




Caring and therapeutic services – a patient’s opinion on experience and satisfaction with night nursing care

Anna Fąfara , Anna Krakowiak-Burdzy 

Institute of Nursing and Health Sciences, Faculty of Medicine, University of Rzeszów, Rzeszów, Poland

ABSTRACT

Introduction and aim. Night nursing care ensures well-being, peace, and security allowing a patient to enter into the deep sleep phase. This study aims to analyze the relationship between an assessment of caring and therapeutic services and the opinion of in-patients on their experience and satisfaction with night nursing care.

Material and methods. A questionnaire developed by the authors and the Newcastle Satisfaction with Nursing Scale were used in this study. This study was conducted in the eastern region of Poland in the Podkarpackie province. The study included 585 patients.

Results. Tasks analyzed resulting from care and therapeutic functions, in the patient’s opinion, had a significant impact on the overall assessment of nursing care. Meeting the expectations regarding night rest (experience of nursing care) and satisfaction showed the strongest correlation. Tasks resulting from therapeutic functions showed an average correlation with the exception of planned medical care.

Conclusion. The level of implemented health services by nurses at night significantly influences the overall assessment of the quality management system in health care.

Keywords. care, nursing service, patient

Introduction

A systematic review of patient satisfaction with nursing care shows that a high quality of services provided in healthcare facilities is inseparably connected with the patient’s satisfaction with medical services.^{1,2} Health services should meet the expectations of the patient, and the opinion of the beneficiary of medical services reflects the sensitivity of the healthcare system to their needs. A comprehensive meta-analysis of the studies available in the literature confirms that patients are satisfied with the nursing care provided during hospitalization.³⁻⁵

A critical review was made of papers published in Polish and foreign scientific journals between 2010 and 2018 in the category of opinion, satisfaction and satisfaction of patients with services provided by nurses at night.

In the light of the review, numerous scientific publications on the nurse’s work at night (the influence of shift work on the health and life of nurses, the risk of medical mistakes during night shifts) were found in the PubMed, Embase, Elsevier, Springer and Lancet databases. There are no scientific reports of patient’s experiences of nursing care during the night time. In a review of published scientific papers in the context of nocturnal nursing care of a patient in a hospital, two ranges of publications can be distinguished. The first range includes publications on the specifics and consequences of night work for the health and quality and professional satisfaction of the nurse. The second range includes those publications that present selected aspects of assessment and/or opinion, satisfaction of the patient, including overall nursing care.

Corresponding author: Anna Krakowiak-Burdzy, e-mail: an.krakowiak716@gmail.com, akrakowiak@ur.edu.pl

Received: 27.09.2023 / Revised: 17.12.2023 / Accepted: 26.12.2023 / Published: 30.03.2024

Fąfara A, Krakowiak-Burdzy A. Caring and therapeutic services – a patient’s opinion on experience and satisfaction with night nursing care. *Eur J Clin Exp Med*. 2024;22(1):147–153. doi: 10.15584/ejcem.2024.1.30.



Nighttime satisfaction of nursing care patients are a component of general care satisfaction surveys or completely different scopes. Analysis of the results indicates that, in many cases, the opinions of patients were divergent.⁶⁻¹⁰

Patients assess the hospital through the prism of conditions prevailing in the hospital ward. They pay particular attention to the conditions of sleep and rest, the cleanliness of the patients' rooms and toilets, equipment facilitating the stay in the ward (tables, furniture, hangers, cabinets, lighting, adapting bathrooms to the needs of the disabled). In the opinion of many researchers, nursing care has a key impact on the overall satisfaction of patients undergoing hospitalization.^{6,11}

Professional independence of nurses, who manage patients in accordance with applicable medical standards and procedures reflects their professionalism.¹² Systematic reviews show that patients increasingly pay attention to such elements of care as availability of nurses, cordiality, empathy, as well as psychological support. Depending on how a man determines the quality of his life, their requirements regarding nursing are also variable. This assessment is performed in a subjective or objective manner. The patient, first and foremost, determines the quality as easy access to health services, receiving satisfactory information about health and treatment methods, health education aimed at gaining self-care skills, continuity of treatment process, psychological comfort, and good relations with staff.⁹ Therefore, during their duty, nurses must ensure the safety of the patient and take care of his or her mental state, perform tasks resulting from professional function, as often as required by the patient's health status. The primary purpose of services provided by nurses at night is to ensure well-being, peace and security, so that the patient can enter the deep sleep phase.⁹ Florence Nightingale claimed that the quality of good health care and good nursing is to avoid intentional or accidental wake-up. If a man is awakened from the first sleep, it is almost certain that he will not fall asleep again. In the opinion of Jankowiak, nurses should first of all observe the patient in terms of disturbances of sleep and wakefulness, and inform the doctor about abnormalities. The necessary condition to satisfy the need for night rest, in turn, will be ensuring appropriate conditions to meet this need. In addition, the constant presence of a patient who is suffering, sleepless and the implementation of therapeutic tasks is a guarantee of comprehensive nursing care.^{9,10}

The nursing care function is based primarily on satisfying the needs of the patient and his family. The results of studies by Glińska and Lewandowska showed that nurses in their daily work most often performed tasks resulting from the therapeutic and care functions.¹⁰

Aim

The aim of the study is to analyze the correlation between the assessment of care and therapeutic services and the ex-

perience and satisfaction with care provided at night in the opinion of patients hospitalized in Rzeszów Clinical Hospitals.

Material and methods

Research problem

What is the variation in patient satisfaction depending on the selected scope of nursing services provided at night?

Specific goal

Analysis of the relationship between the assessment of the implementation of selected nursing services at night and the assessment made by patients and their level of satisfaction from the health services provided.

Ethics approval

The study was conducted pursuant to the approval of the Bioethics Committee at the University of Rzeszów No. 04/12/2015, dated 2 December 2015.

Study participants

In the group of respondents, there were 585 hospitalized patients of departments/clinics with the specificity of conservative and surgical treatment in clinical hospitals of the City of Rzeszów during the period between 01/01/2016 and 31/05/2016.

Patient inclusion criteria:

- patient's voluntary consent to participate in the study,
- at least two nights spent in a hospital ward,
- the need to obtain nursing assistance during night duty,
- no psychosomatic disorders in the opinion of the researcher, self-orientation and allpsychic preservation,
- age over 18 years.

A sample of 600 people was selected, among whom interviewers distributed sets of questionnaires. Five hundred and ninety-two responses were received of 585 questionnaires were complete, which constituted 97.5% of the assumed study sample.

Nurses meeting the selection criteria providing night care at the end of their night shift for 2-5 patients for whom they provided services during their duty. The examination of selected patients was carried out in the morning after the end of the shift. The described patient tools were owned by a member of the research team or a designated person who was not involved in patient care.

Admitted patients took part in the study to selected conservative and surgical departments/clinics of the Clinical hospitals of the city of Rzeszów. The study included adult respondents staying in hospital in one ward/clinic for at least two days. Additionally, during the study, the patients were only in one ward. In the opinion of the researcher, the patients were without consciousness disorders and voluntarily consented to participate in

the study. The research project began on January 1, 2016 and lasted 6 months. Two interviewers were employed.

Study tool

The author's questionnaire and the standardized NSNS tool – The Newcastle Satisfaction with Nursing Scale – were used to test the patients' opinions.

The author's questionnaire contains 11 questions with the option of answering on a 5-point Likert scale and a short summary. The assessed dimensions of night nursing services include tasks resulting mainly from the caring and therapeutic function. The questions are closed-ended. The internal consistency of an 11-item original questionnaire assessing the quality of night nursing care was assessed.

The value of the α -Cronbach coefficient was 0.955, which proves the high internal consistency of the questionnaire (Table 1).

Table 1. Assessment of internal consistency of an 11-item original questionnaire assessing the quality of night-time nursing care – Cronbach's alpha

Number of item	Cronbach's alpha=0.955		
	\bar{x}	s	Cronbach's alpha excluding item
1	4.13	1	0.95
2	4.06	0.97	0.952
3	4.04	0.98	0.95
4	4.1	1.02	0.95
5	4.08	0.97	0.948
6	4.11	0.92	0.949
7	4.15	0.9	0.949
8	3.92	1.05	0.956
9	4	0.97	0.952
10	4.11	0.92	0.95
11	4.22	0.88	0.949

The original version of the NSNS contains a total of 50 claims in three subscales, which were rated on a growing scale from 1 to 7 or from 1 to 5.¹³

In the author's own questionnaire, 11 closed questions were included, dividing them into two areas of tasks resulting from professional functions: therapeutic and caring. The assessment was made on the Likert scale from 1 to 5. The survey was anonymous and did not allow the researcher to be identified.^{14,15}

Statistical analysis

The descriptive statistics (a summary measure) were used to analyze the satisfaction of nocturnal nursing care. The numerical characteristics of the parameters examined were determined by: median, arithmetic mean and standard deviation. Statistical analysis of statistical results obtained: Mann-Whitney, Kruskal-Wallis and Spearman's rank correlation coefficient. To illustrate the obtained data from research and statistical analysis, the results were presented on the frame-mustache charts.

Calculations were performed using IBM SPSS Statistics 20 (Armonk, NY, USA). The significance level of $p < 0.05$ was adopted in this study.

Results

The assessment of the quality of night nursing care was made using a standardized questionnaire the NSNS. The assessment of night nursing care with the numerical Newcastle Scale was quite high. Both the assessment of the experience of nursing care and the satisfaction with nursing care was, on average, over 60 pts. In the case of the first measure, most of the results were relatively close to the mean value, while in the second measure the discrepancy in the results was much larger (every fourth patient assessed the level of satisfaction with nursing care at less than 38 pts, therefore quite low, while one in four on at least 81 pts), (Table 2).

Table 2. The assessment of night nursing care by patients in the NSNS*

The assessment in the Newcastle Scale	\bar{x}	Me	s	C ₂₅	C ₇₅	min	max
Experience of nursing care	63.7	62.8	10	55.8	71.2	26.3	85.3
Satisfaction with nursing care	60.3	61.8	26.5	38.2	81.6	0	100

* \bar{x} – mean, Me – median; s – standard deviation;

C₂₅ – lower quartile; C₇₅ – upper quartile

min, max – minimum and maximum values

Qualitative assessment of services performed at night and 24-hour nursing care based on the NSNS

In the scatterplots, a distribution of all assessments of nursing night care was made (based on the author's questionnaire and general nursing assessment using the Newcastle questionnaire). The graphs show the values of Spearman's correlation coefficient along with the assessment of its significance. The size of the markers in the chart was increased in proportion to the number of people corresponding to a given combination of the values of the compared measures. Auxiliary simple (so-called regression straight line) allows to better evaluate the direction of dependence. After careful analysis it was proved that the assessment of services performed at night had a significant impact on the overall assessment of nursing care. The relationship between the assessment of night care and experience and satisfaction based on the NSNS was similar and clearly correlated with a 24-hour assessment of care provided by nurses ($R = 0.51$ and $R = 0.47$), (Fig. 1).

Tasks resulting from the caring function and the overall assessment of nursing care

The selected tasks resulting from the scope of the caring function were assessed and comprehensive services in the field of nursing care. The graphs show average values of measures calculated based on the NSNS relative to the assessment of selected aspects of night care. As

a result of the conducted research, it was proved that the assessment of individual care tasks had a significant impact on the overall assessment of nursing care. These were correlations of rather average strength, but this is not surprising, because each question was about a narrow aspect of night care. The strongest with the overall assessment of the nurse's work was to correlate with wishes regarding night rest ($p < 0.001$) and the possibility of talking with a nurse ($p < 0.001$), (Fig. 2).

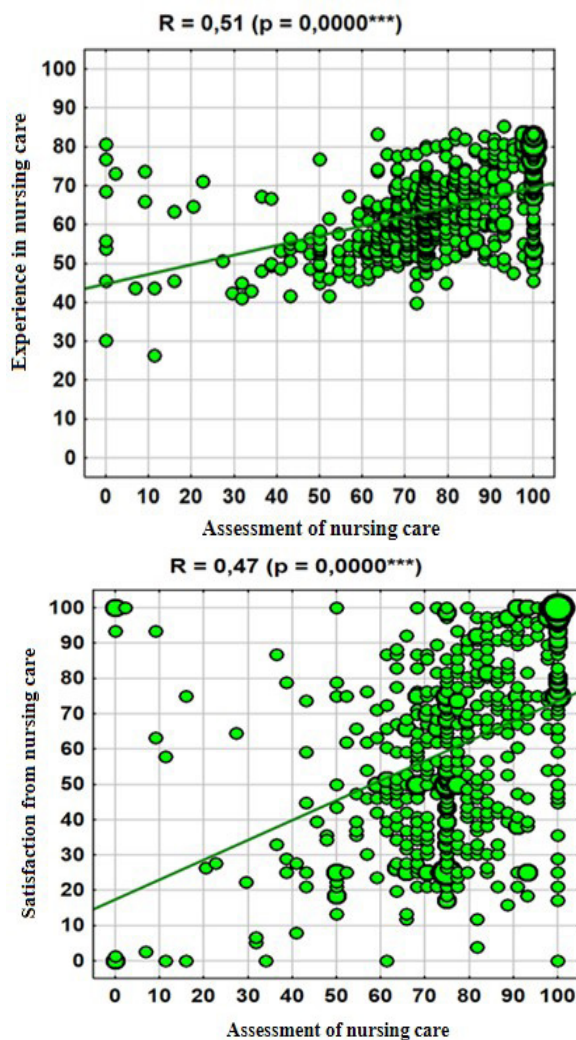


Fig. 1. Evaluation of nursing night care – experience and satisfaction with nursing care

Tasks resulting from the therapeutic function and the overall assessment of nursing care

An analysis was also made of the correlation between the quality of performed tasks resulting from the therapeutic function and overall nursing care based on the NSNS. The obtained results confirmed the average correlation with the overall assessment of nursing care ($p < 0.001$). The only exception was the planning of delays in the implementation of tasks both in terms of experience (0.28 ($p < 0.001$)) and satisfaction (0.26 ($p < 0.001$)), (Fig. 3).

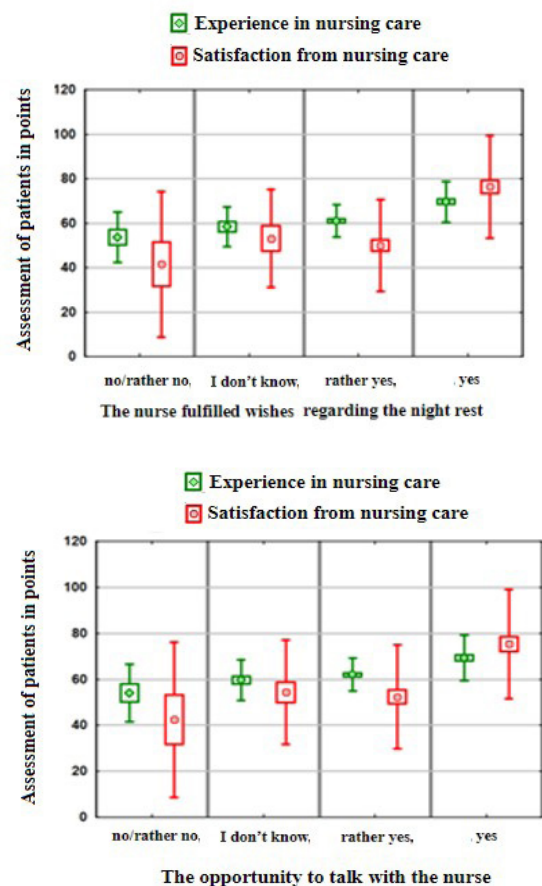


Fig. 2. Two-factor correlation between care benefits and the overall assessment of nursing care

Discussion

Nursing work at night involves mainly the implementation of tasks resulting from the caring and therapeutic functions and the activities that are inseparably connected with them. Research in Poland shows that patients increasingly pay attention to such elements of care as availability of nurses, cordiality, empathy, as well as psychological support. Depending on how a man determines the quality of his life, his requirements in terms of nursing are also different. This assessment is made in a subjective or objective manner.¹³ Our research shows a statistically significant relationship between the assessment of specific care tasks and the overall assessment of nurses' work in hospitals. Similar results were obtained by other researchers.¹⁶⁻¹⁸

According to the patients, in our research, most important was the "fulfillment of wishes at night" in both the experience and satisfaction categories ($p < 0.001$). The patients highly rated the possibility of talking with the nurse in both subscales (experiences and satisfaction with care - ($p < 0.001$)). According to Larrabee et al, the patients rated the highest the ability to provide care (79.1%), focus on the patient and his emotional needs (54.6%) and professional competences.¹⁹ Many researchers emphasized the role and importance

of verbal emotional support with an indication of their quality.^{20,21} Hussain et al. received completely different results. Eighty-four percent of respondents expressed dissatisfaction with the provided nursing care. Their nurse's task at night was not sensitive to the reported needs, nor could they establish a therapeutic conversation.²² Mohammed and Odetola showed in the course of their research that nurses referred to patients in a disrespectful manner.²³ Respondents in Sierpiska's research pointed to the nurse's low interest in patient problems and overly loud conversations at night.¹⁸

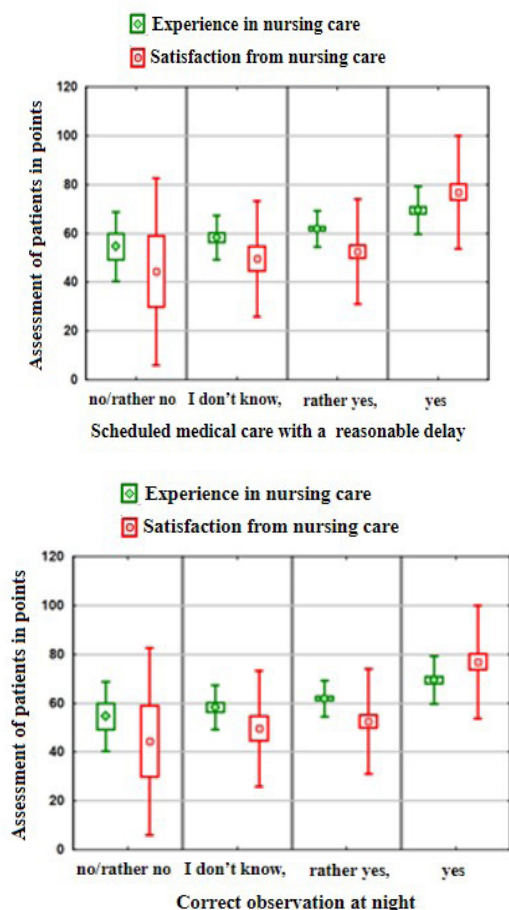


Fig. 3. Two-factor correlation between therapeutic services and the overall assessment of nursing care

According to research by Glińska and Lewandowska, nurses usually carry out tasks resulting from therapeutic functions.¹⁰ Larrabee and Bolden distinguished the five most-valued features of "good nurturing." Respondents relied on nurses to meet their needs (caring for, checking that everything was in order, responding to requests, fighting with pain, providing information, care for the environment), polite treatment (respecting rights, positive attitude, patience), caring (showing care and interest), being competent (correct substantively performing skills, striving for excellence) and quick help (performing punctual procedures).¹⁹ During the anal-

ysis of our research, reports of other researchers were confirmed.^{10,19,24} Therapeutic benefits significantly influenced the overall assessment of nursing care. The exception was a slightly different category – planned medical care with a justified delay: experience and satisfaction with nursing care ($p < 0.001$).

In an analysis of the studies of many authors, it can be stated that for the patient the most important aspect is the nurse's readiness to help, provide kindness, care and courtesy.^{18,25,26} The patient's cooperation in defining the diagnosis and establishing methods as well as ways of treatment and care gives a much better chance of treatment effectiveness and satisfaction of needs.²⁷ Providing a sense of security and gaining trust is a very important element in assessing the quality of nursing care. Health care institutions bear responsibility for the life and health of a person in need. Patients need genuine interest in their problems and honesty and respect. Moczyłowska et al. showed in her research that nurses, while performing medical procedures, first and foremost respect the patient's dignity.²⁸

Parasuraman et al., in the course of the conducted research, indicated the hierarchy of criteria for assessing the quality of service on the part of the patient. They include not only the material components of the service process, but above all, certainty, competences, empathy, responsibility, responsiveness, solidarity and reliability.²⁹ Every effort should be made to ensure that one of the components, which is the provision of night nursing care, is a strong pillar of the health care system, and it can contribute to, among others, monitoring the assessment of patients' benefits. The sick pay attention to the detailed, non-specific but elementary aspects of care. These include: cordiality and empathy, availability and psychological support.

Certainly, the diversity of patients' requirements for nursing services depends on a large extent on the perception of the quality of their lives. The relative analysis made will certainly allow for quick response to irregularities resulting from system imperfections. Based on our own analyzes and other researchers based on the NSNS satisfaction rating scale, it was found that patients highly evaluate nursing care. A detailed analysis of the research results obtained indicates the possibility of adapting to the needs and expectations of healthcare service users. Currently, analyzing studies on the quality of nursing services provided at night only fragmentary studies can be found on the hospitals in Poland.³⁰⁻³³

Analyzing the collected literature on the subject and the results of scientific reports, it was observed that considering the quality of nursing services at night, both the opinion of the patient/client and the organization of the hospital were taken into account. Such a broad spectrum of issues implied the need to analyze many different aspects of services and the use of medical services. The ana-

lyzes undertaken in the paper were to prove that the tasks resulting from the caring and therapeutic functions are of the utmost importance when providing health services by the nurse at night. Hajdukiewicz emphasizes that the medical service that is “cordial, full of care and commitment”, but not supported by competences does not fulfill its role. The same researcher points out that one cannot offer a dehumanized medical service, even if it was performed by a renowned specialist.³⁴

Conclusion

Nursing care provided by nurses during the night time has a significant impact on the overall assessment of the nurses’ work both in terms of satisfaction and the experience of the hospitalized patient. Night nursing care was focused mainly on the implementation of tasks resulting from the therapeutic and caring functions. In the patients’ opinion, the most important is the professional performance of nursing procedures, openness, willingness to talk and “fulfilling wishes” related to rest at night. To improve the quality of medical services, it is advisable to include all assessments and patients’ expectations regarding night-time services.

Declarations

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Author contributions

Conceptualization, A.F.; Methodology, A.F.; Software, A.F.; Validation, A.F. and A.K.B. Formal Analysis, A.F.; Investigation, A.F.; Resources, A.F.; Data Curation, A.F. and A.K.B.; Writing – Original Draft Preparation, A.F.; Writing – Review & Editing, A.F. and A.K.B.; Visualization, A.F. and A.K.B.; Supervision, A.F.; Project Administration, A.F.

Conflicts of interest

The authors declare no conflict of interest.

Data availability

Data will be made available upon a justified request sent to the corresponding author an.krakowiak716@gmail.com or akrakowiak@ur.edu.pl.

Ethics approval

The study was conducted pursuant to the approval of the Bioethics Committee at the University of Rzeszów No. 04/12/2015, dated 2 December 2015.

References

1. Anderson RJ, Amarasingham R, Pickens SS. The quest for quality: perspectives from the safety net. *Front Health Serv Manage.* 2007;23:15-28. doi: 10.1097/01974520-200704000-00003
2. Brownson CA, Miller D, Crespo R, et al. A quality improvement tool to assess self-management support in primary care. *Jt Comm J Qual Patient Saf.* 2007;33(7):408-416. doi: 10.1016/s1553-7250(07)33047-x
3. Zagroda M, Cudak-Barańska E, Dyk D, et al. Assessment of patient satisfaction with nursing care. *Problemy Pielęgniarstwa.* 2005;1:49-52.
4. Peterson WE, Charles C, DiCenso A, Sword W. The Newcastle Satisfaction with Nursing Scale: a valid measure of maternal satisfaction with inpatient postpartum nursing care. *J Adv Nurs.* 2005;52:672-681. doi: 10.1111/j.1365-2648.2005.03634.x
5. Jaipaul CK, Rosenthal GE. Are older patients more satisfied with hospital care than younger patient? *The Journal of General Internal Medicine.* 2003;18:23-30. doi: 10.1046/j.1525-1497.2003.20114.x
6. Otani K, Kurz RS. The impact of nursing care and other healthcare attributes on hospitalized patient satisfaction and behavioral intentions. *J Healthc Manag.* 2004;46:181-196. doi: 10.1097/00115514-200405000-00008
7. Chen X, Zhao W, Yuan J, Qin W, Zhang Y, Zhang Y. The Relationships Between Patient Experience with Nursing Care, Patient Satisfaction and Patient Loyalty: A Structural Equation Modeling. *Patient Prefer Adherence.* 2022;16:3173-3183. doi: 10.2147/PPA.S386294
8. Kapała W, Chudziński S, Hycza S. Expectations of patients hospitalized in surgical wards for nursing staff. *Surgery and Angiological Nursing.* 2008;1:12-18.
9. Karaca A, Durna Z. Patient satisfaction with the quality of nursing care. *Nurs Open.* 2019;6(2):535-545. doi: 10.1002/nop.2.237
10. Glińska J, Lewandowska M. Autonomy of the nursing profession in the opinion of nurses, including occupational functions. *Problemy Pielęgniarstwa.* 2007;15:249-253.
11. Schmidt LA. Patients perceptions of nursing care in the hospital setting. *Adv Nurs.* 2003;44:393-339. doi: 10.1046/j.0309-2402.2003.02818.x
12. Tofiluk J, Sierko E, Sokół M, Wojtukiewicz MZ. Evaluation of the quality of nursing care for patients with rectal cancer during adjuvant chemoradiation, *Problemy Pielęgniarstwa.* 2011;19:378-385.
13. Gutysz-Wojnicka A, Dyk D. The adaptation of the Polish version of The Newcastle Satisfaction with Nursing Scale. *Problemy Pielęgniarstwa.* 2007;15(2):133-138.
14. Chen LMH, Wang XJC, Ding T, et al. Factors influencing inpatients’ satisfaction with hospitalization service in public hospitals in Shanghai. *People’s Republic of China Patient Preference and Adherence.* 2016;10:601-612. doi: 10.2147/PPA.S98095
15. Gellerstedt L, Medin J, Rydell KM. Patients’ experiences of sleep in hospital: a qualitative interview study. *Journal of Research in Nursing.* 2014;19(3):176-188. doi: 0.1177/1744987113490415

16. Zhao SH, Akkadechanunt T. Patient's perceptions of quality nursing care in Chinese hospital. *Int J Nurs Midw*. 2001;3(9):145-149. doi: 10.5897/IJNM.9000033
17. Johansson P, Oleni M, Fridlund B. Patient satisfaction with nursing care in the context of health care: a literature study. *Scandinavian Journal of Caring Sciences*. 2002;16:337-338. doi: 10.1046/j.1471-6712.2002.00094.x
18. Sierpińska L, Dzirba A. The level of patient satisfaction with nursing care in surgical wards, *Pielęgniarstwo Chirurgiczne i Angiologiczne*. 2011;1:18-22.
19. Larrabee J, Bolden L. Defining Patient-Perceived Quality of Nursing Care. *Journal of Nursing Care Quality*. 2001;16:34-60. doi: 10.1097/00001786-200110000-00005
20. Gaweł G, Twarduś K, Kin-Dąbrowska J, Pyć L. The quality of nursing care in the cardiology department. *Problemy Pielęgniarstwa*. 2008;16(4):339-342.
21. Lee YH, Lee SHB, Chung JY. Research on How Emotional Expressions of Emotional Labor Workers and Perception of Customer Feedbacks Affect Turnover Intentions: Emphasis on Moderating Effects of Emotional Intelligence. *Front Psychol*. 2019;9:2526. doi:10.3389/fpsyg.2018.02526
22. Hussain KM, Rasheed H, Saeed A, et al. Patient satisfaction with nursing care. *Rawal Medicine Journal*. 2007;32:28-30.
23. Mohammed MA, Odetola TD. Evaluation of patient's perception of nursing care in selected health institutions in Edostate Nigeria. *J Med Sci*. 2014;5(1):12-19. doi: 10.14303/jmms.2013.139
24. Furtak-Niczyporuk M, Kos M, Jurek A, Albiniak M. The evaluation of nursing care from the patient perspective. *J Educ Health Sport*. 2017;7(3):31-43. doi: 10.5281/zenodo.263265
25. Harrad R, Cosentino C, Keasley R, Sulla F. Spiritual care in nursing: an overview of the measures used to assess spiritual care provision and related factors amongst nurses. *Acta Biomed*. 2019;90(4-S):44-55. doi: 10.23750/abm.v90i4-S.8300
26. Grochans E, Wieder-Huszla S, Jurczak A, Stanisławska M, Janic E, Szych Z. Emotional support as a determinant of nursing care. *Problemy Higieny i Epidemiologii*. 2009;90: 236-239. doi: 10.5603/PP.2015.0071
27. Vahdat S, Hamzehgardeshi L, Hessam S, Hamzehgardeshi Z. Patient involvement in health care decision making: a review. *Iran Red Crescent Med J*. 2014;16(1):e12454. doi:10.5812/ircmj.12454
28. Moczydłowska A, Krajewska-Kułał E, Kózka M, et al. Expectations of patients towards nursing staff. *Problemy Pielęgniarstwa*. 2014;22(4):464-470.
29. Parasasuraman A, Zeithaml V, Berry L. A Conceptual model of service quality and its implications for future research. *J Market*. 1985;49:41-50. doi: 10.2307/1251430
30. Cisek M, Przewoźniak L, Kózka M, et al. Workload during the last shift in the opinions of nurses working in hospitals covered by the RN4CAST project. *Zdrowie Publiczne i Zarządzanie*. 2013;11(2):210-224. doi: 10.4467/20842627OZ.14.018.1628
31. Zdęba-Mozoła A, Rybarczyk-Szwajkowska A, Czaplą T, Marczak M, Kozłowski R. Implementation of Lean Management in a Multi-Specialist Hospital in Poland and the Analysis of Waste. *Int J Environ Res Public Health*. 2022;19(2):800. doi: 10.3390/ijerph19020800
32. Kózka M, Brzostek T, Ksykiewicz-Dorota A. Analysis of nurse staffing and factors determining the demand for health care in Poland. *Prog Health Sci*. 2011;1(2):59-66.
33. Ozga D, Gutysz-Wojnicka A, Wojtaszek M, Lewandowski B. Assessment of satisfaction with nursing in a group of patients with disorders of the nervous system based on the Newcastle Satisfaction with Nursing Scale (NSNS). *Przeegląd Medyczny Uniwersytetu Rzeszowskiego i Narodowego Instytutu Leków w Warszawie*. 2014;3:224-231.
34. Hajdukiewicz DR. The role of the environment in creating hospital quality policy. *Zdrowie i Zarządzanie*. 2003;6:59-67.