Medycyna Pracy. Workers' Health and Safety 2023;74(6):461–468
http://medpr.imp.lodz.pl/en
https://doi.org/10.13075/mp.5893.01364
ORIGINAL PAPER

SATISFACTION WITH NURSING CARE OF HOSPITALIZED PATIENTS: A DESCRIPTIVE, CROSS-SECTIONAL, MULTICENTER STUDY

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Abstract

Background: In the assessment of healthcare processes focusing on the quality of care provided, patient satisfaction is an important indicator that healthcare providers may use for future setting of healthcare and preventing adverse events. The study aimed to determine satisfaction with nursing care among hospital inpatients. **Material and Methods:** The sample comprised 14 023 patients staying in medical and surgical wards of 14 acute care hospitals in the Czech Republic in 2019–2020. Data were collected using the *Patient Satisfaction Scale*, a standardized tool containing 11 items in 3 subscales. Data analysis included descriptive statistics and correlation analysis (Spearman's rank correlation coefficient). **Results:** Overall, patients reported high satisfaction with nursing care (M = 3.57). Patients were most satisfied with how their technical/rational needs were met (M = 3.57); the least satisfaction was identified in the domain of information needs (M = 3.53). Patients who perceived their health as good (47%) or very good (18%) showed high satisfaction scores (M = 3.77 and M = 3.73, respectively). High scores were also achieved for patients with secondary (M = 3.58) and tertiary (M = 3.59) education, those whose admission was planned (M = 3.59) and those staying in large hospitals (M = 3.60). There were no differences in satisfaction with regard to gender (p = 0.755) and the COVID-19 pandemic (p = 0.190). **Conclusions:** Patients' satisfaction with care provided is a highly significant parameter of healthcare quality. It is influenced by a number of aspects which, if adequately defined, may aid in improving the quality of care. Med Pr Work Health Saf. 2023;74(6):461–8.

Key words: nursing care, patient, hospitalization, satisfaction, quality, multicenter study

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Received: March 11, 2023, accepted: November 3, 2023

INTRODUCTION

In the assessment of healthcare processes focusing on the quality of care provided, patient satisfaction is an important indicator for healthcare providers [1–3], as it is related to better treatment outcomes and health-related behaviors [2].

Moreover, improving patient satisfaction, through compliance between patients and healthcare professionals, reduces the likelihood of malpractice or adverse events [3]. There has been increasing interest in how patients perceive healthcare and how their opinions may aid in setting health policy [2]. Patient satisfaction in an essential component of the comprehensive system of healthcare quality [4]. A number of factors including ward type, communication, courtesy towards patients or environment have been shown to predict patient satisfaction with the quality of care provided [2]. Effective communication with patients has been evidenced to positively affect their self-care in the context of their illness. They feel less frustrated and fewer misunderstandings occur in the treatment planning process, contributing to adequate satisfaction of their needs [5]. With growing healthcare costs and increasing competition among healthcare providers, policy makers realize that patient satisfaction should be addressed [2].

In 2020, the Ministry of Health of the Czech Republic launched a project called National Patient Satisfaction Assessment aimed to standardize the way healthcare providers fulfill their obligations defined by Act No. 372/2011

Funding: this study was supported by the Ministry of Health of the Czech Republic (grant No. NV18-09-00420).

Collection (Coll.), on Healthcare Services [6]. The objective of the standard is to monitor and assess patient satisfaction with healthcare and conditions under which it is provided [7]. Suhonen et al. [2] point to the fact that many of the existing satisfaction assessment tools lack conceptual rigor and methodological investment and that the quality of such tools in terms of validity and reliability are of key importance. An example of a high-quality instrument for assessing patient satisfaction with nursing care is the *Patient Satisfaction Scale* (PSS) [2].

MATERIAL AND METHODS

Objectives

The study aimed to determine satisfaction with nursing care among patients staying in internal medicine and surgery departments of acute care hospitals.

Study design

A descriptive, cross-sectional, multicenter study.

Participants and data collection

The sample comprised 14 023 adult patients staying in internal medicine (N = 8199, 58.47%) and surgical (N = 5824, 41.53%) department of 14 selected acute care hospitals in the Czech Republic. The inclusion criteria were as follows: patients aged 18 years or older and a hospital stay of 48 h or longer at the time of data collection. Over a period of 12 months, a total of 21 409 questionnaires were distributed in the selected healthcare facilities (N = 14), of which 14 023 were returned, a response rate of 65.5%.

The hospitals approached for data collection were selected in such a manner that each region of the Czech Republic was represented by at least 1 hospital and that all basic types of public hospitals were included, that is teaching/university hospitals and regional hospitals. Out of 14 Czech regions, only 1 was not represented.

Patient satisfaction with care provided was assessed with the standardized PSS [8]. In the PSS, patient satisfaction is conceptualized to include satisfaction with respect to accessibility, ability and the conduciveness of nursing care in meeting the patient's technical/rational care needs (PSS 1: items 3, 5 and 6), information needs (PSS 2: items 4, 7, 9, 10 and 11) and interaction/support needs (PSS 3: items 1, 2 and 8). The answer format of the 11-item PSS is a Likert-type scale ranging from 1 (very dissatisfied) to 4 (very satisfied), with higher scores meaning more satisfied patients [9].

Due to limited entry to healthcare facilities during the COVID-19 pandemic, data were collected over 2 time periods: September 2019–March 2020, June–October 2020. Trained nurses approached all patients staying in the wards included in the survey. Those who agreed to participate received printed questionnaires. Even though in some questionnaires, not all items were completed, the data were statistically analyzed.

Statistics

The obtained data were used to calculate the mean scores for all 11 items (PSS), factors (PSS 1–3) and the mean score for the entire questionnaire (PSS all). Data were analyzed with the Stata 14.0 software. The analysis included descriptive statistics (frequencies, means and standard deviations). Spearman's rank correlation coefficient was used to assess the relationship between 2 variables and the Kruskal-Wallis equality-of-populations rank test was used for testing whether samples originated from the same population; the statistical significance level was set at 5%.

RESULTS

The patients' age was M±SD 58.07±17.11 years. They were mostly equally distributed in terms of gender and urgency of hospital admission (acute/planned). Patients with secondary education were the largest subgroup (N = 7694, 56.48%). The length of in internal medicine and surgery departments was M±SD 10.10±21.94 days. As many as 10 289 patients (74.97%) had been previously hospitalized. Most patients (64.67%) had a positive perception of their health (Table 1).

Patients were most satisfied with nurses' approach to them and the ways they treated them (M = 3.67), with nurses' competency (M = 3.66) and with the amount of care provided (M = 3.60). By contrast, they were least satisfied with the ways nurses prepared their families for their hospital discharge (M = 3.48), with information provided by nurses (M = 3.52), with care choices offered (M = 3.54) and with the ways nurses prepared them for hospital discharge (M = 3.54) (Table 2).

Overall, patients were satisfied with all domains of nursing care (M = 3.57). The least satisfaction was identified in the domain of information needs (M = 3.53). Patients were most satisfied with how their technical/rational needs were met (M = 3.57), that is with nurses' competency and approach to them (Table 2).

The means for individual items, PSS subscales and the entire questionnaire were statistically significant with

Table 1. Sociodemographic characteristics of the sample (14 acute care hospitals in the Czech Republic, September 2019 – March 2020 and June–October 2020)

Variable	Participants [n (%)]	M±SD
Age (N = 13 639)		58.07±17.11
Gender (N = 13 817)		
male	6909 (50)	
female	6908 (50)	
Highest education level attained (N = 13 621)		
primary	2572 (19)	
secondary	7694 (56)	
vocational tertiary	1557 (11)	
tertiary	1798 (13)	
Previous hospital stay (N = 13 725)		
yes	10 289 (75)	
no	3059 (22)	
do not remember	377 (3)	
Reason for current admission (N = 13 743)		
planned	7480 (54)	
acute	6263 (46)	
Ward (N = 14 023)		
medical	8199 (58)	
surgical	5824 (42)	
Subjectively perceived health (N = 13 595)		
very good	2463 (18)	
good	6329 (47)	
satisfactory	3980 (29)	
poor	727 (5)	
very poor	96 (1)	
Total days in hospital (N = 13 310)		10.10±21.94

All submitted questionnaires were processed, despite the fact that the age of the patients was not filled in.

regard to demographic data (Table 3), the only exceptions being gender and time of data collection (before/after the COVID-19 pandemic). Patients with secondary, vocational tertiary and tertiary education showed more satisfaction for all items than those with primary education ($p < 0.001$). As for information needs and interaction/support needs, respondents with no previous hospital stays were more satisfied ($p = 0.001$ and $p = 0.002$, respectively). Higher levels of satisfaction were identified in patients with planned admission as compared to acutely hospitalized patients, with regard to both the overall PSS score ($p < 0.001$) and all 3 subscales ($p < 0.001$). Patients staying in large hospitals ($p < 0.001$) and medical wards ($p < 0.001$) showed more satisfaction for all items.

There was no statistically significant difference in patient satisfaction before and after the COVID-19 pandemic.

Spearman's rank correlation coefficient was used to assess relationships between selected demographic factors (age, length of stay, subjectively perceived health) and patient satisfaction with nursing care (Table 3). There were weak, albeit statistically significantly correlations (negative correlations) between PSS parameters and length of stay. It means that the more time patients spent in the hospital, the lower their satisfaction was. For all items, statistically significant correlations (negative correlations) between PSS parameters and perceived health were observed; thus, the more patients perceived problems with their health, the less satisfied they were.

DISCUSSION

For healthcare providers, monitoring of patient satisfaction is one of obligatory standards of the internal system of the quality and safety of care provided. It is an important national-level indicator [10,11]. Over the last few decades, however, patient satisfaction has become a basic outcome measure in healthcare quality assessment with respect to global political issues (World Health Organization, Organisation for Economic Cooperation and Development, etc.). Therefore, emphasis is placed on conducting both national and international studies on patient satisfaction [12].

Different approaches to patient satisfaction measurements and assessments in various countries stem from, for example, economic factors, health policy, the healthcare system structure, or different healthcare providers [13–16]. Making use of the PSS, a high-quality international assessment tool for measuring satisfaction of patients with nursing care with verified psychometric parameters, validity, reliability and usability [17], allows comparison of results. The instrument was also used by Palese et al. [18] who reported more dissatisfaction among patients staying in large healthcare facilities, a finding inconsistent with both the present study and other surveys in the Czech Republic [17,19].

The present study showed that patient satisfaction is mainly correlated with nurses' approach to and ways of treating patients and their competency, as well as with the level of care provided; it is influenced by both patients' sociodemographic factors – in the present study

Table 2. Patient satisfaction with nursing care *Patient Satisfaction Scale* items and subscales (14 selected acute care hospitals in the Czech Republic, September 2019 – March 2020 and June–October 2020)

Parameter	*Patient Satisfaction Scale*	
	M	SD
Total	3.57	0.50
Subscale		
PSS1	3.63	0.51
PSS2	3.53	0.52
PSS3	3.57	0.53
Item		
1. Quality of care in the hospital	3.57	0.58
2. Amount of care provided	3.60	0.57
3. Nurses' competency	3.66	0.55
4. Information provided by nurses	3.52	0.60
5. Nurses' approach to and ways of treating patients	3.67	0.55
6. Time nurses spent with patients	3.57	0.58
7. Ways nurses explained various things	3.55	0.58
8. Care choices offered	3.54	0.58
9. Ways nurses prepared patients for their hospital stay	3.56	0.58
10. Ways nurses prepared patients for their hospital discharge	3.54	0.58
11. Ways nurses prepared patients' families for their hospital discharge	3.48	0.59

PSS1 – technical/rational care needs, PSS2 – information needs, PSS3 – interaction/support needs.

mainly represented by their education, subjectively perceived health, previous hospital stay, reason for admission, hospital and ward type – and the length of stay.

The level of patient satisfaction influences prestige of the facility, which in turn has economic impacts on the facility. However, it is often based on subjective aspects such as experience confronted by expectations [11,20]. In terms of non-objective criteria, patients usually assess the quality of nursing care based on how their needs are met throughout their illness, the level of nurses' professional sensitivity and attentiveness to their needs, nurses' behavior and activity, their neat physical appearance and polite speech. Patients in the hospital are very sensitive to the environment, nurses' behavior, the way they are provided with therapeutic and nursing interventions as well as with continuous information, their involvement in care, cooperation with both patients and their next of kin [21,22].

Important factors influencing satisfaction are sociodemographic characteristics with varied impacts on resulting data. Some studies [13,23] reported a weak-to-moderate negative correlation with a change in symptoms, without a statistically significant difference in satisfaction between genders. Similarly, no difference between males and females was found in the present study. By contrast, others [18,24] stated that the risk of dissatisfaction was higher in female patients.

Higher levels of satisfaction were also noted in patients whose admission had been planned, as compared with those admitted for acute conditions; this is consistent with findings by Jarošová et al. [17]. In a study by Javadekar et al. [13], higher levels of satisfaction were reported by younger individuals, those admitted to surgery departments wards and patients staying in the hospital for a longer time. Similarly, Jarošová et al. [17] reported that prolonged hospitalization was associated with more satisfaction. In the present study, the length of stay also impacted patient satisfaction; however, the longer they stayed in the hospital, the less satisfied they were. In a study by Diwan et al. [25], patients staying in the hospital for a longer time were less likely to be satisfied and less likely to recommend the hospital.

Similar to Jarošová et al. [17], the present study showed that patients' education influenced their overall satisfaction with care provided, with patients with tertiary and vocational tertiary education being more satisfied that those with primary and secondary education.

Present findings are consistent with those from other studies [4,17,26,27], in that important negative aspects in the process of providing care include nurses discussing the patient as though they were not present during the conversation and other parameters directly associated with care and, to a lesser extent, with care provision processes [4]. The authors claim that one of the strongest factors directly impacting upon satisfaction of hospitalized patients is satisfaction with healthcare professionals, namely patients' confidence in them.

Also the present study showed that patients were least satisfied with the ways nurses prepared their families for their hospital discharge and with information provided by nurses. Similar findings were reported by Jarošová et al. [17]. In their study, participants were least satisfied with the ways nurses prepared them for their hospital stay and the ways nurses prepared them and their families for their hospital discharge.

Patients' dissatisfaction may originate from a shortage of nursing and auxiliary staff or inadequate communication, that is negative factors in patients satisfaction assessment [4,28,29]. Attention should be paid to better communication between healthcare professionals

Table 3. Patient satisfaction with nursing care by sociodemographic characteristics (14 selected acute care hospitals in the Czech Republic, September 2019 – March 2020 and June–October 2020)

Variable	Patients [n (%)]	*Patient Satisfaction Scale*											
		all			PSS1			PSS2			PSS3		
		Me	M±SD	p	Me	M±SD	p	Me	M±SD	p	Me	M±SD	p
Gender[a]				0.755			0.365			0.611			0.670
male	6906 (50)	3.73	3.57±0.51		4.00	3.58±0.52		3.60	3.49±0.53		3.67	3.53 (0.54)	
female	6908 (50)	3.73	3.57±0.49		4.00	3.65±0.52		3.60	3.55±0.51		3.67	3.54 (0.52)	
Education[a]				<0.001			<0.001			<0.001			<0.001
primary	2572 (19)	3.64	3.52±0.53		4.00	3.58±0.55		3.60	3.49±0.55		3.67	3.52 (0.56)	
secondary	7694 (54)	3.73	3.58±0.49		4.00	3.65±0.50		3.80	3.55±0.51		4.00	3.58 (0.52)	
vocational tertiary and tertiary	3356 (27)	3.73	3.59±0.50		4.00	3.65±0.51		3.60	3.54±0.53		4.00	3.59 (0.53)	
Previous hospital stay[a]				0.002			0.008			0.001			0.002
yes	10 289 (75)	3.73	3.57±0.49		4.00	3.64±0.50		3.60	3.53±0.52		3.67	3.57 (0.52)	
no	3059 (22)	3.73	3.58±0.51		4.00	3.65±0.52		3.80	3.55±0.53		4.00	3.58 (0.54)	
do not remember	377 (3)	3.55	3.49±0.53		3.67	3.56±0.54		3.40	3.46±0.55		3.67	3.49 (0.56)	
Reason for current admission[a]				<0.001			<0.001			<0.001			<0.001
planned	7480 (54)	3.82	3.59±0.50		4.00	3.66±0.50		3.80	3.56±0.50		4.00	3.59 (0.50)	
acute	6263 (46)	3.64	3.55±0.50		4.00	3.61±0.50		3.60	3.51±0.50		3.67	3.55 (0.50)	
Ward[a]				<0.001			<0.001			<0.001			<0.001
medical	8199 (58)	3.82	3.60±0.50		4.00	3.66±0.51		3.80	3.56±0.53		4.00	3.60 (0.53)	
surgical	5824 (42)	3.64	3.53±0.49		4.00	3.60±0.51		3.60	3.50±0.51		3.67	3.53 (0.53)	
Subjectively perceived health[a]				<0.001			<0.001			<0.001			<0.001
very good	2463 (18)	4.00	3.73±0.50		4.00	3.77±0.50		4.00	3.71±0.50		4.00	3.74 (0.50)	
good	6329 (47)	3.73	3.58±0.50		4.00	3.65±0.50		3.60	3.54±0.50		3.67	3.58 (0.50)	
satisfactory	3980 (29)	3.55	3.49±0.50		3.67	3.56±0.50		3.40	3.44±0.50		3.67	3.49 (0.50)	
poor	727 (5)	3.36	3.40±0.50		3.67	3.47±0.50		3.20	3.36±0.50		3.33	3.39 (0.50)	
very poor	96 (1)	3.68	3.49±0.60		4.00	3.55±0.60		3.60	3.44±0.70		3.67	3.51 (0.50)	
COVID-19 pandemic[a]				0.190			0.602			0.148			0.271
September 2019 – March 2020	8757 (62)	3.73	3.57±0.50		4.00	3.63±0.51		3.60	3.53±0.53		3.67	3.57 (0.53)	
June–October 2020	5266 (38)	3.73	3.58±0.49		4.00	3.64±0.50		3.60	3.54±0.51		4.00	3.58 (0.52)	
Hospital size[a]				<0.001			<0.001			<0.001			<0.001
large (>600 beds)	4504 (32)	3.82	3.60±0.52		4.00	3.66±0.53		3.80	3.57±0.54		4.00	3.61 (0.55)	
small (<300 beds)	9519 (68)	3.64	3.55±0.49		4.00	3.62±0.50		3.60	3.52±0.51		3.67	3.55 (0.55)	

Table 3. Patient satisfaction with nursing care by sociodemographic characteristics (14 selected acute care hospitals in the Czech Republic, September 2019 – March 2020 and June–October 2020) – cont.

Variable	Patients [n (%)]	*Patient Satisfaction Scale*											
		all			PSS1			PSS2			PSS3		
		Me	M±SD	p	Me	M±SD	p	Me	M±SD	p	Me	M±SD	p
Age[b]	13 639			–0.0096			–0.0287**			–0.0068			–0.0137
Length of stay[b]	13 310			–0.0688**			–0.0672**			–0.0658**			–0.0683**
Subjectively perceived health[b]	13 595			–0.2236**			–0.1945**			–0.2210**			–0.2081**

PSS1 – technical/rational care needs, PSS2 – information needs, PSS3 –interaction/support needs.
** Statistically significant negative correlation.
[a] Kruskal-Wallis equality-of-populations rank test ($p < 0.05$).
[b] Spearman's rank correlation coefficient ($p < 0.05$).

and patients, developing various communication strategies aimed to improve patient satisfaction and using a range of feedback instruments. According to Antonacci et al. [30], nurse-to-patient communication is recognized as an essential component of care fostering the creation of therapeutic relationships.

Patient satisfaction is substantially affected by more comprehensive dimensions of care – satisfaction with the technical quality of care, professional competency and behavior of healthcare professionals, provision of information, cleanliness and hygiene, as well as the overall approach to care [14,21,26,31].

Despite the fact that the present study did not address the impact of patient satisfaction on healthcare professionals, the literature search revealed that for the staff, patient satisfaction is an important motivator [32] and that staff satisfaction is reflected by satisfaction of patients [33]. Sufficient motivation may reduce staff loss, promote interest in work [32] and thus improve the quality of care provided [34].

The COVID-19 pandemic interfered with data collection for the present study. According to Satpathy et al. [31], the PSS has better psychometric properties than other tools used to assess hospital patient satisfaction. It is authors' experience that it was useful for measuring patient satisfaction with nursing care even during the pandemic.

CONCLUSIONS

The findings of the study showed that the main weakness on the part of healthcare professionals was insufficient information provide to both patients and their families. Patients reported a lack of information on the care provided as well as on their hospital discharge. Differences in patient satisfaction were found to be associated with hospital type and reason for admission, with patients admitted to medical wards, those in large hospitals and those requiring shorter hospital stays being more satisfied. Despite subjective circumstances and aspects, patient satisfaction is a highly significant parameter of the quality of care. As patients satisfaction improves, trust is built between patients and healthcare professionals, contributing to better quality of care. It is essential to set up the process of patient satisfaction assessment so that it reflects the actual care that is provided. The results have been made available to managers of the participating hospitals and may thus contribute to better quality of care provided and higher satisfaction of hospitalized patients.

Ethical aspects

The study was conducted in accordance with the Declaration of Helsinki, and approved by the Ethics Committee (Ethics Committee, University Hospital Ostrava, Czech Republic, No. 603/2017, 22 June 2017 and Ethics Committee, Faculty of Medicine, University of Ostrava, Czech Republic, No. 9/2017, 26 June 2017).

Author contributions

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Statistical analysis: Darja Jarošová
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Publisher: Nofer Institute of Occupational Medicine, Łódź, Poland