, Sloane DM, Ball J, Bruyneel L, Rafferty AM, Griffiths P (2018). Patient satisfaction with hospital care and nurses in England: an observational study. BMJ Open 11(8): e019189. DOI: 10.1136/bmjopen-2017-019189.
3. Aiken LH, Sloane DM, Bruyneel L, Van den Heede K, Griffiths P, Busse R, et al. (2014). Nurse staffing and education and hospital mortality in nine European countries: a retrospective observational study. Lancet 383(9931): 1824–1830. DOI: 10.1016/S0140-6736(13)62631-8.
4. Aiken LH, Sloane DM, Bruyneel L, Van den Heede K, Sermeus W (2013). Nurses' reports of working conditions and hospital quality of care in 12 countries in Europe. Int J Nurs Stud 50(2): 143–153. DOI: 10.1016/j.ijnurstu.2012.11.009.
5. Aiken LH, Sloane DM, Griffiths P, Rafferty AM, Bruyneel L, McHugh M, et al. (2017). Nursing skill mix in European hospitals: cross-sectional study of the association with mortality, patient ratings, and quality of care. BMJ Qual Saf 26(7): 559–568. DOI: 10.1136/bmjqs-2016-005567.
6. Al-Kandari F, Thomas D (2009). Factors contributing to nursing task incompletion as perceived by nurses working in Kuwait general hospitals. J Clin Nurs 18(24): 3430–3440. DOI: 10.1111/j.1365-2702.2009.02795.x.
7. Ausserhofer D, Zander B, Busse R, Schubert M, DeGeest S, Rafferty AM, et al. (2014). Prevalence, patterns and predictors of nursing care left undone in European hospitals: results from the multicountry cross-sectional RN4CAST study. BMJ Qual Saf 23(2): 126–135. DOI: 10.1136/bmjqs-2013-002318.
8. Bail K, Grealish L (2016). 'Failure to Maintain': A theoretical proposition for a new quality indicator of nurse care rationing for complex older people in hospital. Int J Nurs Stud 63: 146–161. DOI: 10.1016/j.ijnurstu.2016.08.001.
9. Ball JE, Griffiths P, Rafferty AM, Lindqvist R, Murrells T, Tishelman C (2016). A cross-sectional study of 'care left undone' on nursing shifts in hospitals. J. Adv Nurs 72(9): 2086–2097. DOI: 10.1111/jan.12976.
10. Ball JE, Murrells T, Rafferty AM, Morrow E, Griffiths P (2014). 'Care left undone' during nursing shifts: Associations with workload and perceived quality of care. BMJ Qual Saf 23(2): 116–125. DOI: 10.1136/bmjqs-2012-001767.
11. Bragadóttir H, Kalisch BK, Smáradóttir SB, Jónsdóttir HH (2014). Translation and psychometric testing of the Icelandic version of the MISSCARE Survey. Scand J Caring Sci 29(3): 563–572. DOI: 10.1111/scs.12150.
12. Castner J, Dean-Baar S (2014). Measuring nursing error: psychometrics of MISSCARE and practice and professional issues items. J Nurs Meas 22(3): 421–437. DOI: 10.1891/1061-3749.22.3.421.
13. Cho E, Sloane DM, Kim EY, Kim S, Choi M, Yoo, IY, et al. (2015). Effects of nurse staffing, work environments, and education on patient mortality: An observational study. Int J Nurs Stud 52(2): 535–542. DOI: 10.1016/j.ijnurstu.2014.08.006.
14. Dhaini SR, Zúñiga F, Ausserhofer D, Simon M, Kunz R, De Geest S, Shwendimann R (2017). Are nursing home care workers' health and presenteeism associated with implicit rationing of care? A cross-sectional multi-site study. Geriatr Nurs 38(1): 33–38. DOI: 10.1016/j.gerinurse.2016.07.003.
15. Friese CR, Kalisch BJ, Lee KH (2013). Patterns and correlates of missed nursing care in inpatient oncology units. Cancer Nurs 36(6): 51–57. DOI: 10.1097/NCC.0b013e318275f552.
16. Gurková E, Jakubcová V (2017). Nedokončená ošetrovateľská starostlivosť – výsledky pilotného výskumu na Slovensku. In: Zborník abstraktov: Quo vadis zdravotníctvo III. Fakulta zdravotnických odborov, Prešovská univerzita v Prešove, pp. 26–27.
17. Halvorsen K, Førde R, Nortvedt P (2008). Professional Challenges of Bedside Rationing in Intensive Care. Nurs Ethics 15(6): 715–728. DOI: 10.1177/0969733008095383.
18. Halvorsen K, Førde R, Nortvedt P (2009). The principle of justice in patient priorities in the intensive care unit: the role of significant others. J Med Ethics 35(8): 483–487. DOI: 10.1136/jme.2008.028183.
19. Harvey C, Buckley C, Forrest R, Roberts J, Searle J, Meyer A, et al. (2015). Aberrant Work Environments, Rationed Care as System Failure or Missed Care as Skills Failure? GSTF Journal of Nursing and Health Care 2(1): 72–80. DOI: 10.5176/2345-718X_2.1.66.
20. Henderson J, Willis E, Xia L, Blackman I (2017). Missed care in residential aged care in Australia: An exploratory study. Collegian 24(5):411–416. DOI: 10.1016/j.colegn.2016.09.001.
21. Hernández-Cruz R, Moreno-Monsiváis MG, Cheverria-Rivera S, Díaz-Oviedo A (2017). Factors influencing the missed nursing care in patients from a private hospital. Rev Lat Am Enfermagem 25: e2877. DOI: 10.1590/1518-8345.1227.2877.
22. Hessels AJ, Flynn L, Cimiotti JP, Cadmus E, Gershon RRM (2015). The impact of the nursing practice environment on missed nursing care. Clin Nurs Stud 3(4): 60–65. DOI: 10.5430/cns.v3n4p60.
23. 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.
24. Jones TL (2015). A descriptive analysis of implicit rationing of nursing care: Frequency and patterns in Texas. Nurs Econ 33(3): 144–154.
25. Jones TL, Hamilton P, Murry N (2015). Unfinished nursing care, missed care, and implicitly rationed care: State of the science review. Int J Nurs Stud 52(6): 1121–1137. DOI: 10.1016/j.ijnurstu.2015.02.012.
26. Kalisch BJ (2006). Missed nursing care: A qualitative study. J Nurs Care Qual 21(4): 306–313.
27. Kalisch BJ, Landstrom GL, Hinshaw AS (2009b). Missed nursing care: a concept analysis. J Adv Nurs 65: 1509–1517. DOI: 10.1111/j.1365-2648.2009.05027.x.
28. Kalisch BJ, Landstrom G, Williams RA (2009a). Missed nursing care: errors of omission. Nurs Outlook 57(1): 3–9. DOI: 10.1016/j.outlook.2008.05.007.
29. Kalisch BJ, Lee KH (2012). Missed nursing care: Magnet versus non-Magnet hospitals. Nurs Outlook 60(5): E32–E39. DOI: 10.1016/j.outlook.2012.04.006.
30. Kalisch BJ, Tschannen D, Lee KH, Friese CR (2011). Hospital variation in missed nursing care. Am J Med Qual 26(4): 291–299. DOI: 10.1177/1062860610395929.
31. Kalisch BJ, Williams RA (2009). Development and psychometric testing of a tool to measure missed nursing care. J Nurs Admin 39(5): 211–219. DOI: 10.1097/NNA.0b013e3181a23cf5.
32. Kalisch BJ, Xie, B, Dabney BW (2014). Patient-reported missed nursing care correlated with adverse events. Am J Med Qual 29(5): 415–422. DOI: 10.1177/1062860613501715.
33. Leary A, White J, Yarnell L (2014). The work left undone. Understanding the challenge of providing holistic lung cancer

nursing care in the UK. Eur J Oncol Nurs 18(1): 23–28. DOI: 10.1016/j.ejon.2013.10.002.
34. Lucero RJ, Lake ET, Aiken LH (2009). Variations in nursing care quality across hospitals. J Adv Nurs 65(11): 2299–2310. DOI: 10.1111/j.1365-2702.2010.03250.x.
35. Lucero RJ, Lake ET, Aiken LH (2010). Nursing care quality and adverse events in US hospitals. J Clin Nurs 19(15–16): 2185–2195. DOI: 10.1111/j.1365-2702.2010.03250.x.
36. Moreno-Monsiváis MG, Moreno-Rodríguez C, Interial-Guzmán MG (2015). Missed Nursing Care in Hospitalized Patients. Aquichan 15(3): 318–328. DOI: 10.5294/aqui.2015.15.3.2.
37. Palese A, Ambrosi E, Prosperi L, Guarnier A, Barelli P, Zambiasi P, et al. (2015). Missed nursing care and predicting factors in the Italian medical care setting. Intern Emerg Med 10(6): 693–702. DOI: 10.1007/s11739-015-1232-6.
38. Papastavrou E, Andreou P, Efstathiou G (2014). Rationing of nursing care and nurse patient outcomes: a systematic review of quantitative studies. Int J Health Plann Manage 29(1): 3–25. DOI: 10.1002/hpm.2160.
39. Papastavrou E, Andreou P, Vryonides S (2014). The hidden ethical element of nursing care rationing. Nurs Ethics 21(5): 583–593. DOI: 10.1177/0969733013513210.
40. Papastavrou E, Charalambous A, Vryonides S, Eleftheriou C, Merkouris A (2016). To what extent are patients' needs met on oncology units? The phenomenon of care rationing. Eur J Oncol Nurs 21: 48–56. DOI: 10.1177/0969733016664979.
41. Phelan A, McCarthy S, Adams E (2017). Examining missed care in community nursing: A cross section survey design. J Adv Nurs 74(3): 1–11. DOI: 10.1111/jan.13466.
42. Rehem M, Elhamid MA, Elsalam YAE (2017). Missed Nursing Care: Observation versus Perception in Selected Medical Intensive Care Units, Egypt. Int J Health Wellness Soc 7(1): 31–47
43. Rochefort CM, Clarke SP (2010). Nurses' work environments, care rationing, job outcomes, and quality of care on neonatal units. J Adv Nurs 66(10): 2213–2224. DOI: 10.1111/j.1365-2648.2010.05376.x.
44. Rochefort CM, Rathwell BA, Clarke SP (2016). Rationing of nursing care interventions and its association with nurse-reported outcomes in the neonatal intensive care unit: a cross-sectional survey. BMC Nurs 15(46). DOI: 10.1186/s12912-016-0169-z.
45. Schubert M, Clarke SP, Aiken LH, De Geest S (2012). Associations between rationing of nursing care and inpatient mortality in Swiss hospitals. Int J Qual Health Care 24(3): 230–238. DOI: 10.1093/intqhc/mzs009.
46. Schubert M, Clarke SP, Glass TR, Schaffert-Witvliet B, De Geest S (2009). Identifying thresholds for relationships between impacts of rationing of nursing care and nurse- and patient-reported outcomes in Swiss hospitals: a correlational study. Int J Nurs Stud 46(7): 884–893. DOI: 10.1016/j.ijnurstu.2008.10.008.
47. Schubert M, Glass TR, Clarke SP, Aiken LH, Schaffert-Witvliet B, Sloane DM, De Geest S (2008). Rationing of nursing care and its relationship to patient outcomes: the Swiss extension of the International Hospital Outcomes Study. Int J Qual Health Care 20(4): 227–237. DOI: 10.1093/intqhc/mzn017.
48. Schubert M, Glass TR, Clarke SP, Schaffert-Witvliet B, DeGeest 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.
49. Sochalski J (2004). Is more better? The relationship between nurse staffing and the quality of nursing care in hospitals. Med Care 42(Suppl. 2): 67–73. DOI: 10.1097/01.mlr.0000109127.76128.aa.
50. Srulovici E, Drach-Zahavy A (2017). Nurses' personal and ward accountability and missed nursing care: A cross-sectional study. Int J Nurs Stud 16(75): 163–171. DOI: 10.1016/j.ijnurstu.2017.08.003.
51. Valles JH, Moreno-Monsiváis MG, Interial-Guzmán MG, Arreola LV (2016). Nursing care missed in patients at risk of or having pressure ulcers. Rev Lat Am Enfermagem 24: e2817. DOI: 10.1590/1518-8345.1462.2817.
52. VanFosson CA, Yoder LH, Jones TL (2017). Monthly Variation of Unfinished Nursing Care at the US Army Burn Center. Ph.D. The University of Texas at Austin. DOI: 10.1016/j.burns.2018.03.008.
53. Zeleníková R, Gurková E, Jarošová D (2017). Prideľovaná-chýbajúca starostlivosť: konceptuálne a metodologické aspekty. In: Zborník abstraktov: Quo vadis zdravotníctvo III. Fakulta zdravotnických odborov, Prešovská univerzita v Prešove, pp. 56–57.
54. Zhu XW, You LM, Zheng J, Liu K, Fang JB, Hou SX, Zhang LF (2012). Nurse staffing levels make a difference on patient outcomes: A multisite study in Chinese hospitals. J Nurs Scholarship 44(3): 266–273. DOI: 10.1111/j.1547-5069.2012.01454.x.
55. Zúñiga F, Ausserhofer D, Hamers JP, Engberg S, Simon M, Schwendimann R (2015). The relationship of staffing and work environment with implicit rationing of nursing care in Swiss nursing homes – A cross-sectional study. Int J Nurs Stud 52(9): 1463–1474. DOI: 10.1016/j.ijnurstu.2015.05.005.