Pielęgniarstwo Neurologiczne i Neurochirurgiczne
THE JOURNAL OF NEUROLOGICAL AND NEUROSURGICAL NURSING
eISSN 2299-0321 ISSN 2084-8021 www.jnnn.pl **Original**

DOI: 10.15225/PNN.2019.8.1.1

Satisfaction with Nursing Care and the Functional Consequences of Pain in Neurosurgical Patients

Satysfakcja z opieki pielęgniarskiej a funkcjonalne konsekwencje dolegliwości bólowych pacjentów neurochirurgicznych

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Abstract

Introduction. Satisfaction of patients with nursing care is an important, subjective indicator of the quality of relational care, conditioned by the level of care provided and individual patient perception of care. The project adopted a compensation model for the satisfaction of patients with care.
Aim. The aim of the work is to present what dimension of satisfaction from nursing is dominant among patients with lumbar spine pain syndrome and to determine whether their assessment depends on the severity of functional consequences of pain.
Material and Methods. The research was performed using the diagnostic survey method and the survey technique. The research tools allowing for the collection of information were: Newcastle Satisfaction with Nursing Scale — NSNS and Visual Analog Scale by Barbara Headley. In addition, an original questionnaire was developed by the authors, taking into account medical and socio-demographic variables. The research was carried out from January to October 2017 among 205 patients of two neurosurgical clinics. The selection of patients for the research was purposeful. The project received a positive opinion of the Bioethics Committee at the Medical University in Lublin. Statistical analysis was performed using, among others, multivariate analysis of MANOVA variance in a mixed scheme.
Results. In the assessment of patients with lumbar spine pain syndrome, the dominant dimension of satisfaction with nursing is the positive experience from the nursing care received at the ward (M=5.66, SD=0.56), and satisfaction with the care received is at a statistically significantly lower level (M=3.05, SD=0.48). The overall satisfaction with nursing is highest in patients displaying low (M=4.40, SD=0.49) and high (M=4.43, SD=0.53) functional consequences of pain.
Conclusions. The results of the research compiled in the context of the compensatory satisfaction model indicate that patients formulating an opinion in terms of satisfaction with nursing are based on an objective assessment, i.e.: experienced care events. **(JNNN 2019;8(1):4–10)**
Key Words: satisfaction with nursing care, functional consequences of pain, patients, neurosurgery

Streszczenie

Wstęp. Satysfakcja pacjentów z opieki pielęgniarskiej to istotny, subiektywny wskaźnik jakości opieki o charakterze relacyjnym, uwarunkowany poziomem świadczonej opieki oraz indywidualną jej percepcją przez pacjentów. W projekcie przyjęto model kompensacyjny satysfakcji pacjentów z opieki.

Cel. Celem pracy jest przedstawienie jaki wymiar satysfakcji z pielęgnowania jest dominujący wśród pacjentów z zespołem bólowym kręgosłupa odcinka lędźwiowego oraz określenie, czy dokonywana przez nich ocena jest zależna od nasilenia funkcjonalnych konsekwencji bólu.
Materiał i metody. Badania wykonano z zastosowaniem metody sondażu diagnostycznego oraz techniki ankietowania. Narzędziami badawczymi pozwalającymi na zgromadzenie informacji były: Skala Newcastle Satysfakcji z Opieki Pielęgniarskiej (Newcastle Satisfaction with Nursing Scale — NSNS) oraz Skala Oceny Bólu według Barbary J. Headley (Visual Analog Scale by Barbara Headley). Dodatkowo opracowano autorski kwestionariusz ankiety uwzględniający zmienne medyczne i społeczno-demograficzne. Badania zrealizowano od stycznia do października 2017 r. wśród 205. pacjentów dwóch klinik neurochirurgicznych. Dobór pacjentów do badań miał charakter celowy. Projekt uzyskał pozytywną opinię Komisji Bioetycznej przy Uniwersytecie Medycznym w Lublinie. Analizę statystyczną wykonano z zastosowaniem m.in. wielozmiennowej analizy wariancji MANOVA w schemacie mieszanym.
Wyniki. W ocenie badanych pacjentów z zespołem bólowym kręgosłupa odcinka lędźwiowego dominującym wymiarem satysfakcji z pielęgnowania są pozytywne doświadczenia z otrzymywanej na oddziale opieki pielęgniarskiej (M=5,66; SD=0,56), zaś zadowolenie z uzyskiwanej opieki utrzymuje się na istotnie statystycznie niższym poziomie (M=3,05; SD=0,48). Ogólna satysfakcja z pielęgnowania jest najwyższa u pacjentów przejawiających niskie (M=4,40; SD=0,49) oraz wysokie (M=4,43; SD=0,53) funkcjonalne konsekwencje bólu.
Wnioski. Wyniki badań zestawione w kontekście modelu kompensacyjnego satysfakcji wskazują, że pacjenci formułując opinię w zakresie satysfakcji z pielęgnowania opierają się na ocenie obiektywnej tj.: doświadczanych zdarzeniach opiekuńczych. **(PNN 2019;8(1):4–10)**
Słowa kluczowe: satysfakcja z opieki pielęgniarskiej, funkcjonalne konsekwencje bólu, pacjenci, neurochirurgia

Introduction

In the healthcare sector, patient satisfaction has become an important and primary element in the quality of care that determines its utilization [1,2] and has been used as a means to achieve, maintain and monitor it [3]. Research shows that satisfaction with nursing care is the most important indicator of patient satisfaction with comprehensive care provided in a healthcare facility [4–7].

The concept of patient satisfaction derived from the consumer experience of the 60s of the last century is one of the significant subjective indicators of the quality of relational care, dependent on the people who provide the care, but above all on the individual perception and assessment of care by patients [2,8]. There are two main approaches that try to answer the question: what is patient's satisfaction with care? One of them is based on a compensation model, while the other is based on non-competitive models. The compensation model specifies that patients formulating their opinion on the satisfaction of care combine their assessments of the most important characteristics regarding their therapeutic experience to create the overall satisfaction. This is a compensatory approach, because the positive attributes of care can be compensated by negative attributes. More weight is given to negative attributes than positive attributes. However, this basic trend diminishes when the overall level of assessment is high [9]. The theoretical model considered best at explaining the compensatory approach is the multi-dimensional model of Fishbein and Ajzen, which was originally developed to explain the shaping of attitudes [10]. The attitude towards a service results from the patient's beliefs about the features of this service and the values attributed to these features. It is assumed that patients will choose a service for which they exhibit the most positive attitude expressed by the highest index of subjective utility (the sum of features multiplied by their validity) [11].

Other models are referred to as uncompetitive, because they do not allow compromises among attributes. In other words, the services have positive or negative attributes that are not compensated for each other. Highly positive or highly negative attributes have a rather disproportionate impact on the health care decision. Conjunctive and disjunctive models are the two forms of non-competitive theories that apply to research on patient satisfaction [12,13]. The conjunctive (inseparable) model occurs when patients are disproportionately affected by the negative attributes of the service assessment, in a very responsible decision situation (risk of diseases, disorders). On the other hand, the disjunctive (separable) model indicates that patients are disproportionately affected by the positive attributes of the service evaluation, e.g. in a decision-making situation dominated by understanding (undetermined risk) [13,14].

However, there is a general consensus that patient satisfaction is an undefined concept [15]. Lynn believes that the analysis of the literature on the satisfaction of patients with care does not clearly indicate the answer to the fundamental questions, i.e.: What in the patient's perspective affects satisfaction with care? [16]. Definitions of the concept of "satisfaction with care" that can be quoted on the basis of literature significantly differ from each other in terms of the level of generality and scope of content. Starting from the feeling of negligence and deficiencies in the field of care to the general satisfaction with life. The vast majority of authors agree that patient satisfaction is a multidimensional phenomenon, but there is no consensus as to the type and number of these

dimensions [17,18]. Satisfaction with (Latin saris) means sufficient, that is, what is needed to fully satisfy the needs, expectations and aspirations, so that there is no room for complaints [19,20]. The level of patient satisfaction with care occurs as a kind of valuation continuum, from complete dissatisfaction to complete satisfaction [2]. Dozier believes that although the level of satisfaction is presented linearly, aspects of care significantly affecting the increase or decrease of the level of satisfaction can significantly differ for a patient [21]. A sense of satisfaction, just like imagination, knowledge or views can change over time under the influence of external as well as internal factors [2]. Singh [22] indicates that the situation is the main source of variability in the ratings of "satisfaction", paying attention to the feelings or emotional aspect of satisfaction with the service [23], of course in addition to the cognitive assessments previously indicated. Risser, emphasizes that patient satisfaction with nursing care is the degree of compatibility between the patient expectations as to the ideal care and the perception of care received [24,25]. Trout et al. add that it is a general satisfaction with being a patient, and expectations regarding care, can be not only met, but also exceeded [26].

Merkouris et al. comment that patient expectations are determined by patient's characteristics, attitudes and previous experiences with care [27], patient health [28,29] and the characteristics of the healthcare system [29]. On the other hand, Mykowska captures the same comparison relation in the category of difference between what the patient receives and subjective expectations, which have two sources: internal — a set of needs characterizing a given person and external — previous experience and obtained information. Adding that if a patient enters a medical facility with low expectations, their satisfaction with care will likely be higher, while a person with impossible expectations will be much less satisfied with care [30]. However, Otani et al. [14] prove by empirical analysis that the overall level of patient satisfaction is disproportionately dependent on the low assessment of features of care. Patients satisfied with care will not respond with a proportional increase in satisfaction while attributes of care offered are improved. Patients combine their reactions with health attributes using non competitive and non-linear models to achieve overall satisfaction. The review of research carried out in Europe and the USA has facilitated the identification of a number of factors that influence patient satisfaction with nursing care. Among them, apart from obvious ones such as sociodemographic factors, are also functional consequences of pain experienced by the patient [31,32].

The aim of the research is to present what dimension of satisfaction from nursing is dominant among patients with lumbar spine pain syndrome, and to determine whether their assessment depends on the severity of the functional consequences of experienced pain.

Material and Methods

The studied group of patients in neurosurgical wards with the lumbar spine pain syndrome consists of 205 people. Women constitute 50.2% of the sample, and men 49.8%. The youngest patient is 18 years old, the oldest is 76 years old, while the average age of people included in the study is over 50 years (M=51.31, SD=13.25). The highest percentage of patients declares that they have secondary education (N=85, 41.5%). Nearly 30.0% of respondents completed basic vocational schools (N=61, 29.8%). Less than 17.0% received higher education (N=34, 16.6%), and the least numerous group completed elementary school education (N=25, 12.2%). Generally, patients had between 23 and 1 hospitalizations, while their average number of multiples of hospital stays is 3.10 (SD=2.84). The subjects are present in the neurosurgery ward from 1 to 41 days, and their average hospitalization time lasts just over 5 days (M=5.06, SD=4.29).

The research project was carried out by means of a diagnostic survey with a survey technique between January and October 2017 in two neurosurgical clinics, i.e. the Department of Neurosurgery and Pediatric Neurosurgery of the Independent Public Clinical Hospital No. 4 in Lublin and in the Department of Neurosurgery, Neurotraumatology and Pediatric Neurosurgery, University Hospital No. 1 in Bydgoszcz.

The selection of patients for the study was intentional, i.e. based on the criteria recommended by the Authors of the scales used in the study and specific to the project: the basic disease unit constituting the cause of hospitalization — spinal pain syndrome, voluntary, informed consent to participate in the study. The approval of the Bioethics Committee of the Medical University of Lublin (no. KE-0254/181/2016) was obtained on June 23, 2016 for the implementation of the research project. The research was based on the Newcastle Satisfaction with Nursing Scale — NSNS authored by the team from Centre for Health Services Reaserch at the University of Newcastle in England in the Polish adaptation of Gutysz-Wojnicka [19].

The pain was evaluated using the pain rating scale by Barbara J. Headley (Visual Analog Scale by Barbara Headley), which facilitates an assessment of the intensity of pain experienced by the patient in relation to performing everyday activities (14 questions) [33]. The questionnaire of own design contained basic socio-demographic information (10 questions).

Statistical analyses were performed using the IBM SPSS 24 program. The characteristics of the studied population were carried out by calculating the distribution

of percentages of the occurrence of qualitative variables, as well as the mean, standard deviation, and minimum and maximum of quantitative parameters. Distribution shapes of the analyzed data were estimated on the basis of Shapiro-Wilk's tests. Before proceeding to the estimation of the multivariate model, a standardization procedure was carried out, which allowed to maintain a homogeneous spread of the analyzed data. The hypotheses were tested using the procedure that is part of the General Linear Model (GLM) — MANOVY. The work assumes a margin of error, resulting in the rejection of H_0, which is not actually false, amounting to 0.05.

Results

In order to determine what dimension of satisfaction with nursing is dominant in the assessment of the examined patients and whether their assessment depends on the severity of functional consequences of pain, a multivariate analysis of variance MANOVA was carried out in a mixed scheme 2 (nursing experience versus satisfaction with nursing care) × 3 (low severity of functional consequences of pain versus moderate severity of functional consequences of pain versus high severity of functional consequences of pain). The intra-object factor was satisfaction with care, and the factor measured between people — functional consequences of pain. The results of intra-object comparisons are presented in Table 1.

As a result of the performed analyses, a strong main effect of the variable satisfaction with nursing was obtained, F (1, 202)=3747.84; p=0.001; η_p^2=0.95.

The obtained data shows that in the assessment of the examined patients with the lumbar spine pain syndrome, the dominating dimension of satisfaction with nursing care are positive experiences from the nursing care received in the ward (M=5.66, SD=0.56), and satisfaction with the received care is at a statistically lower level (M=3.05, SD=0.48).

The results of comparisons made between people with varying severity of functional consequences of pain for overall satisfaction from nursing are presented in Table 2.

The main effect of the functional variable consequences of pain proved to be statistically significant, F (1, 202)=3.58; p=0.030, η_p^2=0.034. The magnitude of the effect between the overall intensity of satisfaction from nursing and the assessment of functional consequences of pain is low, which indicates the presence of a weak relationship between the analyzed dimensions.

Detailed comparisons indicate that the overall satisfaction with nursing is the highest in patients displaying low (M=4.40, SD=0.49) and high (M=4.43, SD=0.53) functional consequences of pain, and the lowest in persons who achieved an average intensity of the mentioned dimension (M=4.25, SD=0.49).

The results showing the interaction effect of the factors considered — satisfaction with care and evaluation of functional consequences of pain are presented in Table 3.

In the case of interaction effects of both factors — satisfaction with care and evaluation of functional consequences of pain, a weak tendency is observed, F (2, 202)=2.67; p=0.071; η_p^2=0.026.

Detailed comparisons indicate that the positive experiences from nursing care received are highest in patients with low (M=5.72, SD=0.58) and high (M=5.78, SD=0.51) functional consequences of pain, and significantly lower in patients revealing their moderate intensity (M=5.49, SD=0.55). However, satisfaction with nursing care remains independent of the severity of functional consequences of pain revealed

Table 1. Comparison of the satisfaction dimensions of nursing neurosurgical patients

Experiences from nursing care		Satisfaction with nursing care		Intra-group comparison		
M	SD	M	SD	F	p	η_p^2
5.66	0.56	3.05	0.48	3747.84	0.001	0.95

Table 2. Comparison of general satisfaction with nursing of neurosurgical patients depending on the severity of functional consequences of pain

Functional consequences of pain						Overall comparison		
low (1)		moderate (2)		high (3)				
M	SD	M	SD	M	SD	F	p	η_p^2
4.40	0.49	4.25	0.49	4.43	0.53	3.58	0.030	0.034
Detailed comparison								
1–2				1–3			2–3	
0.034				0.699			0.015	

Table 3. Comparison of the dimensions of satisfaction with nursing of neurosurgical patients depending on the severity of functional consequences of pain

Satisfaction with nursing	Functional consequences of pain						Overall comparison		
	low (1)		moderate (2)		high (3)				
	M	SD	M	SD	M	SD	F	p	η_p^2
Experiences from nursing care	5.72	0.58	5.49	0.55	5.78	0.51	2.67	0.071	0.026
Satisfaction with nursing care	3.08	0.46	3.01	0.52	3.06	0.46			
	Detailed comparisons								
	1–2			1–3			2–3		
Experiences from nursing care	0.043			1.00			0.007		
Satisfaction with nursing care	1.00			1.00			1.00		

by patients and in each of the analyzed groups it remains at a comparable level (M_1=3.08; SD_1=0.46; M_2=3.01; SD_2=0.52; M_3=3.06; SD_3=0.46).

Discussion

By comparing the presented research results in the context of the compensatory satisfaction model, its empirical interpretation is clearly visible, as patients formulating an opinion in the scope of satisfaction with nursing are based on an objective assessment, i.e.: experienced care events. However, satisfaction with care remains at a low level and has no major impact on the perception of satisfaction with nursing. The authors of the article also searched for the contribution of perceived pain as a factor theoretically affecting the two components of the concept of satisfaction with nursing, i.e. experience with care and satisfaction with care. However, the analysis of the research results confirmed only the relationship between the experience of care and the low and high intensity of functional consequences of pain. This can be interpreted as, the higher they are, the higher the satisfaction with nursing care, and thus the higher the patient's experience of it. On the other hand, the low intensity of functional consequences of pain is most likely connected with a low expectation of care, and even the minimum care is already perceived as an experience of care. An equally credible hypothesis indicates that the low intensity of functional consequences of pain coincides with previously intense caring activities that have led to such a state, which is why the experience of care is high. The analysis of the literature on the subject refers to the few research projects carried out among patients with spinal pain syndrome. One of them is Korean research, which involved 150 young men with low back pain in neurosurgical wards in three hospitals. As a result of the implemented project, the effect of supporting nursing care on reducing pain and increased satisfaction with care was demonstrated [34].

Conclusions

1. The dominant dimension of satisfaction with nursing among the respondents in the lumbar spine pain syndrome are positive experiences from the nursing care received at the ward.
2. Overall satisfaction with nursing and care experience is the highest in patients displaying low and high functional consequences of pain.

Implications for Nursing Practice

Overall perception of satisfaction with care is often dependent on patient's freedom and privacy during hospitalization and nursing care [35]. The interdisciplinary approach of the team (doctor, nurse, pharmacist) to treat pain together, along with effective communication, and a sense of security [36] are a fundamental part of ensuring patient care excellence, which is strongly correlated with improved patient health and care satisfaction [37]. The two strongest, unique, and absolute predictors of patient satisfaction with spinal pain symptoms after 6 months of treatment were: meeting expectations of treatment (i.e. satisfaction with care) and changing the severity of symptoms (pain), which partially confirms the above elements of the concept of satisfaction with care [38]. Factors that affect patient satisfaction with pain management include the adequacy of the received education and the type of therapy [39]. Patients expect optimal pain treatment resulting from fast and effective pain control and a small number of side effects resulting from pain or treatment. In addition, patients expressed greater satisfaction with care when they were regularly given pain medication, i.e. pain itself was therefore low [40]. In addition to adequate pain relief, overall patient satisfaction depends on many factors, including providing rapid intervention, engaging patients in self-care, encouraging them to communicate pain, interacting with the care provider, and establishing a relationship based

on mutual trust [41]. It was also noted in the literature that the involvement of patients in their own care improves their satisfaction of it [42], which may align with the results of own research, i.e. with low functional pain, greater involvement in care, and a sense of experiencing greater satisfaction with care. A study by Tawila et al. provided optimistic data on patient satisfaction with care. In this project, it was shown that 84.7% of pain patients were satisfied or very satisfied with the care, which is explained by the fact that only 7.7% of patients had to wait more than 30 minutes before receiving pain medication on demand and only 10.9% of them did not receive any additional pain medication for their growing pain. In addition, almost half of the study participants received sufficient education in the field of pain and therapy [43]. Such beneficial practices related to patient involvement in the care process could explain the high patient satisfaction results, despite the significant functional consequences of pain experienced.

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Conflict of Interest: None
Funding: None
Author Contributions: Elżbieta Bartoń[A, B, E, F, H], Robert Ślusarz[A, G], Ewa Guz[F, G], Józef Jasik[C, F], Krzysztof Turowski[G, H], Anna Mazur[C, D], Danuta Zarzycka[A, G, H]
(A — Concept and design of research, B — Collection and/or compilation of data, C — Analysis and interpretation of data, D — Statistical analysis, E — Writing an article, F — Search of the literature, G — Critical article analysis, H — Approval of the final version of the article)
Received: 25.02.2019
Accepted: 19.03.2019