UNFINISHED NURSING CARE AS INDICATOR OF ADVERSE EVENTS IN HOSPITALIZED PATIENTS

Marcela Babická *, Zuzana Slezáková

Slovak Medical University in Bratislava, Faculty of Nursing and Professional Health Studies, Bratislava, Slovak Republic

Abstract

Introduction: The collective term 'unfinished care' refers to the factor of impact on the safety of health care. Nurses prioritise certain activities, leaving others unfinished. The risk of patient harm increases.

Goal: Identify the relationships between unfinished nursing actions and adverse events.

Design: A descriptive cross-sectional study.

Methods: The research sample was formed by 251 nurses from the clinics of the University Hospital in Prague. The PIRNCA self-assessment instrument was used. Data collection and processing took place in 2022.

Results: Significant differences were found in all areas of assistance in terms of the incidence of adverse events. Significant differences existed for walking ($p = 0.005$), mobilisation and positioning ($p = 0.003$), and defecation ($p = 0.001$). Decubitus (63.3%) and falls (53.4%) were the most frequent outcomes.

Conclusion: Unfinished care increases the occurrence of adverse events in hospitalized patients. These findings are consistent with the results of studies conducted to date. Effective interventions are found in the area of resource management and increasing the relevant professional awareness of general nurses.

Keywords: *Adverse event; Patient assistance; Rationed nursing care; Unfinished care; Unfinished nursing work*

Abbreviations:
BERNCA – Basel Extent of Rationing of Nursing Care; IBM – International Business Machines Corporation; MISSCARE – Missed Care; PIRNCA – Perceived Implicit Rationing of Nursing Care; SPSS – Statistical Package for the Social Sciences Statistics

ORIGINAL ARTICLE

INTRODUCTION

The terms unfinished care (Jones et al., 2015), missing care (Kalánková et al., 2019a), omitted care (Gustafsson et al., 2020), missed care (Zeleníková et al., 2020) or rationed care (Jarošová and Marková, 2023; Mandal et al., 2020) refer to planned nursing care that was partially or completely omitted, left unfinished, or delayed. In principle, it tends to be per-ceived and explained as a nurse shortage problem and their related lack of time. The focus of acute care hospitals on the efficiency of diagnostic and therapeutic processes imposes on nurses a preference for performing activities in the nature of filling physician's orders. These are generally predictable, relatively easy to perform tasks that should lead to rapid discharge or transfer of the patient. They take precedence over activities related to main-

taining and developing mobility, communication, hygiene, hydration, and nutrition. Initially, unfinished care was examined as a consequence of resource imbalances on the one hand and increasing demands on clinical nursing on the other. Hospitals have become technology hubs and demands on nurses' flexibility and performance are high. The likelihood of patient harm due to an adverse event increases relatively (Witczak et al., 2021).

A study by Aiken et al. (2001), conducted in 1998–1999, involved 43,000 nurses from more than 700 hospitals in the United States, Canada, the United Kingdom, Scotland, and Germany. The study found universal shortages of nurses, high levels of job dissatisfaction, and uneven quality of hospital care. Here, we encounter the concept of nursing care left undone or incompleted care; literally care that has been left unfinished, or a task undone. Incidentally, there are several conceptual frameworks used to describe unfinished care from different aspects, namely the aforementioned task undone, missing care, implicitly rationed care, and care failure (Kalánková et al., 2019b). The term missed care originally referred to the most commonly unfinished nursing activities: hygiene care, positioning, feeding, ambulation assistance, education, discharge planning, emotional support, admission and discharge documentation, and patient supervision (Kalisch, 2006; Kalisch et al, 2009) Nursing activities in the area of patient support, which are directly related to adverse events that harm hospitalized patients, occupy an important place here. The negative impact of unfinished care on patient outcomes is common to all conceptual frameworks (Kalánková et al., 2020).

The aim of the study was to provide an overview of the relationship between unfinished care and the incidence of adverse events in hospitalized patients, and to determine which unfinished nursing activities most significantly increase their risk of harm.

MATERIALS AND METHODS

Research file
The research population consisted of 251 nurses from clinical departments of the Prague University Hospital, which have more than 2,000 beds. Criteria for the selection of nurses: performance of direct nursing care for patients of internal medicine and surgery clinics for adults and children and anaesthesiology, resuscitation, and intensive care clinics.

Data collection
Implicit rationing of nursing care was measured by the PIRNCA self-report questionnaire, designed for research in clinical departments of internal medicine and surgery (Jones, 2014). The type of ward or characteristics of the nurses' work environment are significant predictors of the incidence of unfinished care (Jarošová et al., 2021). The author of the original version and the authors of the Czech version of the questionnaire, Jarošová and Zeleníková (2019), granted the authors of the study permission to use the questionnaire.

The questionnaire contains 31 nursing activities representing individual items. Nurses indicated the frequency of their non-performance in the last seven work shifts using a Likert scale: 'not needed', 'never', 'rarely', 'sometimes,' and 'often'. Demographic data were clinical site affiliation, highest level of nursing education attained, job position, and length of professional experience. The adverse event categories monitored were according to the Taxonomic-Definitional Dictionary for the Adverse Event Reporting System (Pokorná et al, 2023): decubitus, falls, personal behaviour, accidents and unexpected injuries, technical problem, clinical performance, unexpected deterioration of health status, medical devices/equipment, medication/*i.v.* solutions, documentation, clinical administration, diet/nutrition, resources/management, transfusion/blood derivatives, and medical gases. The communication platform of professional relevance is the National Portal Adverse Event Reporting System (Pokorná et al., 2016).

The University Hospital granted consent to conduct the research using the PIRNCA questionnaire and content analysis of nursing records. Completion of the questionnaire was by way of informed consent. Data collection took place between August and October 2022, and statistical processing between October and November 2022.

Data analysis
IBM SPSS software was used for statistical calculations. Firstly, the data in terms of the

relationship between incomplete care and adverse events were procceed. The normality of the data was first verified. Because all samples were from a non-normal distribution (*p*-values of the Shapiro–Wilk test less than the significance level α = 5%), the non-parametric two-sample Mann–Whitney test was applied. All *p*-values were less than the α = 5% significance level.

The chi-square test of independence in the contingency table was chosen to test the relationship between incomplete care and medication adverse events. To test the relationship between the incidences of incomplete activities and adverse events, Spearman's correlation coefficient was used because the Shapiro–Wilk test revealed that the data did not have a normal distribution.

RESULTS

251 respondents took part in the survey. Most of them provided nursing care to inpatients in the internal medicine department of the adult part of the hospital (31.1%). Nurses with a secondary education level were the most represented in the research sample (43.8%). Respondents most often worked as a registered nurse or diploma nurse (41.8%). Most nurses had 20 to 30 years of experience in the field (29.9%). A detailed description of the demographic variables using absolute and relative frequencies is presented in Table 1.

Table 2 describes how often situations of incompletion of nursing care occurred. Nurses were asked if and how often they were unable to complete a task or ensure completion of a task during the last seven work shifts – as per the monthly service plans for August, September, and October 2022. The most common situations where incompletion of care needed to be addressed were when infection prevention procedures were followed (92%), physiological function monitoring (90.4%), and the record of nursing care provided (90%). Conversely, the most common situations in which incompletion of care did not need to be addressed were talking with an outside agency about the patient's care (66.1%), talking with another member of the multidisciplinary team about the patient's care (39.4%), and talking with the patient or family member about discharge needs or instructions (36.7%). Table 2 provides a basic overview of how often situations predictive of incompletion of care occur.

Table 1 – Basic characteristics of the research population

		n	%
Affiliation to the clinical department	Internal clinics – adult section	78	31.1%
	Surgical clinics – adult section	66	26.3%
	Department of Anaesthesiology, Resuscitation, and Intensive Care Medicine	43	17.1%
	Internal clinics – children's section	36	14.3%
	Surgical clinics – children's section	28	11.2%
	Total	251	100.0%
Highest education attained in the field of Nursing	Secondary	110	43.8%
	Higher professional	57	22.7%
	University – bachelor's degree	54	21.5%
	University – master's degree	28	11.2%
	Higher education – doctoral	2	0.8%
	Total	251	100.0%
Job role	Nurse	105	41.8%
	Nurse with specialisation	99	39.4%
	Nurse in a management position	47	18.7%
	Total	251	100.0%
Length of experience in nursing	Up to 1 year	10	4.0%
	From 1 to 5 years	32	12.7%
	5 to 10 years	25	10.0%
	10 to 20 years	48	19.1%
	20 to 30 years	75	29.9%
	More than 30 years	61	24.3%
	Total	251	100.0%

Table 2 – The need to address unfinished nursing care

During the last seven work shifts, how often have you been unable to complete a task or ensure its completion?	There was no need	There was a need	Ranking
1 – routine hygiene care	48 (19.1%)	203 (80.9%)	18
2 – routine skin care	47 (18.7%)	204 (81.3%)	17
3 – change soiled bed linen	36 (14.3%)	215 (85.7%)	9
4 – assisting a patient with required ambulation	53 (21.1%)	198 (78.9%)	21
5 – mobilize or change the position of patient	51 (20.3%)	200 (79.7%)	19
6 – assistance with bowel or bladder elimination	39 (15.5%)	212 (84.5%)	12
7 – assistance with the intake of food or fluids	38 (15.1%)	213 (84.9%)	10
8 – implement measures to promote physical comfort	34 (13.5%)	217 (86.5%)	8
9 – administer medications	29 (11.6%)	222 (88.4%)	4
10 – administer enteral or parenteral nutrition	58 (23.1%)	193 (76.9%)	24
11 – provide wound care	42 (16.7%)	209 (83.3%)	16
12 – change intravenous access sites, tubing, and/or dressings	39 (15.5%)	212 (84.5%)	12
13 – adherence to safe patient handling procedures	63 (25.1%)	188 (74.9%)	25
14 – adhere to infection control guidelines	20 (8.0%)	231 (92.0%)	1
15 – patient and family teaching	32 (12.7%)	219 (87.3%)	6
16 – prepare patients for treatments, tests, or procedures	29 (11.6%)	222 (88.4%)	4
17 – provide emotional or psychological support to the patient/family	40 (15.9%)	211 (84.1%)	15
18 – monitoring the patient's physiological functions	24 (9.6%)	227 (90.4%)	2
19 – monitoring the patient's emotional state and behaviour	52 (20.7%)	199 (79.3%)	20
20 – monitoring the patient's physical safety	54 (21.5%)	197 (78.5%)	22
21 – follow-up on patients status changes, unanswered requests for patient intervention	65 (25.9%)	186 (74.1%)	27
22 – timely response to patient/family request (less than 5 minutes)	33 (13.1%)	218 (86.9%)	7
23 – important conversation with another member of the multidisciplinary team	99 (39.4%)	152 (60.6%)	30
24 – important conversation with an external agency	166 (66.1%)	85 (33.9%)	31
25 – important conversation with the patient or family member about dismiss	92 (36.7%)	159 (63.3%)	29
26 – supervision of delegated activities	57 (22.7%)	194 (77.3%)	23
27 – review multidisciplinary patient documentation	39 (15.5%)	212 (84.5%)	12
28 – document the initiation or revision of a patient's plan	69 (27.5%)	182 (72.5%)	28
29 – record of patient assessment and monitoring activities	38 (15.1%)	213 (84.9%)	10
30 – record of nursing care provided	25 (10.0%)	226 (90.0%)	3
31 – evaluation of the care plan to determine the effectiveness of interventions, and revision of the plan	64 (25.5%)	187 (74.5%)	26

Table 3 is a summary of the most frequently incomplete activities, on a Likert scale of "frequently", with an average occurrence of 1.2–2.2 these were:
- not keeping the patient waiting more than 5 minutes after requesting help (12.4%);
- providing emotional or psychological support to the patient or their family (4.3%);
- supervising delegated activities (6.2%);
- monitoring the patient's emotional state and behaviour (4.5%);
- assistance with ambulation (6.1%).

The following were identified as the least frequently incomplete activities, on a Likert scale of "never", with a mean incidence of 1.2–1.3:
- administration of medications according to physician's orders and safe procedures (83.3%);
- administration of enteral or parenteral nutrition (81.9%);
- wound care according to physician's orders (78.5%);

- adherence to infection prevention procedures and monitoring of physiological functions (79.7%);
- change intravenous acces sites, tubing, and/or dressing (75.9%).

Table 3 provides a descriptive statistical overview. The most significant values can be seen for item 22 – not keeping the patient or family member waiting for longer than 5 minutes after requesting help. Nurses kept the patient waiting 'often' in 27 cases (12.4%), and 'sometimes' in 39 cases (17.9%). Item 17 – providing emotional and psychological support to the patient and his/her family also reached significant values. In 43 cases (20.4%), this nursing activity was sometimes or often left undone. It is interesting to note that sometimes, in 21 cases (10.8%), or often, in 12 cases (6.2%), supervision of the performance of delegated activities was missing – item 26.

Table 3 – Frequencies of incomplete nursing activities

During the last seven shifts, how often have you been unable to complete a task or ensure completion?	1 – Never	2 – Rarely	3 – Sometimes	4 – Often	Total	Average incidence	Order of occurrence
1 – routine hygiene care	131 (64.5%)	55 (27.1%)	13 (6.4%)	4 (2.0%)	203 (100%)	1.5	17
2 – routine skin care	142 (69.6%)	42 (20.6%)	16 (7.8%)	4 (2.0%)	204 (100%)	1.4	19
3 – change soiled bed linen	142 (66.0%)	41 (19.1%)	28 (13.0%)	4 (1.9%)	215 (100%)	1.5	12
4 – assisting a patient with required ambulation	114 (57.6%)	46 (23.2%)	26 (13.1%)	12 (6.1%)	198 (100%)	1.7	5
5 – mobilizing or changing the position of a patient	124 (62.0%)	48 (24.0%)	24 (12.0%)	4 (2.0%)	200 (100%)	1.5	11
6 – assistance with bowel or bladder elimination	145 (68.4%)	54 (25.5%)	13 (6.1%)	0 (0.0%)	212 (100%)	1.4	22
7 – assistance with the intake of food or fluids	154 (72.3%)	46 (21.6%)	12 (5.6%)	1 (0.5%)	213 (100%)	1.3	24
8 – implement measures to promote physical comfort	154 (71.0%)	50 (23.0%)	11 (5.1%)	2 (0.9%)	217 (100%)	1.4	23
9 – administer medications	185 (83.3%)	29 (13.1%)	6 (2.7%)	2 (0.9%)	222 (100%)	1.2	31
10 – administer enteral or parenteral nutrition	158 (81.9%)	29 (15.0%)	6 (3.1%)	0 (0.0%)	193 (100%)	1.2	30
11 – provide wound care	164 (78.5%)	39 (18.7%)	6 (2.9%)	0 (0.0%)	209 (100%)	1.2	29

During the last 7 shifts, how often have you been unable to complete a task or ensure completion?	1 – Never	2 – Rarely	3 – Sometimes	4 – Often	Total	Average inci-dence	Order of occur-rence
12 – change intravenous access sites, tubing, and/or dressings	161 (75.9%)	40 (18.9%)	9 (4.2%)	2 (0.9%)	212 (100%)	1.3	25
13 – adherence to safe patient handling procedures	108 (57.4%)	53 (28.2%)	15 (8.0%)	12 (6.4%)	188 (100%)	1.6	8
14 – adhere to infection control guidelines	184 (79.7%)	36 (15.6%)	9 (3.9%)	2 (0.9%)	231 (100%)	1.3	28
15 – patient and family teaching	112 (51.1%)	79 (36.1%)	24 (11.0%)	4 (1.8%)	219 (100%)	1.6	7
16 – prepare patients for treatments, tests, or procedures	168 (75.7%)	46 (20.7%)	8 (3.6%)	0 (0.0%)	222 (100%)	1.3	26
17 – provide emotional or psychological support to the patient/family	84 (39.8%)	84 (39.8%)	34 (16.1%)	9 (4.3%)	211 (100%)	1.8	2
18 – monitoring the patient's physiological functions	181 (79.7%)	33 (14.5%)	11 (4.8%)	2 (0.9%)	227 (100%)	1.3	27
19 – monitoring the patient's emotional state and behaviour	100 (50.3%)	67 (33.7%)	23 (11.6%)	9 (4.5%)	199 (100%)	1.7	4
20 – monitoring the patient's physical safety	126 (64.0%)	54 (27.4%)	15 (7.6%)	2 (1.0%)	197 (100%)	1.5	18
21 – follow-up on patients status changes, unanswered requests for patient intervention	114 (61.3%)	55 (29.6%)	15 (8.1%)	2 (1.1%)	186 (100%)	1.5	13
22 – timely response to patient/family request (less than 5 minutes)	58 (26.6%)	94 (43.1%)	39 (17.9%)	27 (12.4%)	218 (100%)	2.2	1
23 – important conversation with another member of the multidisciplinary team	85 (55.9%)	45 (29.6%)	18 (11.8%)	4 (2.6%)	152 (100%)	1.6	9
24 – important conversation with an external agency	57 (67.1%)	21 (24.7%)	7 (8.2%)	0 (0.0%)	85 (100%)	1.4	21
25 – important conversation with the patient or family member about dismiss	102 (64.2%)	42 (26.4%)	13 (8.2%)	2 (1.3%)	159 (100%)	1.5	15
26 – supervision of delegated activities	97 (50.0%)	64 (33.0%)	21 (10.8%)	12 (6.2%)	194 (100%)	1.7	3
27 – review multidisciplinary patient documentation	109 (51.4%)	70 (33.0%)	26 (12.3%)	7 (3.3%)	212 (100%)	1.7	6
28 – document the initiation or revision of a patient's plan	127 (69.8%)	38 (20.9%)	14 (7.7%)	3 (1.6%)	182 (100%)	1.4	20
29 – record of patient assessment and monitoring activities	137 (64.3%)	56 (26.3%)	18 (8.5%)	2 (0.9%)	213 (100%)	1.5	16
30 – record of nursing care provided	147 (65.0%)	57 (25.2%)	16 (7.1%)	6 (2.7%)	226 (100%)	1.5	14
31 – evaluation of the care plan to determine the effectiveness of interventions, and revision of the plan	109 (58.3%)	52 (27.8%)	20 (10.7%)	6 (3.2%)	187 (100%)	1.6	10

The relationship between the recorded incomplete nursing activities in the area of patient assistance (assistance with ambulation, mobilisation or positioning of a patient with limited mobility and assistance with a patient with required ambulation) and the number of recorded adverse events is the relationship between the alternative variable (incomplete nursing activity yes/no) and the numeric variable (number of adverse events) Table 4 is a central summary of the results of the research conducted. It correlates the incidence of adverse events and incomplete nursing care from the patient care domain. It is these results that we consider to be the most important findings of the study conducted.

Table 4 – Number of adverse events by uncompleted patient care activities (N = 251)

Number of adverse events		Assisting a patient with required ambulation		Mobilizing or changing the position of patient		Assisting with bowel or bladder elimination	
		No	**Yes**	**No**	**Yes**	**No**	**Yes**
Count		53	198	51	200	39	212
Average		2.0	2.7	2.0	2.7	1.7	2.7
Median		1.0	2.0	1.0	2.0	1,0	2.0
Minimum		1.0	1.0	1.0	1.0	1.0	1.0
Maximum		8.0	15.0	14.0	15.0	7,0	15.0
Standard deviation		1.7	2.5	2.2	2.4	1.3	2.4
Shapiro–Wilk test	Test criterion	0.642	0.660	0.528	0.684	0.589	0.675
	P-value	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*
Mann–Whitney test	Test criterion	4093.500		3891.500		2844.500	
	P-value	0.005**		0.003**		0.001**	
Note: * data come from a non-normal distribution, ** in the case of incomplete care there is a statistically higher number of adverse events at the α = 5% significance level.							

Table 5 provides data on the incidence of adverse events by category. Respondents could report more than one adverse event and therefore the sum of their relative frequencies does not add up to 100%. Decubitus is the most frequently reported adverse event, occurring in 63.3% of the cases observed, followed by falls (53.4%), and demeamour (42.2%). Decubitus is the most common adverse events. Incomplete nursing care from the patient care area indicates the occurrence of decubitus more frequently than the occurrence of adverse events in the other categories. Falls are the second most common adverse event occurring in relation to incomplete patient-assistance care. The other categories follow at intervals in terms of frequency. Dependence could not be tested using a specific statistical method; descriptive statistics were applied. Our results confirm that uncompleted care represents a potential risk of harm to patients from the most common adverse events for which prevention very often fails.

The incidence of adverse events belonging to the category Medication/*i.v.* solutions is not statistically significantly related to the incomplete care "Administration of medication according to physician's orders and in accordance with safe medication practices". Because the medication process is one of the main processes taking place in clinical care, there are well-defined operational procedures to support its safety. Chi-square test of independence in contingency table was chosen as the test. Table 6 confirms the relationship between the incidence of adverse events and the number of incomplete nursing actions, as the Spearman correlation coefficient is 0.135 (*p*-value 0.033). Thus the relationship is weak but statistically significant. Since the value of the coefficient is positive, it is a positive linear relationship. That is, as the number of incomplete nursing activities increases, the number of adverse events increases.

Table 5 – Incidence of adverse events by category

Adverse event	*n*	%
Decubitus	159	63.3%
Fall	134	53.4%
Behaviour of persons	106	42.2%
Accidents and unexpected injuries	44	17.5%
Technical problem	36	14.3%
Unexpected deterioration	30	12.0%
Medication/*i.v.* solutions	29	11.6%
Transfusions/blood derivatives	21	8.4%
Documentation	17	6.8%
Diet/nutrition	16	6.4%
Clinical performance	12	4.8%
Medical devices/equipment	11	4.4%
Resources/management	7	2.8%
Medical gases	7	2.8%
Clinical administration	5	2.0%

Table 6 – Adverse event Medication/*i.v.* solutions by uncompleted care – Administration of medication according to physician's orders and in accordance with safe medication practices

During the last seven work shifts, has there been a time when you were unable to administer medication (including intravenous therapy) as prescribed by a physician and in accordance with safe medication practices?	Medication/*i.v.* solutions		Total
	No	**Yes**	
No	25 (86.2%)	4 (13.8%)	29 (100%)
Yes	197 (88.7%)	25 (11.3%)	222 (100%)
Total	222 (88.4%)	29 (11.6%)	251 (100%)

DISCUSSION

Our finding that incomplete nursing care significantly correlates with the incidence of adverse events (such as decubitus and falls in particular), expands the knowledge and understanding of an issue that has been addressed by the scientific community for decades (Aiken et al., 2001; Schubert et al., 2008). Consistent with the results of previous studies (Kalisch et al, 2009; Schubert et al., 2008) that have identified a relationship between lack of nursing care and increased risk of adverse events, our evidence confirms that incomplete patient assistance activities are a main factor in escalating the risk of harm to patients through healthcare. In particular, the significant difference in the incidence of decubitus and falls revealed in our study contributes to the growing body of evidence on the critical importance of adequate nursing care for the prevention of adverse events (Gustafsson et al., 2020; Jones et al., 2015).

Our study also highlights the need to further investigate the mechanisms by which unfinished care contributes to different types of adverse events, in the context of increasing demands on health professionals and simultaneously limited resources (Kalánková et al., 2019a; Zeleníková et al., 2020). This aspect is particularly relevant in the context of current discussions on optimal nurse-to-patient ratios

and the need to implement systemic changes to improve the quality of nursing care (Aiken et al., 2001; Jarošová and Marková, 2023).

Given these findings, it is clear that addressing the issue of unfinished care requires a comprehensive approach, involving not only an increase in staff capacity, but also improvements in work processes, education, and professional support for nurses. Future research should explore effective strategies to minimise unfinished care and its negative impact on patients, which should include innovative work organisation, technological solutions, and increased awareness among healthcare professionals of the importance of this issue (Neugebauer et al., 2021; Plevová et al., 2021).

In the case of the first Czech pilot study on unfinished care (Jarošová and Zeleníková, 2019), the PIRNCA self-assessment instrument was used (as in our case). The scope, types, and reasons for unfinished care in clinical settings of Czech hospitals were the subject of the research. The first pilot study in our country, using the MISSCARE questionnaire, investigated the amount, types, and reasons for missed care and the psychometric properties of its Czech and Slovak versions (Zeleníková et al., 2019). These two studies are of critical importance in terms of their contribution to the field of investigating unfinished nursing care and the application of specific research tools in our settings. A cross-sectional descriptive study (Zeleníková et al., 2020) conducted through the PIRNCA questionnaire in four Central European countries showed that 97.8% of Czech nurses and 95.2% of Slovak nurses leave at least one nursing activity unfinished. Our respondents reported that they had never failed to complete the administration of medications according to the physician's order in 185 (83.3%) cases, adherence to infection prevention procedures in 184 (79.7%) cases, and monitoring of physiological functions according to the physician's order in 181 (79.7%) cases. As can be seen, in all cases of nursing activities there are incompletions.

Czech and Slovak scientific authorities (Gurková et al., 2021; Jarošová and Zeleníková, 2019; Kalánková et al., 2019a, b, c; Zeleníková et al., 2019) have been intensively dealing with unfinished care for a long time. Like our study, one of the most recent studies (Jarošová and Marková, 2023) has identified a timely response to the patient request, emotional and psychological patient support, and patient education as the most frequently assigned activities. Correspondingly, wound care, changing intravenous access sites, tubing, and/or dressings and administration of medications including infusion therapy, and administration of enteral and parenteral nutrition were assigned least frequently.

There are studies examining the relationship between unfinished care and adverse events, and these usually reveal specific interdependence relationships. The BERNCA questionnaire has been constructed to measure the extent of rationed care (Schubert et al., 2007). Implicitly rationed care is reported to be directly related to falls, decubitus, critical events, nosocomial infections, and medication errors (Schubert et al, 2008). These results correlate with some of our findings, namely that incomplete patient care activities increase the incidence of the most common adverse events, such as decubitus falls and falls. The conceptual framework of care failure specifically considers the vulnerable group of geriatric frail patients with higher levels of care needs and increased risk of complications due to implicit attribution (Bail and Grealish, 2016). Unfinished care and adverse events such as decubitus and nosocomial infections are in a relationship of imminent dependence.

The most frequently cited factor influencing the incidence of unfinished care was the low number of nurses per shift and the associated number of patients per nurse, suggesting that nurses consistently face time shortages. Studies have consistently claimed that rationed, incomplete, missed, or omitted care has a negative impact on patients as well as nurses. Some recommendations were to increase the number of nurses, and improve teamwork and work organization, including setting up systemic and preventive measures (Plevová et al., 2020). Another paper (Neugebauer et al., 2021) includes 17 studies from four databases searched between 2015 and 2020. It was found that there is always a human factor at work in the occurrence of medication errors, the influence of which is often amplified by the system setup. Errors are most often of the nature of incorrect documentation of the medication process, incorrect medication administration technique,

and patient confusion. Nurse overload, high number of critically ill patients, distractions during preparation or administration of medication, lack of an adverse event system, non-compliance, and fear were identified as the most common influencing factors. A study in the area of the impact of unfinished care on patient outcomes (Kalánková et al., 2020) provided evidence of a strong negative relationship. Outcomes range from mildly severe, such as patient satisfaction levels, to highly potentially or realistically severe, such as medication error or severe patient harm due to an adverse event. Our study yielded the finding that medication adverse events occur in both incomplete and fully delivered care.

Our study did not look at the differences in adverse event rates by type of clinical site. However, it has been statistically shown that decubitus falls, falls without injury, and falls with injury occur more in surgical than in internal medicine departments (Jarošová et al., 2022). The prevalence of missing care is also related to the job roles of nurses, the number of shifts worked, the perceived adequacy of shift staffing, and the level of workload of nurses (Kalisch et al., 2011).

CONCLUSION

A study showed that incomplete care predicts the incidence of adverse events in hospitalized patients. Using Spearman's correlation coefficient, it was shown that there was a statistically significant relationship between the incidence of adverse events and the number of incompleted nursing activities. Most adverse events occur when immobile patients are not sufficiently assisted with emptying, positioning, or receiving assistance with getting out of bed and walking. In particular, we see that the risk of decubital lesions and falls increases in these patients. Based on our extensive experience in clinical nursing, we confirm that the results of the study are entirely consistent with the daily reality of delivering nursing care. The extreme demands placed on nurses during work shifts create circumstances of non-completion of care and, depending on these, often situations where the occurrence of an adverse event is averted at the last moment or an adverse event occurs, the effect of which in many cases is to harm the patient. Here, these are often medication-related adverse events.

Given the complexity of the issue, solutions are systemic and long-term in nature and require innovative approaches. The key is to implement knowledge of unfinished care and its risks into the professional awareness of the healthcare community. However, this is of course a very general conclusion. Andragogical approaches, such as adult and continuing education for nurses who practise their profession, are certainly of practical relevance. Paradoxically, the concept of unfinished care is almost unknown to contemporary nurses. The issue of unfinished care is relatively new and nurses have not encountered it in their nursing studies. Nurses with a high level of education are entering management positions in hospitals. In this respect, undergraduate, postgraduate, and master's degree programmes should satisfy the learning needs of students so that they enter practice with a very good relevant professional knowledge.

Ethical aspects and conflict of interest
The authors have no conflict of interest to declare.

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🖃 **Contact:**

Marcela Babická, Slovak Medical University in Bratislava, Faculty of Nursing and Professional Health Studies, Limbová 2651/12 831 01 Bratislava, Slovak Republic
Email: marcelaxbabicka@gmail.com