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SELECTED INDICATORS OF PARENTS' EMOTIONAL STATE VS. PARENTS' SATISFACTION WITH NURSING CARE PROVIDED TO THEIR CHILD SUFFERING FROM CROHN'S DISEASE – PRELIMINARY REPORT

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ABSTRACT

Introduction: For parents of paediatric patients the need to hospitalize a child for Crohn's disease may be associated with stress and negative emotions, which determines their perception of services received and satisfaction with nursing care.
Aim of the study was assessment of parents' satisfaction with nursing care provided to a child hospitalized for Crohn's disease, taking into consideration potential determinants such as levels of depression, anxiety, aggression, and perceived stress.
Material and methods: The study was conducted in a group of 84 parents of children hospitalized in the Gastroenterology and Paediatrics Department of the University Children's Hospital in Krakow. The research tools included the HADS-M scale, the PSS-10 scale, the Standardized Survey Questionnaire of Parents/Guardians' Satisfaction with Nursing Care in the Paediatrics Department and the authors' own questionnaire.
Results: Parents' satisfaction with nursing care provided to a child suffering from Crohn's disease proved to be high. The highest level of satisfaction was related to the availability of the nurse, while parents' participation in providing care was rated lower. Parents of children over the age of 10 years expressed a higher level of satisfaction with care than parents of younger children. A lower level of satisfaction regarding the nurses' availability and professional approach was declared by the parents of children admitted to the hospital due to a sudden illness. Almost half of the respondents reported high levels of perceived stress and anxiety. Higher levels of anxiety and aggression were found in parents aged under 35 years. Parents with higher levels of stress and aggression were less satisfied with selected nursing care criteria.
Conclusions: During their children's hospitalization, parents experienced stress and negative emotions. Their level of satisfaction with their child's nursing care was high. Significant determinants of satisfaction were the age of the child, the reason for hospitalization, and the level of stress and aggression.
Key words: satisfaction with care, nursing care, child, parents.

INTRODUCTION

One of the main goals of modern healthcare institutions is to ensure high quality of services offered. Quality is considered a key determinant of the attractiveness of services and products, as well as of the competitiveness of companies [1, 2]. For the patient and their close relatives, the quality of medical services primarily means a subjective sense of satisfaction with received care [3]. There is no consistent definition of the terms "care satisfaction" or "patient satisfaction" in the scientific literature. However, most authors use these terms to refer to the degree to which the services received satisfy patients' needs, desires, or expectations and to their acceptance [4]. Scientific reports confirm that patient satisfaction with nursing care is important in the overall assessment of satisfaction with the course of hospitalization [5]. The assessment of patient satisfaction is an integral part of holistic nursing care, allowing us to learn about the patients' needs, expectations, and comments on the services they receive, including respecting their

rights during hospitalization [1, 6, 7]. Patients' feedback is a valuable source of information, which makes it possible to analyse the situation and make changes to optimize care based on a well-documented premise [1, 6]. High satisfaction with care also encourages health-promoting behaviour after hospital discharge [8], strengthens the sense of responsibility of the patient/family in the process of restoring, maintaining, and improving health, and contributes to an increase in the competitiveness of the health care unit [9].

Satisfaction with received care is a multidimensional concept, influenced by individual, system, and cultural factors [4]. The patient and/or their family express an opinion about health services based on subjective values, needs, expectations, and previous experience related to hospitalization, treatment, and the nursing process [5, 10, 11]. It is indicated that an important determinant of parents' satisfaction with care may also be their emotional state, especially the level of anxiety experienced during hospitalization by the child's primary caregiver [12].

Crohn's disease is chronic in nature and can potentially lead to disability. The unexplained aetiology of the disease does not allow for a complete recovery. Repeated periods of exacerbations force patients to undergo frequent medical consultations, hospitalizations, and long-term treatment, the goal of which is to achieve a state of remission in order to enable the child to have a satisfactory quality of life and proper development, and to minimize the risk of both intestinal and general complications [13]. The child's illness and hospitalization create a difficult situation for the entire family. They affect the emotional state of parents and siblings, as well as the family's emotional bond, disorganizing their daily lives and the realization of their assigned social roles [14]. The impact of a child's illness on family functioning is determined by several factors. Particular risks are observed when the disease occurs suddenly [15], threatens the patient's life, is chronic in nature [16], is associated with the child's experience of chronic pain [17], or has an inauspicious prognosis [18]. A child's illness can be a factor forcing one parent to quit their job, leading to impoverishment of the family, changes in their interactions, family breakdown, changes in parental attitudes toward the child, social stigma, and even social exclusion [19]. It has been proven that the effects of internal difficulties depend more on how they are dealt with than on the objective characteristics of the stressors [18].

The results of studies conducted in various research centres indicate high levels of negative emotions and stress among parents of hospitalized children [18, 20, 21], regardless of the type and duration of the disease. The most common psychological problem that affects the families of chronically ill children is anxiety [18]. Scientific reports also indicate the prevalence of depression, aggression, and high stress levels among caregivers, especially among mothers [18, 22]. There is also a risk of post-traumatic stress disorder in parents of health-burdened children, which has a negative impact on the functioning of paediatric patients [18]. Moreover, the emotions experienced by parents can affect their perception of services received, their attitudes toward their child's hospitalization and therapy, and respect for treatment recommendations after discharge from hospital [4].

In Poland, studies of parents' satisfaction with their child's nursing care have become a popular area of research. Studies that applied the standardized Empathic Questionnaire were conducted by Smoleń and Ksykiewicz-Dorota [11] and Kruszecka-Krówka *et al.* [1, 4], indicating a high average overall level of parents' satisfaction with care provided in paediatric wards. At the same time, the authors [1, 4, 11] identified areas where care needed to be optimized. However, no studies have been conducted in Poland with a view to evaluating parental satisfaction with care, taking into account assessments of their emotional state and the levels of perceived stress.

The aim of the study was to assess parents' satisfaction with nursing care provided to a child hospitalized for Crohn's disease, taking into consideration potential determinants such as respondents' emotional states.

MATERIAL AND METHODS

The study was conducted in a group parents of children hospitalized in the Gastroenterology and Paediatrics Department of the University Children's Hospital in Krakow between October 2021 and April 2022. The study was approved by the hospital authorities and the head of the department. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki. Parents' participation in the study was voluntary and anonymous. The research material was collected during direct meetings with parents. The members of the unit's nursing team were not involved in the implementation of the study.

The survey was conducted in a group of 84 parents on the day of their child's discharge from hospital. After receiving the discharge card from the hospital, parents, who were the primary caregivers of their children during hospitalization and willing to participate in the study, filled in a survey questionnaire. Those who met the inclusion criteria and expressed interest in participating in the study were informed of the study's voluntariness, purpose, anonymity, protection of the data obtained, and the rules for using the results. Every participant received detailed information on how to complete the questionnaires.

Respondents were assured that they could withdraw from the survey at any stage.

The inclusion criteria for the study were as follows: hospitalization lasting for at least 3 days, a parent staying with their child during hospitalization, a diagnosis of Crohn's disease in the child, and willingness to participate in the study. Parents of children whose condition was described as severe by the ward staff were excluded from the study.

The study employed a diagnostic survey method and a survey technique. The research tools included standardized survey questionnaires: the HADS-M scale [23, 24], the PSS-10 scale [25], the EMPHATIC – Standardized Questionnaire of Satisfaction of Parents/Guardians with Nursing Care in the Paediatrics Unit by Latour *et al.* [26] adapted to Polish conditions by Smoleń and Ksykiewicz Dorota [27], as well as the authors' questionnaire on selected socio-demographic variables related to parents, paediatric patients, and the process of hospitalization.

- Hospital Anxiety and Depression Scale (HADS), original version developed by: Zigmond and Snaith [23], Polish version adapted by: Majkowicz *et al.* [24]. The HADS-M scale is used for screening and contains 3 independent subscales: depression, anxiety, and aggression, comprising a total of 16 questions (each can be scored from 0 to 3 points: depression subscale (7 questions) – the maximum number of points is 21, anxiety subscale (7 questions) – the maximum number of points is 21, and aggression subscale (2 questions) – the maximum number of points is 6.

The interpretation of the number of points for each subscale is as follows: no disorders: 0-7 pts. – depression/anxiety subscale, 0-2 pts. – aggression subscale; borderline states: 8-10 pts. – depression/anxiety subscale, 3 pts. – aggression subscale; observed disorders: 11-21 pts. – depression/anxiety subscale, 4-6 pts. – aggression subscale.

In total, a subject can score a maximum of 48 points (this is the sum of the maximum number of points from each subscale); relating the percentage scores for each subscale, we obtained the following results: no disorders 0-33.33%, borderline states 33.34-47.62%, and observed disorders 47.63-100%. As the sum score, individual conditions can be defined as follows: 0-16 pts. – no disorders, 17-22 pts. – borderline states, and 23-48 pts. – presence of disorders. Validation studies of the basic and modified versions of the HADS scale have demonstrated its satisfactory reliability and accuracy [23, 24]. The Spearman's rank correlation coefficient calculated for the test items and the overall score of a given subscale was statistically significant at least at the p = 0.01 level and ranged from 0.41 to 0.76. The HADS is a widely used method of measuring anxiety and depression both in psychiatric practice and in the study of mentally healthy individuals in whom, for some reason, the emotional state must be assessed [39, 40]. For the purposes of the present study, each subscale was analysed separately rather than in total.

- The Perceived Stress Scale-10 (PSS-10), developed by Cohen *et al.* [28] and adapted to Polish by Juczyński and Ogińska-Bulik [25]. The scale can be used for screening to identify individuals qualifying for psychological or medical help. The PSS-10 stress severity index is considered a good predictor of physical and mental health. The scale consists of 10 questions referring to respondents' subjective feelings connected with problems and personal experience, behaviours, and coping strategies, which are assessed on a 5-point scale ranging from 0 (*never*) to 4 (*very often*). Before calculating the general indicator of the intensity of perceived stress, changes are introduced in the scores for positively formulated questions (4, 5, 7, 8) following the rule: 0 = 4; 1 = 3; 3 = 1; 4 = 0. The total score is the sum of all scores and ranges between 0 and 40; the higher the score, the higher the intensity of perceived stress. The general index is transformed into standardized units and interpreted according to the proprieties characterizing a sten scale. The score ranging from 1 to 4 stens is considered to be low, from 5 to 6 stens – average, and from 7 to 10 stens – high. The score of 10 on the PSS scale is an indicator of assessing one's own life situation as stressful, i.e. unpredictable, beyond control, and excessively burdensome.
- The Emphatic Standardised Questionnaire measures overall satisfaction with nursing care and satisfaction with child nursing in terms of 5 major criteria: information, care and treatment, availability, parental participation, and professional attitude, containing 2 to 19 specific assigned criteria. The score for each of the major criteria is the mean of the scores for the specific assigned criteria.

Each of the specific criteria was assessed by parents using a 5-point Likert scale in which 1 means "I am very dissatisfied" and 5 means "I am very satisfied". The satisfaction score was expressed as point values with an accuracy of 2 decimal places. A score of 1 to 2.5 denotes a low level of satisfaction with nursing care (overall, for the major criteria and for each specific criterion). A score of 2.6 to 4 corresponds to the medium level of satisfaction with care. A high level of satisfaction with nursing care is considered to range from 4.1 to 5 points.

- The authors' questionnaire included 7 open-ended questions and 9 closed-ended questions, with a choice of one or more answers. The questionnaire sheet is made up of questions about gender, age, family structure, place of residence, parents' educa-

tion, number of offspring they have, and their economic situation. It also included questions directly related to the child and the process of hospitalization, such as the age of the hospitalized child, the cause and duration of hospitalization, the presence of comorbidities, the mode of hospital admission, the experience of previous hospitalizations in the last 12 months, and the type of treatment (traditional pharmacotherapy, surgical treatment, biological treatment).

Table 1. Characteristics of the study group

Selected variables regarding the parents, children, and the hospitalisation process	*n*	%
Sex		
Female	75	89.28
Male	9	10.71
Age		
Not older than 30 years old	18	21.42
31 to 40 years old	37	44.04
Over 40 years old	29	34.52
Education		
Higher	46	54.76
Secondary	33	39.28
Vocational	0	0
Primary	5	5.95
Place of residence		
City/town	49	58.33
Village	35	41.66
Number of children		
One	26	30.95
2	44	52.38
More than 2	14	16.66
Child’s developmental stage		
Newborn and infant/Toddler/Preschool	22	26.19
Early school	30	35.71
Puberty	32	38.09
Child’s hospital admission		
Emergency	34	40.47
Elective	50	59.52
Reason of the admission		
Chronic disease exacerbation	21	25
Sudden illness	25	29.76
Diagnostic assessment	24	28.57
Biological treatment	14	16.66
Co-morbidities		
Yes	62	73.80
No	22	26.19
Length of hospital stay		
Up to 7 days	67	79.76
8-14 days	11	13.09
15-21 days	3	3.57
22-28 days	2	2.38
Hospital stay		
First	35	41.66
Further	49	58.33

n – number of valid answers, % – percentage rate of valid answers

Statistical methods

A statistical analysis was based on the components of descriptive statistics: minimum (Min), maximum (Max), median (Me), quartiles, sample size (n), and percentage rate (%). Distributions of specific variables were compared to the normal distribution by means of the Shapiro-Wilk test. A 2-sample t-test for independent samples (for 2 unrelated groups) and one-way analysis of variance (for more than 2 samples) were used to compare mean values with normal distributions. Correlations between quantitative variables were made with the application of Pearson’s r coefficient. The χ^2 test of independence (a non-parametric test of significance for 2 or more independent samples) was used to assess differences between variables measured at a nominal level or higher in the comparison groups. The significance level was set as $p \leq 0.05$.

RESULTS

The study was conducted in a group of 84 parents of children diagnosed with Crohn’s disease and hospitalized at the Department of Gastroenterology and Paediatrics of the University Children’s Hospital in Krakow. The study group was primarily female (89.3%, n = 75). The median age of parents was 37.5 years (Q1 = 31.50, Q3 = 42.75). Higher education was declared by 54.8% of parents (n = 46). 85.7% of parents were married or in a partnership (n = 72). More than half of respondents (52.4%, n = 44) declared having 2 children, while 31.0% (n = 26) confirmed having one child. The economic situation of 81.0% of parents (n = 68) was good or very good. The median age of children was 9 years (Q1 = 5.75, Q3 = 13). Patients aged from 11 to 18 years made up the largest group (38.1%, n = 32). Patients under the age of 5 years were the least numerous group. 59.5% of children (n = 50) were admitted to hospital on a scheduled basis. The majority, i.e. 79.8% of children (n = 67), stayed in hospital for up to 7 days. The longest period of hospitalization was 24 days. The median length of hospitalization for children was 5.0 days (Q1 = 3.0, Q3 = 7.0). For more than half of the children (n = 49, 58.3%) this was not the first hospitalization in the last 12 months. Conventional treatment was implemented in 52.4% of patients (n = 44), while biological therapy was implemented in 47.6% of children (n = 40) (Table 1).

LEVEL OF DEPRESSION, ANXIETY, AGGRESSION, AND PERCEIVED STRESS IN THE GROUP OF PARENTS

A low score on the depression scale was obtained in 40.5% of parents (n = 34). A borderline depressive state was found in 35.7% of respondents (n = 30), while a score indicating the presence of the disorder was confirmed in 23.8% of parents (n = 20). The median of the level of depression was 8 points (Q1 = 4.0, Q3 = 10.0).

Anxiety disorders were observed in 46.4% of parents (n = 39). A low level of anxiety disorders affected 28.6% of respondents (n = 24), and a score corresponding to borderline status was obtained by 25.0% of respondents (n = 21). The median of the level of anxiety was 10 points (Q1 = 6.0, Q3 = 12.0). The median of the level of aggression was 4.0 points (Q1 = 2.0, Q3 = 4.0).

The level of perceived stress was high in 45.2% (n = 38) of parents, and average among 42.9% (n = 36) of respondents. A low score on the stress scale was obtained in 11.9% of parents (n = 10).

Parents under 35 years of age scored statistically significantly higher on the anxiety scale (p = 0.026) and the aggression scale (p = 0.032) compared to parents over 35 years old. Parents' gender, level of education, the number of children, and economic status did not statistically significantly differentiate their level of negative emotions on the depression, aggression, and anxiety scales ($p > 0.05$). Also, the level of perceived stress in the examined group of parents was not determined by their gender (p = 0.486), age (p = 0.659), education (p = 0.252), economic status (p = 0.205), or the number of children they had (p = 0.336).

PARENTS' SATISFACTION WITH NURSING CARE PROVIDED TO THEIR CHILD

The median level of parents' overall satisfaction with nursing care in the paediatrics department was 4.3 points (Q1 = 3.8, Q3 = 4.6). The individual main satisfaction criteria, such as *information*, *care and treatment*, *availability*, *parental participation*, and *professional attitude* obtained similar results. Respondents showed the highest level of satisfaction with the main criterion of information – Me = 4.5 points (Q1 = 4.0, Q3 = 5.0). The lowest scores were for accessibility – Me = 4.0 (Q1 = 4.0, Q3 = 5.0). Table 2 shows the results related to parents' satisfaction with nursing care provided to their child.

Parents' satisfaction for each specific criterion was high. Lower levels of satisfaction were obtained only for the following criteria:

- Accommodation for parents near the ward was provided – Me = 3.0 (Q1 = 2.0, Q3 = 4.0) within the main criterion of professional attitude;
- The nurse provided spiritual support – Me = 3.0 (Q1 = 3.0, Q3 = 4.0) within the main criterion of care and treatment;
- The nurse asked about parents' expectations related to child care – Me = 4.0 (Q1 = 2.0, Q3 = 5.0) within the main criterion of parental participation;
- Ward visiting hours were flexible – Me = 4.0 (Q1 = 2.25, Q3 = 4.0) within the main criterion of professional attitude.

The age of the child statistically significantly differentiated satisfaction with care within the accessibility criterion (p = 0.018). Parents of children over the age of 10 expressed a higher level of satisfaction than parents of younger children. Parents whose children were hospitalized for an exacerbation of their illness manifested a higher level of overall satisfaction with nursing care (p = 0.004) and a higher level of satisfaction within individual main criteria, such as information (p = 0.010), care and treatment (p = 0.019), availability (p = 0.034), parental participation (p = 0.012), and professional attitude (p = 0.002), compared to parents of children hospitalized for other reasons.

Parents whose children were hospitalized because of a sudden illness were less satisfied with availability (p = 0.012) and professional attitude (p = 0.036), compared to parents of children admitted to hospital for other reasons.

The mode of hospital admission and length of hospitalization did not differentiate parents' satisfaction with nursing care provided to their child suffering from Crohn's disease.

Table 2. Parents' satisfaction with nursing care provided to their child

Variable	Q2 (Q1; Q3)	Min-max	Score ≥ 4, *n* (%)
Information	4.50 (4.00; 4.97)	1.38-5.00	64 (76.19)
Care and treatment	4.44 (3.56; 4.67)	1.00-5.00	59 (70.24)
Availability	4.00 (4.00; 5.00)	2.00-5.00	68 (80.95)
Parental participation	4.17 (3.21; 4.67)	1.33-5.00	50 (59.52)
Professional attitude	4.29 (3.84; 4.53)	2.42-5.00	58 (69.05)
Overall satisfaction	4.30 (3.83; 4.61)	2.20-5.00	59 (70.24)

Q1, Q2, Q3 – quartiles, n – number of valid answers, % – percentage rate of valid answers

LEVEL OF NEGATIVE EMOTIONS AND INTENSITY OF PARENTAL STRESS VS. SATISFACTION WITH NURSING CARE PROVIDED TO THE CHILD

The level of stress significantly differentiated parents' satisfaction with nursing care in the main criterion of parental participation. The higher the parents' stress level, the lower their satisfaction with this dimension of nursing care ($p = 0.014$). Parents who scored higher on the aggression scale were less satisfied in the criteria of care and treatment ($p = 0.027$), availability ($p = 0.025$), and professional attitude ($p = 0.021$), and scored lower in overall satisfaction with care ($p = 0.023$). Scores on the Depression and Anxiety scales did not differentiate the ratings of satisfaction with nursing care in the examined group ($p > 0.05$) (Table 3).

DISCUSSION

In recent years, research into the quality of service and nursing care in health care units has become an important area of interest. Children's age, health status, and level of development, as well as their limited capacity for criticism, often pose difficulties when conducting research on the quality of medical care in a group of paediatric patients. Therefore, the evaluation of satisfaction with the medical services received is most often carried out by parents. This is particularly valuable when the respondents are actively involved in the process of their child's hospitalization, participate in it at various stages, and have a wide range of experiences and observations related to the child's care carried out by various members of the nursing team [1, 4, 11]. Regular assessment of satisfaction with nursing care allows for continuous improvement of service quality through their optimization.

Table 3. Parents' levels of depression, anxiety, and aggression vs. satisfaction with their child's nursing care

Variable		Depression (total)	Anxiety (total)	Aggression (total)
Information	*r*	0.183	0.064	–0.203
	p	0.096	0.563	0.064
Care and treatment	*r*	0.094	0.057	–0.241
	p	0.395	0.604	0.027
Availability	*r*	0.008	–0.042	–0.244
	p	0.942	0.706	0.025
Parental participation	*r*	0.032	–0.001	–0.179
	p	0.770	0.994	0.103
Professional attitude	*r*	0.072	–0.013	–0.253
	p	0.514	0.908	0.021
Overall satisfaction	*r*	0.098	0.022	–0.248
	p	0.373	0.843	0.023

r – Spearman's rank correlation coefficient, p – 2-sided significance

In the present study, the overall level of parents' satisfaction with nursing care in the paediatrics department was high. Similar results were obtained for individual main satisfaction criteria, such as information, care and treatment, availability, parental participation, and professional attitude. Respondents showed the highest level of satisfaction in terms of accessibility. Parental participation in care was rated the lowest, although more than 59% of respondents were highly satisfied with this criterion of care. Similar results were reported by Willebrand *et al.* [29] and Matziou *et al.* [12]. Also, Kruszecka-Krówka *et al.* [4] showed a lower level of satisfaction of surveyed parents with participation in care compared to the other criteria; however, 72% of respondents were satisfied in this regard. The authors demonstrate that greater parental involvement in providing care to their child in hospital is not only associated with a number of positive outcomes for the paediatric patients themselves, but also reduces the parents' anxiety and has a significant impact on caregivers' overall perception of received services [12, 29]. Parents of children with Crohn's disease are in particular need of such involvement due to the chronic nature of their children's disease, the symptoms present, and the crucial importance of self-care and self-management in this condition. Parents' active involvement and preparing them to continue providing care to their child after hospital discharge can contribute to achieving positive therapeutic outcomes.

The age of the child significantly differentiated parents' satisfaction with the availability of nursing care. Parents of older children, over the age of 10 years, expressed higher levels of satisfaction with nursing care than parents of younger children. The data presented are consistent with the results of other authors [1, 4, 12, 29-31]. The results of scientific studies confirm that a child's reaching preschool age was the strongest predictor of high parental satisfaction with nursing care in paediatric units [4]. The authors believe that this may be related to the specific conditions connected with children's developmental level and adaptive abilities, reactions to illness, hospitalization, and absence of the mother, as well as the specificity of disease symptoms [1]. In the case of Crohn's disease, it is also important to emphasize the need for parental involvement in care, both at the stage of diagnosis and therapy, as well as to realize that the prognosis is worse compared to children with the onset of the disease in adolescence. Perhaps these factors also influenced the results obtained.

In the current study, the mode of children's hospital admission did not differentiate parents' satisfaction with nursing care, which was contrary to reports by other authors [4, 32]. A study by Smoleń and Ksykiewicz-Dorota [11] indicated that parents of children admitted to the ward as scheduled were more satisfied

with the professionalism of the staff. Both Bednarek *et al*. [32] and Kruszecka-Krówka *et al*. [1] emphasize that scheduled hospitalization positively influenced the level of satisfaction of paediatric patients' parents with nursing care. In the current study, almost 60% of patient admissions to hospital were scheduled admissions. In comparison, in another scientific report, the percentage of emergency admissions exceeded 75% [1]. Arguably, the differentiation of the study groups due to the predominant mode of admission to the ward may have determined the results.

However, parents whose children were hospitalized because of an exacerbation of their illness expressed higher levels of overall satisfaction with nursing care and higher levels of satisfaction within particular main criteria such as information, care and treatment, availability, parental participation, and professional attitude, compared to parents of children hospitalized for other reasons. These results contradict other reports [11], which did not confirm the relationship between satisfaction with care and the reason for hospitalization.

The lowest level of parental satisfaction in the study concerned nurses' interest in parents' expectations towards provided care and the nursing team's provision of spiritual support, similarly to other studies conducted with the application of the Emphatic questionnaire [1, 4]. This indicates the need for greater orientation and optimization of collaboration with parents in paediatric units. Providing support is an important part of nursing services both for the child and their caregivers. Given that staying with a child in hospital and the diagnosis of a chronic disease are factors that threaten the patients' and parents' sense of security, and raise the level of stress and negative emotions in a significant percentage of respondents, which was proven in the current study, remedial actions should be taken immediately within this criterion of care.

The severity of stress among parents differentiated the level of satisfaction with the nursing team's care to a limited extent. A statistically significant relationship was observed only for the main criterion of parental participation in care. The higher the parents' stress level, the lower the satisfaction with this dimension of nursing care. Similar relationships were not observed for the other main care criteria. In contrast, scores on the Depression and Anxiety scales did not differentiate parents' satisfaction with nursing care. However, Matziou *et al*. [12] showed a variation in the level of satisfaction of the surveyed parents with nursing care depending on their emotional state, proving that higher levels of anxiety about the child's health and subjective assessment of the child's condition as serious were significant determinants of overall satisfaction with care. Willebrand *et al*. [29] also found the psychological state of surveyed parents to be an important determinant of their satisfaction with their child's nursing care.

Different results in the current study were indicated in case of the aggression scale, in which respondents with higher scores were less satisfied with care and treatment, accessibility, and professional attitude. These individuals also showed reduced overall satisfaction with nursing care. These results confirm that while providing care to a child, it is crucial to alleviate the negative emotions of both the child and their parents who participate in nursing care. Parents' aggression, directed at themselves and those around them, including the child, can be a factor that exacerbates stress and anxiety in the paediatric patient, negatively affecting the recovery process. This makes it seem all the more important to make every effort to reduce the level of aggression of caregivers, through a professional, open attitude, constructive communication, reliable transmission of information on care, and taking parents' opinion into consideration when planning treatment activities. Enabling parents of sick children to contact a psychologist could also reduce the severity of adverse reactions and feelings in this group.

LIMITATIONS

Among the limitations of the presented study, the small number of parents participating in the survey should be noted. This was primarily due to the reduction in the number of children admitted to the ward during the pandemic period, as well as the failure to meet the criterion for the length of hospital stay, set at 3 days. Many patients with Crohn's disease who are subject to follow-up examinations and the administration of biologic medication are hospitalized for a single day, hence the inability to include them in the study. Arguably, planning a multicentre study would make it possible to expand the study group.

The survey also did not assess the level of disease activity on the PCADAI scale due to the lack of relevant knowledge in most parents. Less than 6% of respondents provided information in this regard. This made it impossible to relate the level of perceived stress, occurrence of negative emotions, and satisfaction with care to the clinical activity of the disease, which could be interesting in the perspective of the results obtained.

Interpretation of the results presented above should be cautious and take into account the variation in screening tools in the presented work and reports by other authors, both in the context of assessing satisfaction with care and the severity of stress, levels of anxiety, depression, and aggression. The scales used to assess depression, anxiety and aggression, and levels of perceived stress are screening tools and can be used and interpreted by medical professionals other than psychologists. However, they are based solely on the subjective responses of the parents surveyed.

CONCLUSIONS

Parents of patients suffering from Crohn's disease experienced negative emotions and high levels of stress during their children's hospitalization. Higher levels of aggression in parents were associated with lower levels of overall satisfaction with nursing care, satisfaction with care and treatment, availability of nursing care, and professionalism. The higher the level of stress, the lower the parents' satisfaction with shared nursing care. In nursing care, it is crucial to alleviate negative emotions and provide support through a professional, open attitude, constructive communication, reliable transmission of information on care, and taking parents' opinions into consideration when planning treatment activities.

Disclosure

The authors declare no conflict of interest.

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