

ORIGINAL ARTICLE / PRACA ORYGINALNA

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**VALIDATION OF POLISH VERSION OF THE QUESTIONNAIRE  
FOR EVALUATION OF PARENTS/CAREGIVERS SATISFACTION  
WITH NURSING CARE IN A PAEDIATRIC WARD**

**WALIDACJA POLSKIEJ WERSJI JĘZYKOWEJ KWESTIONARIUSZA OCENY  
POZIOMU ZADOWOLENIA RODZICÓW/OPIEKUNÓW Z OPIEKI PIELĘGNIARSKIEJ  
NA ODDZIALE PEDIATRII**

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**S u m m a r y**

**Introduction.** The questionnaire *Parent satisfaction in paediatric intensive care* by Latour et al. is a standardized instrument used in the measurement of parents' satisfaction with care in an intensive care unit in Rotterdam, Holland.

The objective of the study was to present the process of validation of a research instrument and adaptation of the questionnaire *Parents/caregivers satisfaction with nursing care* for measuring satisfaction with nursing care in paediatric wards in Poland.

**Material and methods.** Studies on validation of the instrument were conducted during the period of 2012–2013, in Polish general paediatric wards and paediatric intensive care units in hospitals with the 3<sup>rd</sup> reference level in the regions of Rzeszów and Olsztyn. After analyzing the instruments applied for measuring satisfaction with care published in international literature, the questionnaire for evaluation of satisfaction by Latour et al. was selected. The text of the questionnaire was translated and questions posed commensurate with the Polish conditions. Subsequently, the understanding of the questions was assessed in a group of 15 parents of children hospitalized in the paediatric ward in the

Specialist Health Care Unit in Sanok. Then, the validity and reliability of the Polish version of the instrument was evaluated in the group of 115 parents of children hospitalized in a paediatric ward and 100 nurses employed in paediatric care wards in the regions of Rzeszów and Olsztyn. Psychometric properties of the instrument were analyzed using factor analysis and Cronbach's alpha coefficient.

**Results.** The validation process allowed an observation of a high level of understanding in both groups examined of the contents of questions in the instrument for the measurement of satisfaction. This is confirmed by the value of Cronbach's alpha coefficient in individual blocks of items of over 0.8, which showed a high reliability of the test.

**Conclusions.** The results obtained in the process of validation of the instrument confirmed that the questionnaire *Parents/caregivers satisfaction with nursing care* satisfies a high level of reliability and validity. Therefore, this questionnaire may be used in the studies concerning the assessment of the level of parents'/caregivers' satisfaction of with care in general paediatric wards and paediatric intensive care units in Poland.

**S t r e s z c z e n i e**

**Wstęp.** Kwestionariusz Zadolenia rodziców z opieki autorstwa Latour i wsp. to standaryzowane narzędzie stosowane w pomiarze satysfakcji z rodziców z opieki na oddziale intensywnej terapii w Rotterdamie w Holandii.

**Cel pracy.** Przedstawienie procesu walidacji narzędzia badawczego i adaptacji kwestionariusza Zadolenia rodziców/opiekunów z opieki pielęgniarskiej

dla potrzeb pomiaru satysfakcji z opieki pielęgniarskiej na oddziałach pediatrii w Polsce.

**Materiał i metody.** Badania nad walidacją narzędzia prowadzono w 2012 i 2013 roku w krajowych oddziałach pediatrii ogólnej oraz intensywnej terapii dzieci w szpitalach trzech poziomów referencyjnych województwa podkarpackiego i mazursko-warmińskiego w Polsce. Po przeanalizowaniu narzędzi stosowanych w pomiarze satysfakcji z opieki opublikowanych w piśmiennictwie zachodnim, wybrano Kwestionariusz oceniający zadowolenie z opieki autorstwa Latour i wsp. Po przetłumaczeniu tekstu kwestionariusza pozostawiono pytania adekwatne do polskich warunków. Następnie dokonano oceny zrozumienia pytań w grupie 15 rodziców dzieci hospitalizowanych na oddziale pediatrii Szpitala Specjalistycznego Zespołu Opieki Zdrowotnej w Sanoku. W dalszej kolejności oceniono trafność i rzetelność polskiej wersji narzędzia w grupie 115 rodziców hospitalizowanych na oddziale pediatrii oraz 100 pielęgniarek pracujących na oddziałach dziecięcych

**Key words:** satisfaction, measurement, research instrument, paediatrics, nursing care

**Słowa kluczowe:** satysfakcja, pomiar, narzędzie badawcze, pediatria, opieka pielęgniarska

## INTRODUCTION

Changes taking place in the system of health care, humanization of medicine, and holistic approach to the object of care, as well as striving towards the highest quality of the offered services possible, increase interest in the measurement of satisfaction with care [1]. A high level of satisfaction of services' recipients is a basic indicator of the optimum quality of care provided by a health care facility [2, 3]. Recipient's satisfaction with the services provided is an expression of the good quality of care which increases the competitiveness of the care provider on the market of health services [4, 5]. The primary principle of quality standards by the International Organization for Standardization (ISO) is the orientation towards the client and related with it determination of the services recipient's level of satisfaction, which facilitates a simultaneous recognition and understanding of the current demands and expectations [6]. The measurement of satisfaction with care is an important element in the management of a health care facility [7], and an element of the assessment of the quality of care [6, 8].

Satisfaction (Lat. *satisfactio* – reparation) is defined as a feeling of being pleased, content, e.g. because of something that one achieved or obtained [9]. According to Lenartowicz, it is related with personal expectations, personal values and experience. The measurement of the level of satisfaction is a valuable source of information concerning the services

w województwie podkarpackim i warmińsko-mazurskim. W określaniu właściwości psychometrycznych narzędzia zastosowano analizę czynnikową oraz współczynnik  $\alpha$ -Cronbacha.

**Wyniki.** Proces walidacji pozwolił na stwierdzenie wysokiego stopnia zrozumienia w obu grupach badanych treści pytań w narzędziu do pomiaru satysfakcji. Wskazuje na to wartość współczynnika  $\alpha$ -Cronbacha poszczególnych bloków pytań powyżej 0,8, potwierdzająca wysoką rzetelność testu.

**Wnioski.** Wyniki osiągnięte w procesie walidacji narzędzia pozwoliły na stwierdzenie, że kwestionariusz Zadowolenia rodziców/opiekunów z opieki spełnia wysoki stopień rzetelności oraz trafności. Dlatego może być stosowany w badaniach dotyczących oceny poziomu satysfakcji rodziców/opiekunów z opieki na oddziale ogólnopediatrycznym oraz intensywnej opieki dla dzieci w Polsce.

provided [10]. Satisfaction defined as a feeling of content is a resultant between expectations and the effect obtained. The smaller the discrepancy between expectations and effects, the higher the level of satisfaction [6, 8]. According to the American Nurses Association (ANA), patient satisfaction is the measure of a client's opinion with respect to nursing care provided within medical services during a stay in a health care facility [11]. This is the most important indicator of a patient's satisfaction with complex hospital care [4]. This was confirmed in studies by Otani et al. which indicated that nursing care is of the utmost importance for an overall satisfaction with hospitalization [12].

In paediatric patients, the evaluation of satisfaction is performed by parents or caregivers [2] who, at the same time, exert an effect on the planning of care [13]. A high level of parents' satisfaction with care increases trust in paediatric care and is an important indicator of the quality of care [7].

Various methods, techniques and research instruments are used in the measurement of satisfaction. The researchers investigating this aspect of quality use self-designed and standardized questionnaires [8]. However, only genuine and reliable instruments allow the actual assessment of the level of satisfaction [1, 8]. These functions are fulfilled by standardized instruments for the measurement of satisfaction of parents and caregivers with nursing care [14]. For many years in the Western countries an interest has been observed in the measurement of

satisfaction with care in paediatrics, whereas in Poland, the problem of parents/caregivers satisfaction with care is less popular. Therefore, it seems justifiable to examine the indicator of the quality of care which is parents/caregivers satisfaction with care in Poland [15]. The authors of the presented study reviewed several dozen instruments used in the measurement of satisfaction with care in West European countries and in the USA. After comprehensive analysis the most optimum instrument was selected which, however, required cultural adaptation and validation in order to be applied in Poland. The questionnaire '*Parents/caregivers satisfaction with care*' is a standardized instrument used for the measurement of parents' satisfaction with care in an intensive care unit in Rotterdam, Holland.

The objective of the study was to present the process of validation of a research instrument and adaptation of the questionnaire *Parents/caregivers satisfaction with nursing care* for measuring satisfaction with nursing care in paediatric wards in Poland.

## MATERIAL AND METHODS

Studies on validation of the instrument were conducted during the period of 2012-2013 in Polish general paediatric wards and paediatric intensive care units in hospitals with three reference levels in the regions of Rzeszów and Olsztyn. After analyzing the instruments applied for the measurement of satisfaction with paediatric care published in international literature, the Questionnaire *Parents/caregivers satisfaction with nursing care* by Latour et al. was selected. In 2006, Latour et al., based on opinions of professionals employed in a paediatric intensive care unit, selected a set of factors influencing parents' satisfaction with care. The above-mentioned researchers prepared a 78-item questionnaire for the needs of assessment of satisfaction which, after pilot studies, was applied in paediatric wards in Holland. The study was conducted in eight paediatric intensive care units in hospitals with the 3<sup>rd</sup> reference level. The replies provided by parents were divided into 5 domains, i.e. information, care and cure, organization, parental participation, and professional attitude. After analyzing the results of the study the final version contained 74 items grouped in the 5 above-mentioned domains of satisfaction [13].

Adaptation of the questionnaire to the Polish conditions covered linguistic and psychometric validation. Validation is the procedure for testing validity, reliability and accuracy of the measurement scales applied in the study.

*Linguistic validation of the instrument.* After obtaining consent to use the questionnaire, the text was translated into Polish. The translation of the original version into Polish was performed by two independent translators. After obtaining two translations, the authors reached consensus on one version; the questionnaire was modified by shortening the original version of the instrument. The premise was that the instrument was excessively long, and additionally evaluated procedures performed by physicians which, in Poland, are not the nurses' responsibility. Other detailed criteria concerning tasks which are also not performed by Polish nurses, e.g. informing parents/caregivers about the state of health of a child were also omitted. After reaching agreement concerning the best and most valid version of the questionnaire, retranslation to the source language was performed. The translator was a native speaker, whose natural language was that in which the original version of the instrument was developed. Subsequently, the English version was again translated into Polish, and then the text compared with the earlier version in Polish. Comparative analysis showed a high level of linguistic conformity between the former and final versions of translation into Polish. Subsequently, the final version of the questionnaire was modified. The goal was an assessment of understanding and usefulness for measurement in Polish conditions. For the needs of linguistic validation, the instrument was tested in a representative group of the population among whom its application was planned. The group evaluating the questionnaire from the aspect of understanding the criteria were 15 parents of children hospitalized in a paediatric ward, and 15 nurses employed in the ward of the Specialist Health Care Facility in Sanok. The pilot studies were anonymous and voluntary. Consent for the study was obtained from the Bioethics Committee at the Medical University in Lublin, No. KE-0254/163/2012, Board of Directors of the Health Care Facilities in Sanok and Olsztyn managing the paediatric ward. After consideration of the opinions of parents/caregivers, the researchers made minor corrections and adopted the final version of the instrument. Ultimately, the questionnaire consisted of 5 main domains: 1)

information, 2) care and cure, 3) organization, 4) parental participation, and 5) professional attitude. The questionnaire contained a total number of 44 detailed items aimed at evaluation of the level of satisfaction of parents/caregivers with nursing care. The first domain concerning information provided by nurses contained 8 items. The second domain consisted of 9 items related with assessment of satisfaction with nursing activities in the area of care and cure. The third domain of the questionnaire contained a smaller number of items, only 2, concerning the availability of a nurse. The fourth domain concerned the engagement of parents in the process of treatment and hospitalization and contained 6 items. The final domain in the questionnaire was related with the evaluation of the degree of professional attitude towards the nursing care provided and contained the largest number of items (19). Parents/caregivers assessed individual elements of satisfaction using a 5-degree Likert scale, where the value 1 was the lowest degree of satisfaction, while 5 – maximum level of satisfaction with care.

*Psychometric validation.* The objective was the evaluation of validity and reliability of the Polish version of the instrument. Evaluation of psychometric properties with the use of the translated version of the research instrument was performed by means of factor analysis and Cronbach's alpha coefficient. It is recommended that the number of population in the study group was at least twice as large as the number of items in the questionnaire. Theoretical validity was carried out in a group of 115 parents of children hospitalized in paediatric wards and 100 charge nurses employed in paediatric wards in the Regions of Rzeszów and Olsztyn. The nurses' task (the method of competent judges) was evaluation of the research instrument from the aspect of performance of nursing activities in accordance with the scope of duties and responsibilities.

## RESULTS

The process of validation of the instrument allowed confirmation of a high degree of understanding of the instrument for the measurement of satisfaction. This is confirmed by the value of Cronbach's alpha coefficient in individual blocks of items of over 0.8.

The results obtained show a high reliability of the test. Based on the results of Cronbach's alpha it may be presumed that high parameters of reliability of the

research instrument were obtained, with Cronbach's alpha coefficient of 0.965 (Tab. I).

Table I. *Analysis of reliability of the questionnaire items*

Variables		N	%
Observations	Important	173	80.5
	Deleted <sup>a</sup>	42	19.5
	Total	215	100.0
Statistical reliability			
Cronbach's alpha	Cronbach's alpha based on standardized items	Number of items	
0.962	0.965	44	

<sup>a</sup> Deleting observations considering all variables in the analysis

Source: Based on data obtained in own studies

Table II. *Analysis of reliability of individual sections of the research instrument*

No.	Main criteria		N	%
1.	Observations	Important	200	93.0
		Deleted <sup>a</sup>	15	7.0
		Total	215	100.0
	Information	Statistical reliability		
		Cronbach's alpha	Number of items	
		0.853	8	
		N	%	
2.	Observations	Important	193	89.8
		Deleted <sup>a</sup>	22	10.2
		Total	215	100.0
	Care and cure	Statistical reliability		
		Cronbach's alpha	Number of items	
		0.912	9	
		N	%	
3.	Observations	Important	214	99.5
		Deleted <sup>a</sup>	1	.5
		Total	215	100.0
	Availability of a nurse	Statistical reliability		
		Cronbach's alpha	Number of items	
		0.926	2	
		N	%	
4.	Observations	Important	202	94.0
		Deleted <sup>a</sup>	13	6.0
		Total	215	100.0
	Parental participation	Statistical reliability		
		Cronbach's alpha	Number of items	
		0.786	6	
		N	%	
5.	Observations	Important	192	89.3
		Deleted <sup>a</sup>	23	10.7
		Total	215	100.0
	Professionalism / professional attitude	Statistical reliability		
		Cronbach's alpha	Number of items	
		0.909	19	

<sup>a</sup> Deleting observations considering all variables in the analysis

Source: Based on data obtained in own studies

While analyzing the 5 individual domains of the questionnaire, small differences were found in the value of Cronbach's alpha coefficient (Tab. II). The lowest values were obtained in the area concerning the

Table III. Value of Cronbach's alpha for individual items in the questionnaire

No.	Statistics of items				
	Contents of an item	Mean value of scale after deleting an item	Variance of scale after deleting an item	Correlation of items total	Cronbach's alpha after deleting an item
1.	Nurse informed about principles of child's care	183.2254	612.420	0.693	0.961
2.	Nurse provided no conflicting information	183.0058	627.796	0.517	0.961
3.	Nurse provided understandable and adequate information	182.7919	628.015	0.568	0.961
4.	Nurse informed about changes in child's care	183.1445	621.927	0.543	0.961
5.	Nurse daily informed about child's care	183.7630	617.287	0.512	0.962
6.	Nurse informed about child's care at the right time	183.2601	627.019	0.466	0.962
7.	Nurse informed about rules in the ward	183.0867	620.242	0.590	0.961
8.	Nurse informed about visiting hours	183.0000	615.907	0.580	0.961
9.	Nurse was alert to child's discomfort	182.9364	620.444	0.677	0.961
10.	Nurse reacted promptly to changes in child's condition	182.7977	622.941	0.643	0.961
11.	Nurse participated in prevention/alleviation of pain complaints	182.7803	624.742	0.639	0.961
12.	Nurse gave medication at the right time	182.6301	626.444	0.637	0.961
13.	Nurse possessed information concerning bio-psycho-social status of the child	183.1214	618.654	0.718	0.961
14.	Nurse provided emotional support	183.2081	616.003	0.753	0.960
15.	Nurse provided spiritual support	183.4798	619.693	0.604	0.961
16.	Nurse displayed a caring attitude towards child and parents/caregivers	183.1214	614.084	0.788	0.960
17.	Nurse prepared for home care at discharge from the ward	183.3931	608.461	0.755	0.960
18.	Nurse was available for the child when necessary	182.8960	624.210	0.741	0.961
19.	Nurse was available for parents/caregivers as necessary	182.9653	621.289	0.768	0.961
20.	Parents cooperated with the nursing team	183.0405	633.772	0.395	0.962
21.	Nurse prepared parents/caregivers for child's care	183.1908	617.853	0.726	0.961
22.	Nurse asked about parents/caregivers expectations concerning child's care	183.4566	613.982	0.701	0.961
23.	Nurse encouraged parents/caregivers to be close to their child during hospitalization	183.0405	617.341	0.672	0.961
24.	Parents/caregivers actively shared decision-making on the care of their child	182.8960	635.954	0.386	0.962
25.	Nurse stimulated parents/caregivers to stay close to their child during nursing procedures and test	183.1676	627.350	0.503	0.962
26.	Cooperation within nursing-medical team was clearly observed	182.8960	627.059	0.584	0.961
27.	Parent/caregivers knew which nurse was responsible for the care of their child	183.2948	609.104	0.754	0.960
28.	Nurse introduced herself with name and surname	183.9769	602.918	0.658	0.961
29.	Nurse's work on duty was well organized	182.9884	622.349	0.709	0.961
30.	Work of nursing team provided the child with a sense of safety	182.9653	620.092	0.762	0.961
31.	The closest environment of the child was clean	182.8150	626.105	0.661	0.961
32.	Written information on rules in the ward were in place available for parents/caregivers	183.0636	625.816	0.524	0.961
33.	Admission hours were flexible	182.8960	634.512	0.374	0.962
34.	Accommodation for parents/caregivers nearby the ward was provided	183.3064	628.074	0.326	0.963
35.	Nurse provided high quality care irrespective of race, religion, gender and education	182.6474	631.253	0.617	0.961
36.	Nurse safeguarded privacy of a child	182.7977	626.604	0.685	0.961
37.	Nurse safeguarded privacy of parents	182.8786	623.654	0.644	0.961
38.	Nurse respected parents/caregivers	182.6936	634.446	0.508	0.962
39.	Nurse refrained from unnecessary discussions at the child's bedside	182.8728	631.530	0.490	0.962
40.	Nurse showed empathy towards the child	183.0751	626.919	0.426	0.962
41.	Nurse showed empathy towards parents/caregivers	183.2139	621.983	0.504	0.962
42.	Nurse welcomed parents/caregivers at admission/visits	182.9884	627.732	0.529	0.961
43.	Work pressure did not affect the level of services provided by nurse on behalf of the child	182.9133	625.196	0.677	0.961
44.	Child's health was a priority for the nurse	182.7399	624.077	0.761	0.961

Source: Based on data from own studies

engagement of parents in the process of treatment and care of a child (0.786). Slightly higher values were indicated in the section of the questionnaire concerning the provision of information (0.853). Similar correlations were obtained with respect to professional

attitude (0.909), and care and cure (0.912). The highest values of Cronbach's alpha coefficient were obtained for availability of nurses for the child and parents (0.926). Table II presents detailed results.

Individual detailed criteria of the questionnaire were also analyzed. It was assumed that the value of Cronbach's alpha coefficient of 0.8 confirms a high reliability of the test in psychometric validation of the research instrument (Tab. III). Analysis of the results contained in the Table shows that a relatively high correlation of the results was obtained, and none of the variables interfered with the whole of the analyses. The obtained value of Cronbach's alpha coefficient from 0.960 – 0.963 confirms a high reliability of the test. Table III presents detailed results concerning the values of Cronbach's alpha for all detailed criteria in the research instrument.

## CONCLUSIONS

The conclusions drawn during the process of validation of the instrument allowed the presumption that the questionnaire *Parents/caregivers satisfaction with nursing care* satisfies a high level of reliability and validity; therefore, it may be applied in studies concerning the evaluation of the level of parents/caregivers satisfaction with care in a general paediatric wards and paediatric intensive care units in Poland.

An increase in the expectations of care recipients, concern about the high quality of services, competitiveness of health care facilities, and the possibility of choosing a care provider by a client contribute to offering of the best possible quality of services. The demand for services is conditioned by clients' actual needs and expectations. Thus, the measurement of satisfaction with the services offered occupies an important position in the recognition of the demand for services.

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