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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)

Ocena satysfakcji z opieki pielęgniarskiej w grupie pacjentów ze schorzeniami układu nerwowego w oparciu o Skalę Zadovolenia z Pielęgnacji Newcastle

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ABSTRACT

Introduction Assessment of satisfaction with nursing and services provided is frequently conducted by Health Care Units, their results constitute the basis for the assessment of quality of care. The aim of the paper was the assessment of satisfaction of nursing in a group of patients with disorders of the nervous system based on the NSNS Scale.

Material and methods. The method of diagnostic survey with the Newcastle Satisfaction with Nursing Scale (NSNS) questionnaire was applied in the study. The research studies were conducted among in-patients at the Department of Neurology in the Podkarpackie province.

Results. The studied group constituted 105 patients hospitalised in the period from January to June 2010 at the Department of Neurology. Average age of the respondents amounted to 47.54 years (SD 18.53), however, the average time of hospitalization amounted to 5.95 days (SD 3.66). The average value of the result of the experience of nursing care amounted to 68.05% and then

STRESZCZENIE

Wstęp. Badanie zadowolenia z opieki pielęgniarskiej oraz satysfakcji z otrzymanych usług jest prowadzone często w jednostkach ochrony zdrowia, zaś jego wyniki stanowią podstawę do oceny, jakości opieki. Celem pracy była ocena satysfakcji z otrzymanej opieki pielęgniarskiej wśród pacjentów ze schorzeniami układu nerwowego w oparciu o skalę NSNS.

Materiał i metoda. W badaniach wykorzystano metodę sondażu diagnostycznego z użyciem kwestionariusza ankiety, którą stanowiła Skala Zadovolenia z Pielęgnacji Newcastle. Badania prowadzono wśród pacjentów hospitalizowanych w oddziale neurologii na terenie województwa podkarpackiego.

Wyniki. Grupę badaną stanowiło 105 pacjentów, którzy hospitalizowani byli w okresie od stycznia do czerwca 2010 roku w oddziale neurologii. Średnia wieku respondentów wynosiła 47,54 lat (SD 18,53), natomiast średni czas pobytu wynosił 5,95 dnia (SD 3,66). Wartość średnia wyniku doświadczenia z opieki pielęgniarskiej wynosiła 68,05%, następnie wynik satysfakcji z opieki pielęgniarskiej wynosił 78,97%.

Udział współautorów / Participation of co-authors: A – przygotowanie projektu badawczego/ preparation of a research project; B – zbieranie danych / collection of data; C – analiza statystyczna / statistical analysis; D – interpretacja danych / interpretation of data; E – przygotowanie manuskryptu / preparation of a manuscript; F – opracowanie piśmiennictwa / working out the literature; G – pozyskanie funduszy / obtaining funds

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the result of satisfaction with nursing amounted to 78.97%.

Results. Nursing in the scope of an experience as well as satisfaction was assessed at a good level, there was no correlation between the experience of nursing, satisfaction and the age of the respondents and there was a significant correlation between gender and the experience as well as the satisfaction with nursing.

Key words: quality of nursing care, a patient's satisfaction, nursing practice

Introduction

The measurement of quality of nursing care as well as its provision became a matter of worldwide interest in the 1970s and the 1980s. It resulted from a growing professional identity of nurses that stemmed from the need to find new ways of nursing based on basic sciences, it was also the requirement of the institution financing health care providers [1, 2]. The first actions aiming at increasing the quality of nursing care were undertaken by Florence Nightingale. She emphasised the necessity of professional education of nurses, shaping specific features of their character, caring for the patients' environment [1]. The need for measurement and assessment of nursing care is questioned, however, despite many concepts and tools of measurement, the issue is very complex. Nursing is a complex process by itself, including not only manual or technical procedures but also the entire sphere of interpersonal contact, intellectual and decisive activity [1].

According to literature, there are two basic systems of providing quality in nursing: traditional and dynamic one. The traditional approach relies on the comparison of nursing with the standards and criteria which have been established by experts and the assessment is conducted by the persons from the outside, mostly, having little in common with the work in a ward, e.g. directors, managers. Nurses have to follow obtained guidelines and recommendations. The dynamic approach is connected with active participation of nurses in the process of defining standards and criteria of assessment of nursing. It is a duty of the nurses to actively participate in the process of maintaining quality, monitoring, recognising and assessment [3, 4]. Monitoring of quality is the element defining quality indices of is patient's satisfaction with nursing. Out of all health care providers the nurses have the most frequent contact with a patient, patient's satisfaction with health care depends to a large extend from the experiences with nursing [5,6]. This assessment can be investigated in terms of satisfaction as well as lack of satisfaction with care provided to the patients during their stay in a hospital. Patient's satisfaction can be defined as conformity between patient's expectations and what they obtain in reality [6]. Scientific research performed in the area of nursing quality along with presenting the role of a nurse and their influence on the

Wnioski. Opieka pielęgniarska w zakresie doświadczenia, jak i satysfakcji była oceniona na poziomie dobrym, nie wykazano zależności pomiędzy doświadczeniem z opieki pielęgniarskiej, satysfakcją a wiekiem badanych oraz wykazano znacznie istotny związek pomiędzy płcią a doświadczeniem i poczuciem satysfakcji z opieki pielęgniarskiej.

Słowa kluczowe: jakość opieki pielęgniarskiej, satysfakcja pacjenta, proces pielęgnowania

patient's satisfaction, establish these areas which should be improved or changed.

Aim of the study

The aim of this study was the assessment of satisfaction with nursing and services provided to patients treated conservatively at the neurology ward according to the Newcastle Satisfaction with Nursing Scale (NSNS).

Materials and methods

The tests were conducted in the period from January to June 2010 in the area of the Podkarpackie province in the neurology ward. The research covered 107 patients meeting the criteria of enrolment presented in the original study tool, i.e. [1]:

- Patients were adult (18+)
- Stayed at the ward for at least two days,
- Were on the discharge day or transfer from the department,
- Had no consciousness disturbances (GCS>15 points)
- Could write and read in Polish,
- Gave consent to the study.

The Polish version of the *Newcastle Satisfaction with Nursing Scale* (NSNS) was used in the study [7]. The scale is aimed to gain individual opinions and experiences on nursing. The scale has been created to analyse and compare the general scoring obtained in the scope of opinions and experiences on nursing by the groups of patients. The information gained from particular patients was used to analyse the average satisfaction with nursing at the level of a ward. The scoring obtained by particular patients was not compared, particular questions and issues were not statistically analysed since the scale was not created and verified in this field [3, 4].

The Newcastle Satisfaction with Nursing Scale (NSNS) includes three parts: the first part refers to the experiences with nursing, it is composed of 26 questions assessed separately in a 7-point Likert scale, the analysis of answers allows to define the overall scoring of "experience" within the range from 0 to 100 points, where 100 means the best and 0 means the worst experience of the care.

The second part refers to the satisfaction with nursing, it is composed of 19 questions assessed separately in a 5-point Likert scale, the analysis of answers allows to define the overall scoring of "satisfaction" within the

range from 0 to 100 points, where 100 means the best and 0 means lack of satisfaction with the care.

The third part of the questionnaire includes questions on demographic and informational character and two questions regarding overall assessment of nursing, and perception of the stay in a ward as well as two open questions on patients' comments.

According to the findings of the authors' of the Newcastle Satisfaction with Nursing Scale (NSNS), to obtain reliable results on the measurement of patient satisfaction it is indispensable to obtain 100 questionnaires filled in correctly [4]. The questionnaire was filled in on the day before or on the day the patient was discharged from the ward.

The statistical analysis included basic descriptive measurements adjusted to the variables e.g. mean, standard deviation, median, minimum and maximum values. The variables measured in a quotient scale - age and time of stay were described by means of arithmetic average and standard deviation (SD). The variables measured in a normal scale - such as demographic features and respondents' opinions regarding their stay in a hospital were described in a form of numerical data having the number (n) and percentage value (%) showing the share of a given variable in the studied group. The variables described in an ordinal scale - questions regarding satisfaction and experience with nursing were described by means of a median and minimum and maximum values. The statistical analysis was performed by means of the following tests: nonparametric Man - Whitney U test for two groups. The level of significance was assumed at $p < 0.05$. The statistical calculations were performed with STATISTICA 9.0.

In Poland, there are many studies conducted on satisfaction with nursing by the health care units and independent research units. The Newcastle Satisfaction with Nursing Scale (NSNS) was used in Poland for the first time in multicenter studies by Gutysz-Wojnicka on the patients' group hospitalised in the wards of various treatment profiles [8].

This research was performed upon consent of the Bioethical Committee at the Medical University in Poznań.

Results

The analysis included 105 questionnaires filled in correctly. The study included: 51 females (49.0%) and 54 males (51%). Majority of the subjects had secondary school education (73.0%), primary/vocational education (15.0%), higher education (13.0%).

The average age of the studied patients was 43.7 years with standard deviation amounting to 19.2 years. The youngest studied person was 18 and the oldest 81.

Average age when the subjects finished full time education ($N=53$) was 18.6 ± 5.93 . On average, patients stayed 5.95 ± 3.66 days at the hospital. The shortest period amounted to 2 days, the longest 18 days (Table 1).

The statistical analysis indicated that the question included in the questionnaire: Are you still learning? was answered by 92 persons. 83.0 % of the surveyed finished their education, but 17.0 % are still learning. The majority of the subjects claimed that they did not have any nurse assigned to be responsible for their care (50.0%), slightly fewer (39%) responded that they were not aware, only 20.0% claimed that they had a nurse assigned who was

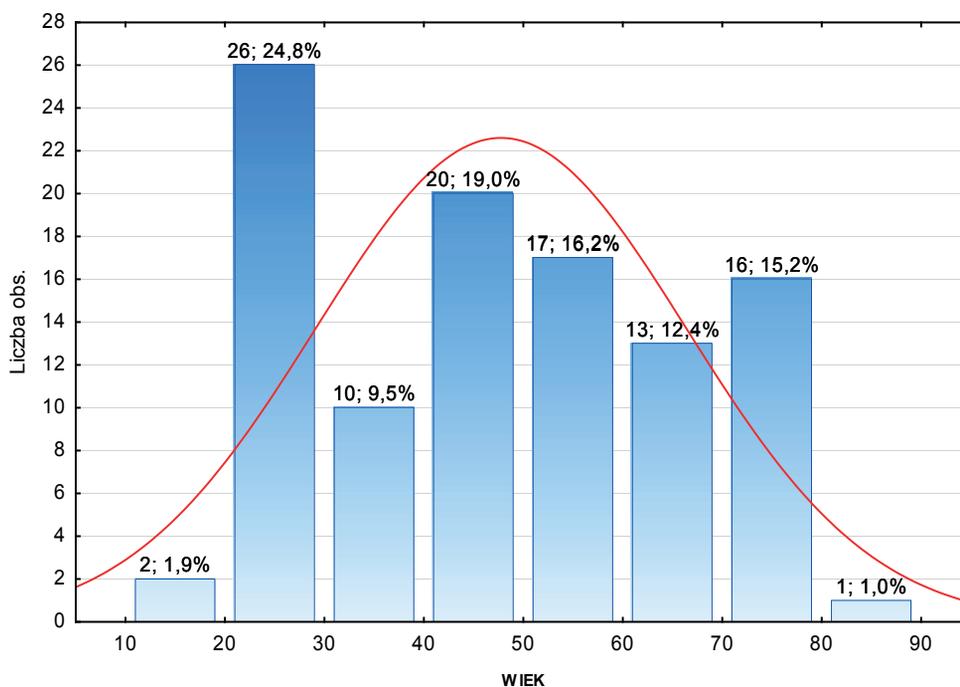


Fig. 1. Age of the studied patients

Tab. 1. Demography of the subjects

Variable	Number of the subjects (%)
Age Average \pm SD	105 18-81 47.54 (18.53)
Number of days of hospitalisation Average \pm SD	2-18 5.95(3.66)
Gender	105
F	51 (49.0%)
M	54 (51.0%)
Education	
Primary/Vocational	15 (15.0%)
Secondary	75 (73.0%)
Higher	13 (13.0%)

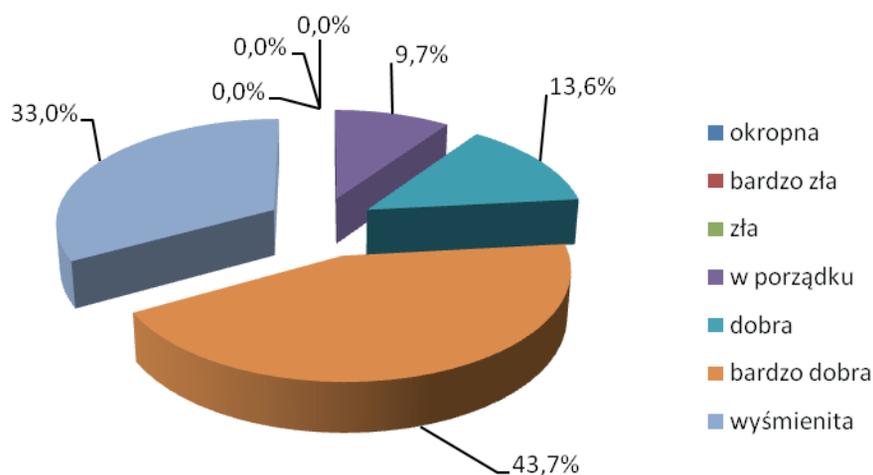


Fig. 2. Overall assessment of the stay in a hospital ward

responsible directly for nursing over a given patient. Great majority of the respondents (100%) positively assessed the entire stay in a hospital ward. The answers to these questions regarding the overall assessment of the stay in a hospital ward were as follows: 44.0% assessed the stay as very good, 14.0% as good, 33.0% as great, 10.0% as ok (Fig. 2).

The important aspect of the research was recognising how patients assess nursing care obtained in a hospital ward. The results were as follows: 49.0% of the respondents assessed care as very good, 13.0% as good and 6.0% as ok, and 32.0% as great, none of the surveyed assessed nursing care as bad. Overall assessment of nursing was good according to 100% of patients.

According to the subjects, nursing care was assessed slightly better than the entire stay in the hospital. The patients more often assessed nursing as very good – 49.0% of the subjects and excellent – 32.0% in comparison to the assessment of the entire hospitalization where the assessment was 44.0% and 33.0%, respectively.

The analysis of assessment of experience with nursing showed that the experiences connected with nursing were included in the range from 44.87 points to maximum 82.69 points out of 100 possible to score, average value amounted to 68.05 with standard deviation 8.31. The median of results amounted to 69.23.

The overall mean value which defines the level of experience with nursing was calculated for the statistical analysis, it amounted to 68.05%. According to the assumptions of the authors of the scale, the sum of points obtained in particular areas i.e. NSNS I (experience) and NSNS II (satisfaction) exceeding 50% of maximum value, proves the satisfaction of patients with obtained nursing [5].

Generally, the average value of experience assessment connected with nursing was higher for males than for females. However, there was no statistically significant influence of gender on the assessment of experiences with nursing: KW-H(1; 105) = 0.4413; $p = 0.5065$ (Fig. 3).

The impact of patient's education on the result of assessment of nursing care was conducted by means of a

non-parameter Kruskal-Wallis test. The subjects marked the following levels of education in the questionnaire: primary/vocational, secondary, and higher. There is a slight relationship between the level of patient's education and the results of the experience ($KW-H(2; 103) = 5.2462$; $p = 0.0726$). The results of the experience in terms of higher education amounted to 66.07 for secondary education 67.77 and for primary education/vocational education 72.35.

The test of the influence of the age on the assessment of experiences with nursing, indicated lack of relationship: $r=0.1358$; $p = 0.1671$; $r_2 = 0.0185$. The further part includes the analysis of the satisfaction with nursing. The satisfaction with nursing was assessed the lowest at the level of 20 points, however, the maximum was 100 points per 100 possible to be obtained. It indicates that the level of satisfaction of patients with nursing was very differentiated, from very low to very high (fully satisfied). The average value for the assessment of satisfaction amounted to 78.97 with a standard deviation of 26.35 from 0 to 100. For the purpose of the statistical analysis, the overall mean value was calculated which defines the level of satisfaction from nursing, amounted to 78.97%. The median of results amounted to 86.84.

The statistical analysis did not indicate any significant relationship between satisfaction with nursing in the opinion of females and males. The average of satisfaction assessment for females amounted to 83.25 for males 78.09. $KW-H(1; 105) = 0.2637$; $p = 0.6076$.

There was a relationship between the level of nursing quality and the age and the level of education of the subjects. There were no statistically significant values of assessment of satisfaction with nursing and the education of the surveyed. The level of satisfaction of the respondents with primary/vocational education was slightly higher, at the level of 84.29, then with the secondary education at the level of 81.50, the lowest was in case of patients with higher education, at the level of 69.93. $KW-H(2; 103) = 3.1333$; $p = 0.2087$.

Next, there was a comparison of mean values of both parts of the scale. The analysis of the graph below shows that patients assessed satisfaction with nursing higher than experiences with nursing (Fig. 4).

Discussion

The assessment of the level of satisfaction of the patient with nursing is the subject of many studies, which results may constitute the basis for constant improving of the quality of nursing [9]. In recent years, in medical sciences, there is a systematic increase in the interest in the problem of quality of nursing at hospital wards. At the initial period of providing the proper level of quality of nursing, the subject of the assessment was the structure of the system (ward equipment, environment, staff) and the process of providing nursing itself (professional practice, process of

care). It was assumed that in a well prepared environment (structure), providing good nursing (process), good effects would be achieved. The first tools measuring the quality of nursing at wards emerged in the 1970s. The period from the 90's onwards has been the time of intensive studies in the scope of manners and methods of increasing the quality of nursing, however, the main emphasis was on the measurement and monitoring of results (effects) of this care [1, 3, 4]. In the literature, there are many studies regarding the satisfaction of a patient with nursing [10, 11]. Among the researchers, there is a conformity regarding the statement that a subjective assessment of a patient is one of the most important indices of broadly understood quality of health care [6, 11].

The Newcastle Satisfaction with Nursing Scale (NSNS) was developed by the team of researchers from the University of Newcastle upon Tyne in Great Britain. The tests were conducted in North-Eastern England in 5 hospitals, on 20 hospital wards, on the group of 2078 patients. Test results confirmed that this is the tool which is accurately sensitive so as to establish differences in the level of patient's satisfaction between particular wards and hospitals. The Newcastle Satisfaction with Nursing Scale (NSNS) is used for measuring the opinion and experiences of patients with nursing [1].

When it comes to the literature of the subject regarding the practical use of the Newcastle Satisfaction with Nursing Scale (NSNS), the results of adapting the scale in Turkey must be emphasised. The studies were performed on two wards i.e. internal and surgical of the University Hospital in Istanbul. The studies were performed on the group of 200 patients. As a result of research studies on the presented notion, the authors defined the level of satisfaction with nursing, which amounted from 74.5% to 100% for the entirety of the scale. The modified Turkish version was composed of 19 statements in the original version NSNS 2 the part on "satisfaction" and the third part which included demographic data and overall scoring. The statistical analyses confirmed that this is the tool meeting the criteria of reliability and diligence - for the part 'satisfaction' the Cronbach alpha coefficient amounted to 0.96. In the further part, the authors aimed to test the first part of the NSNS scale 'experience' for their research usefulness [9].

The studies on NSNS were also conducted by the researchers from the University of Ottawa. The study group included 189 females from an obstetric ward in the years 1999–2001 in the province of Ontario, Canada, in the part on 'experience' the average result of the study amounted to 76.4 and in the part on 'satisfaction' 74.7. The conducted psychometric tests of the scale confirmed their usefulness for the nursing satisfaction measurement in an obstetric ward [10]. Akin et. al. applied the Turkish version of the scale and obtained the average result of 'satisfaction' among the studied patients at the level of

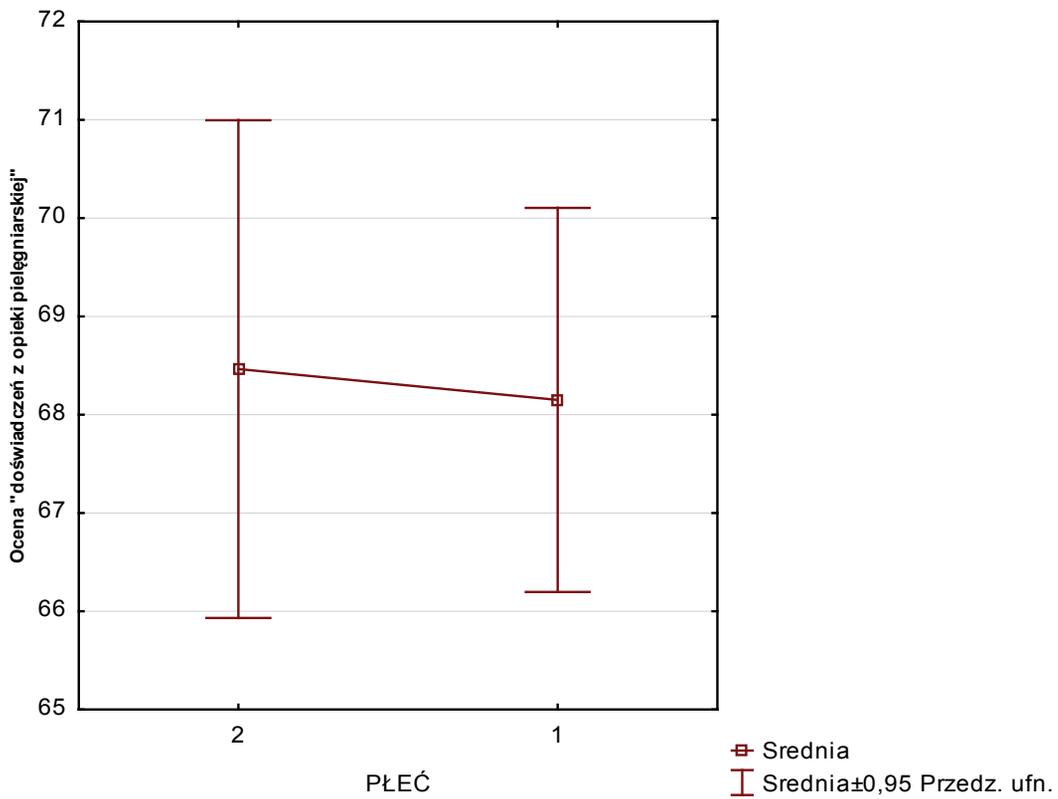


Fig. 3. Patients' assessment of experiences with nursing

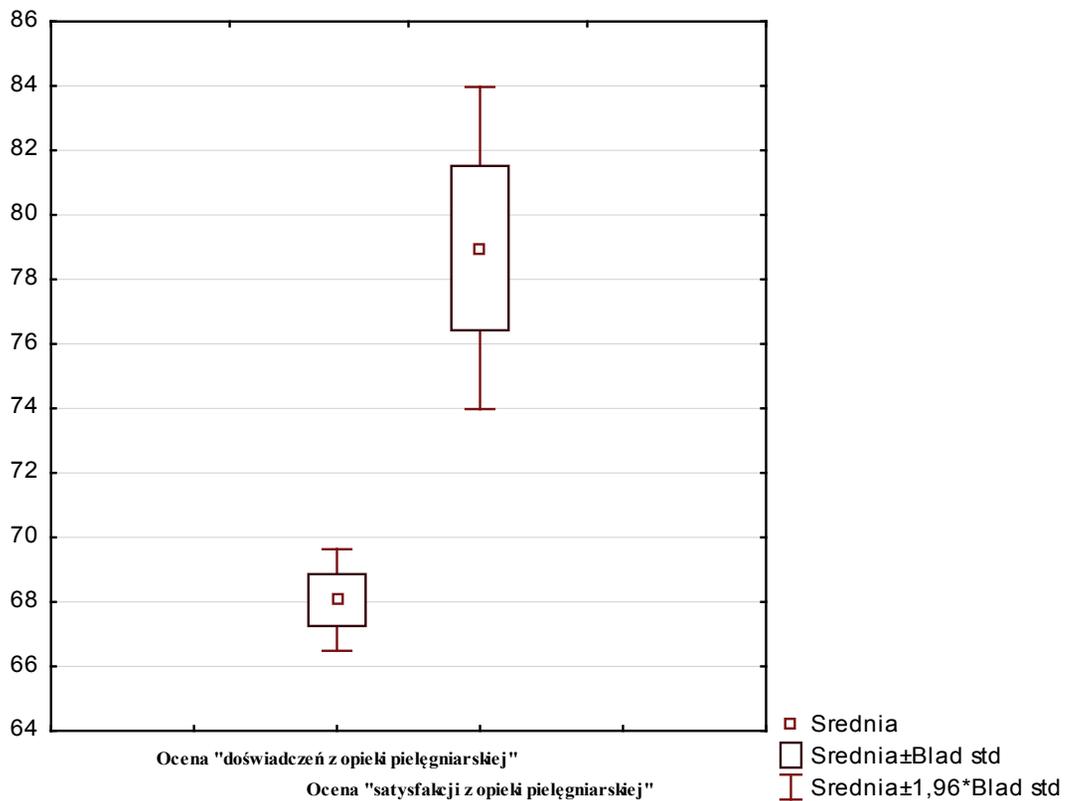


Fig. 4. Statistical measurements for the assessment of the satisfaction with nursing and experiences with nursing

55.29 [12]. These differentiated results of the assessment confirm that by means of the NSNS, it is possible to show the results in the standard of nursing. The original version of NSNS showed statistically significant differences in the experiences connected with nursing the level of satisfaction with nursing, both on the level of a ward ($p < 0,001$) and in a hospital ($p < 0,001$) [1].

Similar research studies were conducted in Mc-Master University of Hamilton. The NSNS was used for assessing the quality of nursing in an obstetric ward. The analysis of the level, quality of nursing and experiences with nursing between female patients after C-section and natural labour was performed [10].

Walsh et. el. conducted research with the use of The Newcastle Satisfaction with Nursing Scale (NSNS) on a 15-bed surgical ward at the University Hospital of St. Martin, England. According to the assumptions of the authors of the NSNS, there were assumed 100 correctly filled questionnaires, out of which 88 were to be used. The results which were obtained on the assumed scoring were positive: in the scope of experience with nursing 47% gave scoring at the level of 90% and others of 100% and in case of satisfaction with nursing almost 59% of the surveyed awarded the scoring of 90% and more [5]. It stems from available literature that there were made many studies worldwide aiming at defining quality of nursing in the patients' opinion as well as experiences with that nursing.

In the authors' own studies, the impact of gender, age and education on the assessment, quality of nursing as well as experiences with nursing in a hospital ward were analysed. Statistical tests have not confirmed the influence of age and the level of education on satisfaction and experiences of patients with nursing. However, it must be emphasised that the influence of education on the level of patient's satisfaction with nursing is not unanimously defined in literature. Consequently, this relation was not presented by Akin and Erdogan, the authors of the Turkish version of the Newcastle Satisfaction with Nursing Scale ($p = 0,91$) [12].

Zadroga et. el. in their studies, differentiated the influence of a gender and lack of influence of age, on the level of quality and level of experiences on the exercised nursing in a hospital ward, however, females assess nursing higher [13].

Own studies are compliant with the studies of Johansson et. el. who proved the impact of the gender on the experience and satisfaction with nursing. They confirmed that males assess nursing higher in comparison to the surveyed females. In own studies, it was confirmed that age does not influence it in any manner. This opinion is different from the reports of other authors, who show a significant influence of age on the assessment of experiences and satisfaction with nursing [6,14].

The presented results of research are preliminary reports in the analysis of the problem regarding quality and experiences with nursing.

NSNS is a research tool measuring the level of satisfaction with nursing and experience with nursing. Its high score results from the fact that it includes the aspects of nursing significant from the patient's point of view [14].

In the light of contemporary state of knowledge, it seems necessary to master research tools, reliably assessing the quality of nursing as nursing has a significant influence on the entire medical care. The assessment of patient's satisfaction with the quality of services, including nursing, as well as constant aim at improvement has a significant meaning in the age of present transformations within the system of medical health care worldwide [13].

This study which is part of the previously presented research project, constitute the first attempt to answer the question whether the NSNS fulfils the criteria of a good research tool. Basic criteria of it are reliability and diligence. In the scope of reliability of the Polish version, the obtained data indicate a great stability of measurements and high reliability [8].

Conclusions

1. The overall assessment of patient's experiences with nursing in hospital ward as well as satisfaction of a patient with nursing is good (68.05%, 78.97%, respectively).
2. Females assess nursing slightly higher in comparison to the surveyed males.
3. Demographic variables such as: gender, age and education of the surveyed do not have any influence on perceiving nursing in a hospital ward by the studied patients.

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