# Parent's Experiences from the Treatment of their Children at the Physic Children's Surgery Clinic in Skopje.

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## Abstract

***Background:*** The respect of the needs and wishes of the patients is in the focus of the human health system. The experience of the parents in terms of child's health care may be used as an indicator of quality of the health care.

***Material and methods****:* The research is a quantitative analytical cross-sectional study. In accordance with the inclusion and exclusion criteria, simple random sample of 207 parents / guardians is covered, whose children in the period of three months, had been hospitalized in the hospital department JZUU Pediatric Surgery Clinic in Skopje.It was used a two parted questionnaire. The first part is a standardized questionnaire (Parent Experience of Pediatric Care - PECP), and the second part concerns the general socio-demographic data of the parent/guardian. Statistical evaluation was performed using appropriate statistical programs **(***Statistics for Windows 7,0 and SPSS 17.0).*

***Results:***In accordance with the age of the parents, the survey respondents were divided into two groups: a) age ≤ 33 years - 107 (51.69%) and b) age> 33 years - 100 (48.31%).Significant independent predictor of parental satisfaction from the receipt of their child to the clinic research confirms the age of the parent under / over 33 years due to 4.1% of the change in satisfaction (R2 = 0,041). Parents generally believe that their children's room of the clinic is "good", without significant difference between parental satisfaction from both age groups (Mann-Whitney U Test Z = -0,9613 p = 0,3364).Significant independent predictor of parental satisfaction from the room of their child improves the health status after treatment due to 6% of the change in satisfaction (R2 = 0,060). Parents generally believe that testing and treatment of their children in the clinic was "very good" and an independent significant predictor is to improve the health status after the treatment - 7,8% (R2 = 0,078).

***Conclusions:*** Regardless of the generally good parental satisfaction about health care for their children, it is necessary to continuously monitor the status of the clinic in order to consider the possible deficiencies and needs of intervention.

***Keywords****:* pediatrics, nursing, health care, experiences, parents, children, health profession

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# Full Text

## Introduction

Being sick and staying in hospital is generally an awkward and difficult experience for most people.The patient at the hospital often feels like a stranger who is not used to the specifics of the environment and the nature of the activities around him. At the hospital, an individual's normal life rhythm is disturbed, with a potentially high degree of dependence on others and witnessing disturbing events..[1,2,3,4]

A sick child in the hospital experiences more fear and difficulty than anxious ones due to frequent painful diagnostic and therapeutic procedures and to staying in an unknown environment. Children are more likely to understand feelings and events at the hospital because of their age and level of psychosocial development.[1,5,6,7]Particularly in preschool, the child in the hospital is frightened by separation from parents / mother, restricted movement and lack of normal activities (play). In the hospital setting, the child may feel rejected and unwanted, and some children may believe that staying in the hospital is practical, a punishment for their misconduct..[8,9,10,11,12]

From a pediatrician's point of view, children's perceptions of children's psychological and medical needs have never been the same. This does not necessarily mean that there was or was insensitivity to children's psychological needs, but that they were perceived in different respects. There have been and are persuasions that staying in the hospital is not a deterrent and is not a threat to children's psychological health, that a constant visit or presence of a parent disturbs the child and that play for the sick child has no special meaning.Of great importance are research into the experiences (satisfaction) of parents of hospitalized children, as they serve as a parameter of practice in examining the quality of care provided. The positive experiences of parents / guardians can be influenced by a number of factors of which the interpersonal aspect of health care is one of the essentials.Patients respond directly to this aspect and, based on it, create value judgments about the technical aspect of health care assessment. Their experience during the illness and hospitalization of a child is essential in recognizing the quality of health care. Quality is a concept that is not easily defined. Webster's Ninth Dictionary (Ninth New Collegiate Dictionary) [10,13,14,15,16], defines quality as a "degree or grade of excellence".

During the last decades of the 20th century, there has been a growing interest in defining and measuring the quality of care.Avedis Donabedian, one of the founders of this research area,

outlines a three-part approach to quality care assessment based on structure, process and outcome analysis. [11]The structure refers to the setting up of the base of care itself, including staff, material resources and organizational structure. The process describes what is involved in needed patient care and what happens during the care exchange. The results relate to the effects of care on the recipient of health care services. Donabedian also includes two more technical and interpersonal elements. "The interpersonal process is the driver with which technical care is implemented and on which its success depends". The patient's assessment of the quality of care and all aspects of it, especially regarding the interpersonal process, are defined by Donabedian. [11,17,18],according to Kitson [12,13,18]the quality of care in the medical profession begins and ends with the patient's experience of health care.

Measuring quality in health is a process of using data to evaluate the effectiveness of health plans and health care providers through established and accepted quality criteria or standards. Quality measures can take many forms, and these measures evaluate care across the spectrum of well-placed health care, from health care offices to the image of hospital system facilities.[15,17]

## Research motive

The rationale for exploring this topic and issue comes from the growing interest in the last decade to study the concept of quality care. An additional motivation is the insufficient research of this concept within pediatric medicine. Parents' experiences of treating their children in pediatric hospitals are insufficiently documented, and accompanied by a number of limitations in highlighting deficiencies.

Exploring this issue would be of help to both parents and healthcare professionals, but also to the patients themselves - children, who are the most important factor in this study, designed to improve their stay and experience in the pediatric hospital.

## Objectives

### *Main obejctive of the research*

The main objective of the research is to find out the experiences of the parents regarding the treatment of their children in the PHIU Pediatric Surgery Clinic in Skopje, as well as to provide recommendations for improvement of the health conditions and services in the institution.

***Specific objectives of the research***

To indicate the difference in parents' experiences of hospital admission depending on sex, age, place of residence, age of child, nationality, marital status, employment status, health insurance.

To analyze the difference in parents' experiences in communicating with health care staff and the speed of admission depending on sex, age, place of residence, age of the child, nationality, marital status, employment status.

To analyze the difference in parents' experiences regarding the appearance of the building, the room where the child is accommodated according to sex, age, place of residence, age of the child, nationality, marital status, employment status.

Demonstrate differences in parents' experiences of hospital care as well as tests and treatments in the hospital depending on sex, age, place of residence, age of child, nationality, marital status, employment status.

## Hypothesis

In the research, that is, in the research part of the master thesis entitled "Parents' Experiences from the Treatment of their Children at PHIU Pediatric Surgery Clinic in Skopje", the following hypotheses are presented that are presented below:

X1: Good communication with health care staff enhances positive parenting experience.

X2: Inadequate or ineffective treatment of children negatively impacts the experience of parents.

X3: The appearance of the whole building as well as the room where the child resides affects the experience of the parents.

## Materials and methods

The research is a quantitative cross-sectional study, which is planned to be conducted in a three-month period in the hospital department of PHIU Pediatric Surgery Clinic in Skopje. The study was conducted on a random sample of patients who were hospitalized in the hospital department of PHIU Pediatric Surgery Clinic in Skopje. All patients who were hospitalized and fulfilled the criteria for participation in the study received an offer to participate in the study.

*Inclusion criteria*

Parents / guardians whose children were treated at PHI Pediatric Surgery Clinic in Skopje during the period of interest for the research

Willingness and desire to participate

Independent of sex, nationality, place of residence, level of education, employment status, marital status,socio-economic status

*Exclusive criteria*

Excessive anxiety

Lack of consent to participate in the research

*Research limitations (bias)*

Insincerity and / or subjectivity in answering

## Research instrument

For the purpose of the research, a two-part questionnaire was used. The first part is a standardized questionnaire to assess parents' experience of hospital pediatric care provided to their children or so-called Parent Experience of Pediatric Care (PECP) (31). The second part of the questionnaire deals with general socio-demographic data of the parent / guardian of the child receiving hospital pediatric care.

Parent Experience of Pediatric Care – PECP includes 47 questions divided into six scales:

- ✓ Child Doctor Scale
- ✓ Hospital Discharge Scale
- ✓ Hospital Facility Scale
- ✓ Test and Treatment Information Scale
- ✓ Hospital Care Scale
- ✓ Hospital Organization Scale,

The answers to each of the 47 questions are scored on five levels from 0 to 5 (lowest to highest). The total score is calculated by summing the answers given. The second part of the questionnaire consists of a total of 13 questions specifically designed for this purpose regarding the socio-demographic characteristics of the parent / guardian of the hospitalized child (sex, age, job, marital status, place of residence, degree of education), as well as questions on the condition of the child before and after the hospital stay.

## Statistical processing

The data obtained during the research were entered in specially designed database, where the statistical processing was done using appropriate statistical software (Statistica for WINDOWS 7.0 AND spss 17.0).ttribute (qualitative) series analysis is done by determining the coefficients of relationships, proportions and rates. Numerical (quantitative) batches are analyzed using central tendency measures and data dispersion measures. Non-parametric tests (Chi-square test, Yates corrected chi-square, Mann-Whitney U test, Kruskal-Wallis H test) and parametric methods (t-test for independent samples) were used to test the significance of the differences. , Analysis of Variance). Non-parametric (Spearman rank correlation coefficient) and parametric (Pearson linear correlation coefficients) were used to determine the relationship. Cronbach's alpha is used to assess the degree of internal consistency among a set of variables from the questionnaire.

Linear regression analysis (univariate and multivariate) is applied to determine the predictive role of certain factors on parental satisfaction from different aspects of health care.

The level of $p < 0.05$ and $p < 0.01$ is accepted as significant.

## Results

The research is a quantitative cross-sectional study implemented over a period of three months in the hospital department of PHIU Pediatric Surgery Clinic in Skopje. The survey was offered to all parents / guardians whose children / guardians were hospitalized at the ward during the period of interest. The condition for participation in the research was the fulfillment of the inclusion and exclusion criteria as well as the participation in the whole process. The study included a simple random sampling of 207 parents / guardians. The response rate is 92%.

### *Demographic characteristics of the sample*

According to the age of the parents, the subjects in the survey are divided into two groups: a) age ≤ 33 years - total 107 (51.69%) and b) age> 33 years - 100 total (48.31%) (Table 1 ).

| **Age of parent (years)** | | **Total** |
|---|---|---|
| ≤ 33 | **Number** | 107 |
| | % | 51,69 |
| > 33 | **Number** | 100 |
| | % | 48,31 |
| **Total** | **Number** | 207 |
| | % | 100 |

***Table 1:*** *Descriptive analysis of the sample by groups*

### *Descriptive analysis of the sample according to the patient's relative relationship*

Of the total of 207 parents surveyed of children patients, 146 (70.53%) are mothers and 61 (29.47%) are fathers with a ratio of 1: 2.39. At age ≤ 33 there were 78 (53.42%) of mothers and 29 (47.54%) of fathers. For p> 0.05, there was no statistically significant difference between the afflictions and fathers of the patients' children in terms of age up to / over 33 years (Pearson Chi-square = 0.596, df = 1, p = 0.439).

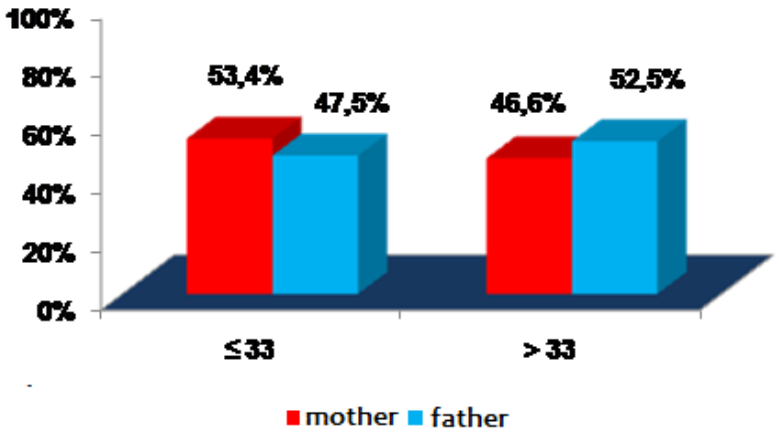
| **Parental status** | | **Age of parent (years)** | | **Total** |
|---|---|---|---|---|
| | | **≤ 33** | **> 33** | |
| **Mother** | **Number** | 78 | 68 | 146 |
| | % | 53,42% | 46,58% | 70,53% |
| **Father** | **Number** | 29 | 32 | 61 |
| | % | 47,54% | 52,46% | 29,47% |

| | | | | |
|---|---|---|---|---|
| **Total** | **Number** | 107 | 100 | 207 |
| | % | 51,69% | 48,31% | 100% |

Pearson Chi-square=0,596440, df=1, p=0,439942 *significant for p<0,05

**Table 2:** *Descriptive analysis according to the age and the relative relationship with the patient – child*

The descriptive analysis of the two groups by relative relationship with the patient and age up to / over 33 years is given in Table 2 and Chart 1.




***Graph 1:*** *Descriptive analysis by age and relative relationship with patient-child*

***Descriptive analysis of sample by age***

The average age of the parents in the study was 34.02 ± 6.78 years with a minimum age of 19 years and a maximum age of 52 years (Table 3). Fifty percent of the respondents were younger than 33 years.

The average age of women was 33.63 ± 6.84 years, with a minimum age of 19 and a maximum of 52 years. For men, the average age was 34.97 ± 6.61 years with a minimum age of 24 and a maximum of 50 years. According to the median analysis, 50% of women or men are consequently younger than 33 or younger than 34 years.

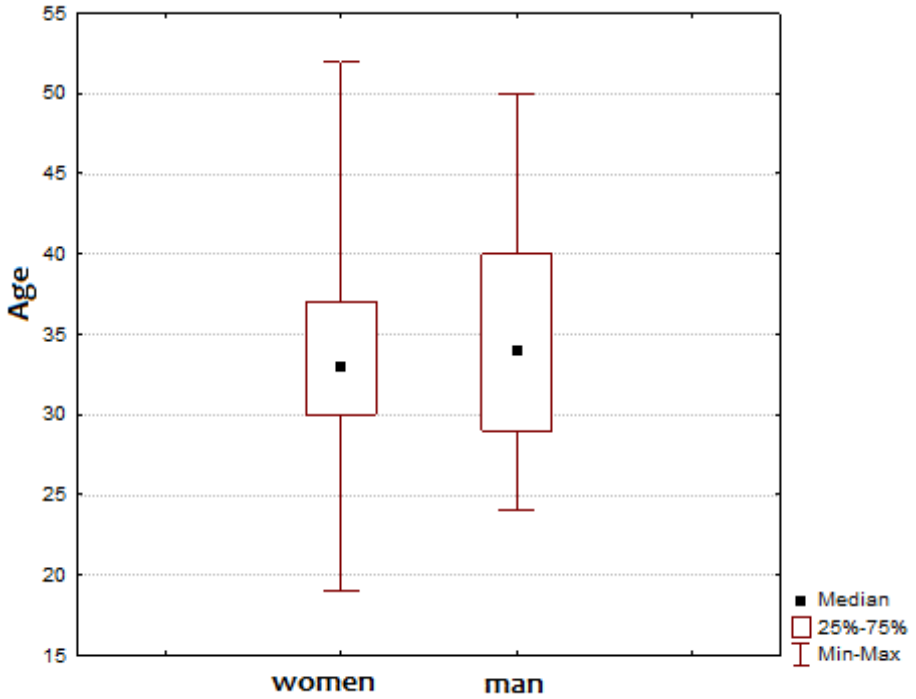
The tested difference between parents of both sexes in relation to their age did not show a statistically significant difference (Mann-Whitney U Test Z = -1,0142 p = 0.3105). The tables and graphs of the descriptive analysis of the respondents by age and sex are given in Table 3 and Graph 2 below in the text.

| **Parental status** | **Number** | **Average (Means)** | **Standard deviation (Std.Dev.)** | **Median (Median)** | **Minimum (Min)** | **Maximum (Max)** |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| **mother** | 146 | 33,63 | 6,84 | 33 | 19 | 52 |
| **father** | 61 | 34,97 | 6,61 | 34 | 24 | 50 |
| **Total** | 207 | 34,02 | 6,78 | 33 | 19 | 52 |

Mann-Whitney U Test Z=-1,0142 p=0,3105 *significant for p<0,05

***Table 3:*** *Descriptive analysis of the sample of parents by age and sex*




***Graph 2:*** *Descriptive analysis of the sample of parents by age and sex*

The tested difference between parents of both sexes regarding the age of their children who were hospitalized did not show a statistically significant difference (Mann-Whitney U Test Z = 0.314 p = 0.753).

***Descriptive analysis of the sample by nationality***

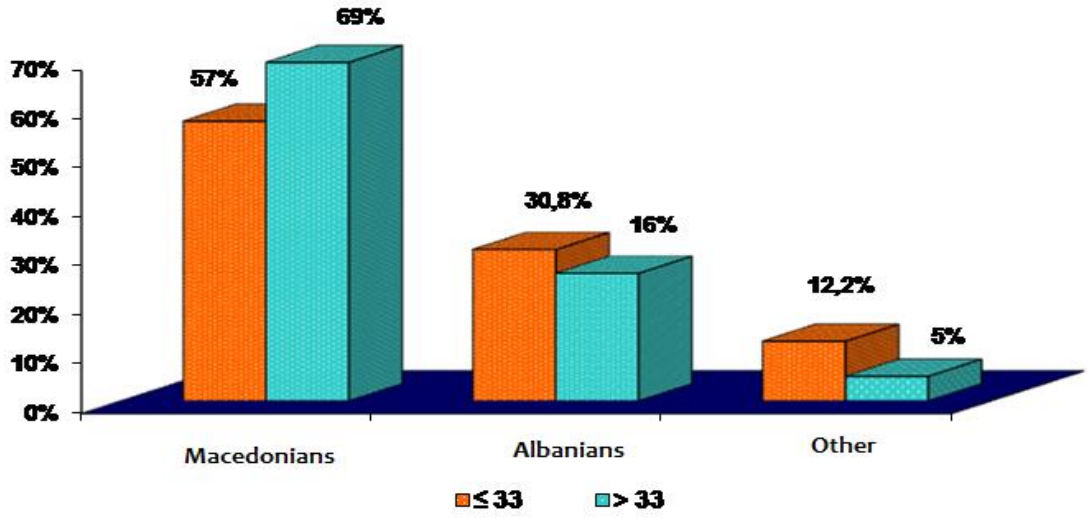
The interviewees from both groups are also analyzed regarding their nationality and are divided into three subgroups: a) Macedonians; b) Albanians and c) others. Descriptive analysis of respondents in the sample in terms of nationality indicates that Macedonians are the most represented with 130 (62.8%) followed by Albanians with 59 (28.5%) and other nationalities with 18.57%. The analysis did not indicate a statistically significant difference between the two groups of respondents (under / over 33 years) in

terms of their nationality (Pearson Chi-square = 4,647, df = 2, p = 0.097).

| Nationality | | Parents age (years) | | Total |
|---|---|---|---|---|
| | | ≤ 33 | ≤ 33 | |
| Macedonian | Number | 61 | 69 | 130 |
| | % | 57,01% | 69% | 62,80% |
| Albanian | Number | 33 | 26 | 59 |
| | % | 30,84% | 26% | 28,50% |
| Other | Number | 13 | 5 | 18 |
| | % | 12,15% | 5% | 8,70% |
| Total | Number | 107 | 100 | 207 |
| | % | 51,69% | 48,31% | 100% |

Pearson Chi-square=4,64697, df=2, p=0,097937; *significant for p<0,05

***Table 3:*** *Descriptive analysis of sample by nationality and age*




***Graph 3:*** *Descriptive analysis of sample by nationality and age*

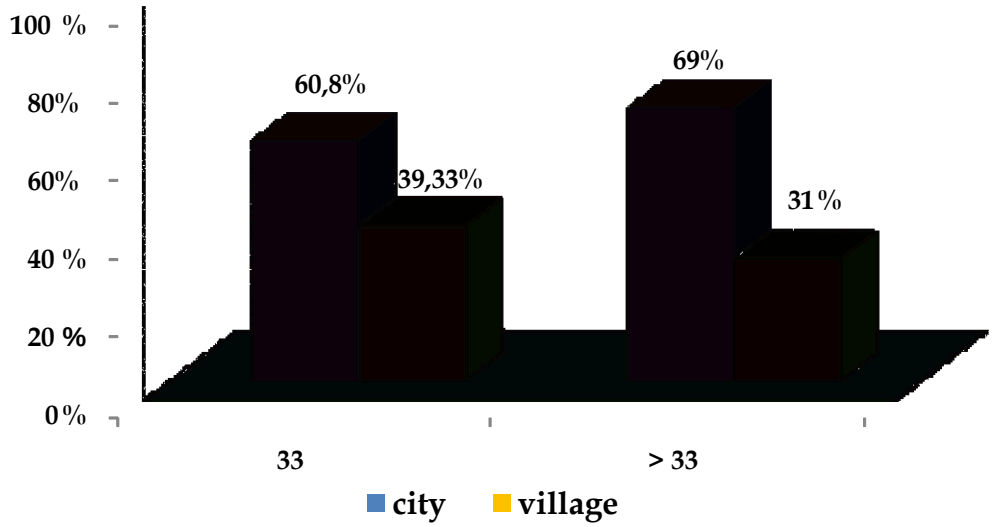
***Descriptive analysis of the sample by place of residence***

The respondents in the research are analyzed regarding the place of residence: a) town and b) village.

| Place of residence | | Age of parent (years) | | Total |
|---|---|---|---|---|
| | | ≤ 33 | ≤ 33 | |
| City | Number | 65 | 69 | 134 |
| | % | 60,75% | 69% | 64,73% |
| Village | Број | 42 | 31 | 73 |
| | % | 39,25% | 31% | 35,27% |
| Total | Број | 107 | 100 | 207 |
| | % | 51,69% | 48,31% | 100% |

Pearson Chi-square=1,54199, df=1, p=0,214325; *significant for p<0,05

***Table 4:*** *Descriptive analysis of sample by place of residence*




***Graph 4:*** *Descriptive analysis of sample by place of residence*

Out of the total number of respondents, 134 (64.73%) were from the city (Table 7 and Chart 6). For p> 0.05, there was no statistically significant difference between the two groups (under / over 33 years) regarding the place of residence of the respondents (Pearson Chi-square = 1.542, df = 1, p = 0.214)

***Descriptive analysis of the sample by education***

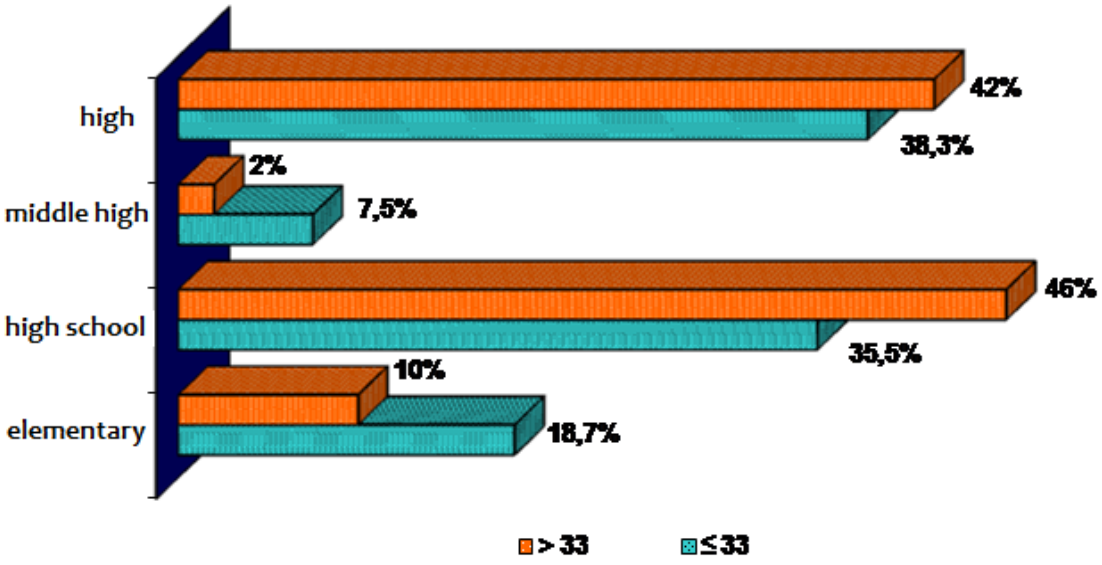
According to the level of education, the respondents in the research are divided into four groups: a) primary; b) secondary; c) higher and d) high. In the whole sample, according to Table 8, the

most represented are the respondents with secondary education (84 (40.58%) followed by higher education 83 (40.10%) and primary education 30 (14.49).

| **Education** | | **Age of parent (years)** | | **Total** |
|---|---|---|---|---|
| | | **≤ 33** | **≤ 33** | |
| **Elementary** | **Number** | 20 | 10 | 30 |
| | % | 18,69% | 10% | 14,49% |
| **High school** | **number** | 38 | 46 | 84 |
| | % | 35,51% | 46% | 40,58% |
| **Faculty** | **Number** | 8 | 2 | 10 |
| | % | 7,48% | 2% | 4,83% |
| **Faculty** | **Број** | 41 | 42 | 83 |
| | % | 38,32% | 42% | 40,10% |
| **Total** | **Број** | 107 | 100 | 207 |
| | % | 51,69% | 48,31% | 100% |

Pearson Chi-square=7,47912, df=3, p=0,058104; *significant for p<0,05

***Table 5:*** *Descriptive analysis of sample by education*




***Graph 5:*** *Descriptive analysis of sample by education*

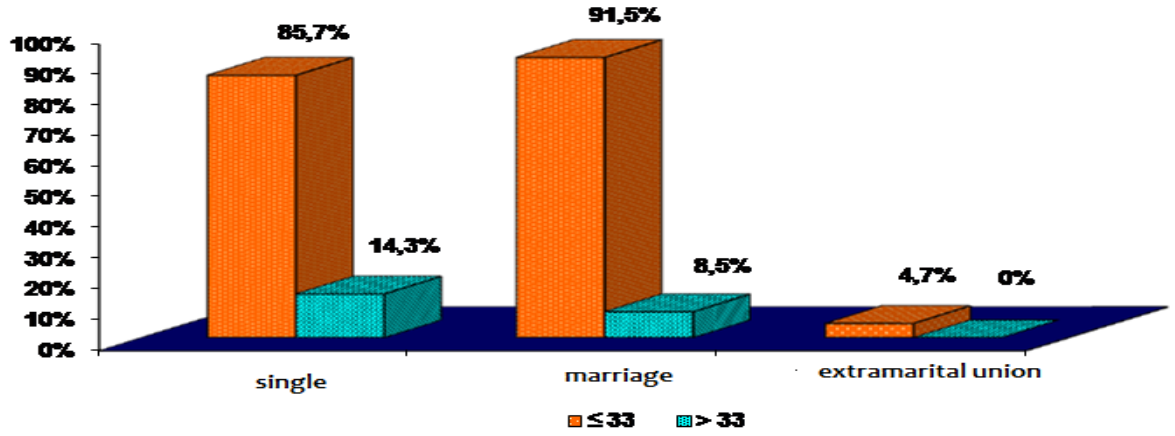
***Descriptive analysis of the sample by marital status***

Respondents from both groups (under / over 33 years) were analyzed regarding marital status and for this purpose were divided into three groups: a) single; b) married and c) extramarital union. According to the descriptive analysis of the respondents of the sample regarding marital status, shown in Table 9, the majority or 184 (88.9%) are married followed by only 18 (8.7%) single and 5 (2.4%) in the extramarital community For p> 0.05, the analysis did not indicate a significant difference between the respondents from both groups (under / over 33 years) in terms of marital status (Pearson Chi-square = 4.791, df = 2, p = 0.091).

| **Marital status** | | **Age of parent (years)** | | **Total** |
|---|---|---|---|---|
| | | **≤ 33** | **≤ 33** | |
| **single** | **Number** | 9 | 9 | 18 |
| | % | 8,41% | 9% | 8,70% |
| **married** | **Number** | 93 | 91 | 184 |
| | % | 86,92% | 91% | 88,89% |
| **Extramarital union** | **Number** | 5 | 0 | 5 |
| | % | 4,67% | 0% | 2,42% |
| **Total** | **Number** | 107 | 100 | 207 |
| | % | 51,69% | 48,31% | 100% |

Pearson Chi-square= 4,79050, df=2, p=0,091155; *significant for p<0,05

***Table 6:*** *Descriptive analysis of the sample by marital status*




***Graph 6:*** *Descriptive analysis of sample by marital status*

***Descriptive analysis of the sample by job status***

For the analysis of the working status, the sample respondents are divided into three categories: a) student; b) employed and d) unemployed.

| **Job status** | | **Age of parent (years)** | | **Total** |
|---|---|---|---|---|
| | | **≤ 33** | **≤ 33** | |
| **student** | **Number** | 3 | 2 | 5 |
| | % | 2,80% | 2% | 2,42% |
| **employed** | **Number** | 57 | 57 | 114 |
| | % | 53,27% | 57% | 55,07% |
| **unemployed** | **Number** | 47 | 41 | 88 |
| | % | 43,93% | 41% | 42,51% |
| **Total** | **Number** | 107 | 100 | 207 |
| | % | 51,69% | 48,31% | 100% |

Fisher-Freeman-Halton exact test: p=0,8252; *significant for p<0,05

***Table 7:*** *Descriptive analysis of sample by job status*

Of the total number of parents surveyed in the sample, the majority (114 (55.1%)) were employed, 88 (42.5%) were unemployed and 5 (2.4%) were students. For p> 0.05, there is no statistical difference. Significant difference between the two groups regarding the working status of the patients (Fisher-Freeman-Halton exact test: p = 0.825).

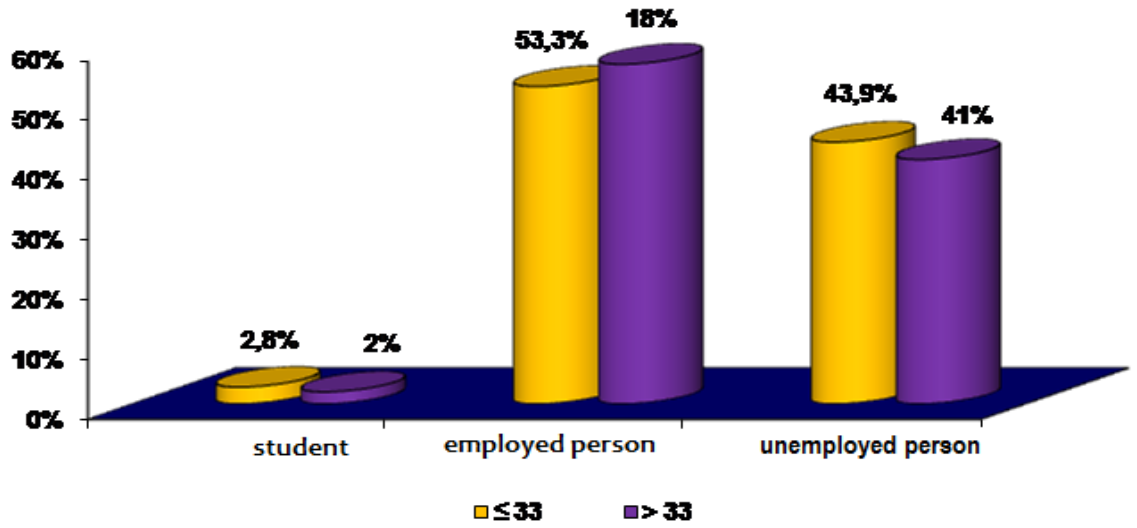



***Figure 7:*** *Descriptive analysis of sample by job status unemployed*

***Satisfaction with the ADMISSION to the clinic***

This block of questions relates to parents' satisfaction with: the speed of reception and the kindness of the person at the admission pult. This block covers a total of two questions with five degree of the Likert scale of possible answers: very good, good, average, bad and very bad.

***Analysis of block questions for ADMISSION satisfaction***

Within the framework of the research, the satisfaction of the entire sample of parents with each of the two questions in the block regarding the child's admission to the clinic was analyzed.

| **BLOCK Admission to the clinic** | | **Very good** | **Good** | **Average** | **Bad** | **Very bad** | **Total** |
|---|---|---|---|---|---|---|---|
| **Speed of admission process** | | | | | | | |
| **1** | number | 149 | 49 | 9 | / | / | 207 |
| | % | 71,98% | 23,67% | 4,35% | / | / | 100% |
| **Kindness of the person who works in admission of your child** | | | | | | | |
| **2** | број | 154 | 48 | 5 | / | / | 207 |
| | % | 74,40% | 23,19% | 2,42% | / | / | 100% |

***Table 8:*** *Parent Satisfaction - Child Reception Block at Clinic*

Related to the **"speed of the process of admission"**most of the parents surveyed, 149 (71.9%) answered "very good" followed by 49 (23.7%) answered "good" and 9 (4.3%) "average". Relatedtothe**"Kindness of the person who works in admission of your child "**most of the parents surveyed, 154 (74.4%) answered "very good" followed by 48 (23.2%) answered "good" and 5 (2.4%) "average".

The difference in satisfaction between parents below / above 33 years old was presented separately for each block question regarding their child's admission to the clinic. The analysis indicated that for p <0.05, there was a statistically significant difference between the two groups. only in terms of satisfaction with the speed of admission to hospital and in addition to greater satisfaction with the speed of admission to the clinic of parents in the age group> 33 years.

***Comparison of the total parental satisfaction of ADMISSION by demographic variables***

A descriptive analysis of parents' satisfaction with their child's admission to the PHIU Pediatric Surgery Clinic in Skopje with respect to different socio-demographic characteristics is presented in the table below. Parents generally consider their children's admission to the clinic to be " good ', with significantly higher satisfaction for parents over 33 years of age (Mann-Whitney U Test Z = -2.062 p = 0.039)

| **Variable** | **No.** | **total points for satisfaction** | | | **r** |
|---|---|---|---|---|---|
| | | **averag** | **SD** | **median** | |
| **Parental status** | | | | | |
| mother | 146 | 2,66 | 0,95 | 2 | Mann-Whitney U Test: Z=1,0104 p=0,3123 |
| father | 61 | 2,47 | 0,89 | 2 | |
| **Place of residence** | | | | | |
| city | 134 | 2,65 | 0,96 | 2 | Mann-Whitney U Test: Z=0,9349 p=0,3498 |
| village | 73 | 2,52 | 0,88 | 2 | |
| **Child's age** | | | | | |
| ≤ 6 | 119 | 2,66 | 1,04 | 2 | Kruskal-Wallis ANOVA test: H=0,615 p=0,735 |
| > 6 - ≤ 12 | 65 | 2,48 | 0,73 | 2 | |
| >12 - ≤ 18 | 23 | 2,65 | 0,88 | 2 | |

| | | | | | |
|---|---|---|---|---|---|
| **Degree of education** | | | | | |
| Elementary | 30 | 2,43 | 0,94 | 2 | Kruskal-Wallis ANOVA test: H=4,419; p=0,219 |
| High school | 84 | 2,55 | 0,83 | 2 | |
| Middle high | 10 | 3,10 | 1,19 | 3 | |
| high | 83 | 2,66 | 0,99 | 2 | |
| **nationality** | | | | | |
| Macedonian | 130 | 2,61 | 0,91 | 2 | Kruskal-Wallis ANOVA test: H=3,787; p=0,151 |
| Albanian | 59 | 2,47 | 0,88 | 2 | |
| other | 18 | 3,00 | 1,19 | 2 | |
| **marital status** | | | | | |
| Single | 18 | 3,00 | 1,33 | 2,5 | Kruskal-Wallis ANOVA test: H=2,371; p=0,306 |
| married | 184 | 2,56 | 0,88 | 2 | |
| extramarital union | 5 | 2,80 | 1,09 | 2 | |
| **Working status** | | | | | |
| student | 5 | 3,20 | 0,84 | 3 | Kruskal-Wallis ANOVA test: H=4,765; p=0,092 |
| employee | 114 | 2,52 | 0,88 | 2 | |
| unemployed | 88 | 2,68 | 0,99 | 2 | |
| **Health status at admission** | | | | | |
| not too bad | 96 | 2,68 | 0,92 | 2 | Kruskal-Wallis ANOVA test: H=3,205; p=0,361 |
| average bad | 60 | 2,57 | 0,91 | 2 | |
| pretty bad | 38 | 2,58 | 1,06 | 2 | |
| very bad | 13 | 2,31 | 0,75 | 2 | |
| **Improving health after treatment** | | | | | |
| not much | 9 | 2,22 | 0,67 | 2 | Kruskal-Wallis ANOVA test: H=16,868; p=0,0021** |
| average | 14 | 2,86 | 1,51 | 2 | |
| I don't know | 21 | 3,05 | 1,07 | 3 | |
| pretty | 73 | 2,79 | 0,96 | 2 | |
| a lot | 90 | 2,34 | 0,69 | 2 | |
| | | | | | |

*significant for p<0,05; ** significant for p<0,01

***Table 9:*** *Comparison of the average child satisfaction score at the clinic according to socio-demographic characteristics*

***Satisfaction with TESTS AND TREATMENTS***

In this section, the research addresses questions about parents' satisfaction with their child's tests and treatments during their stay in the clinic. This block deals with issues such as: skill of the person who makes the lab blood tests,

intravenous therapy skill, understanding of test and treatment information, and staff concern about child comfort during tests and treatment. The results of this section refer to a total of six questions with five-point Likert-type scales of possible answers: very good, good, average, bad and very bad.

***Analysis of block questions for TESTS AND TREATMENT satisfaction***

The survey analyzed the satisfaction of the entire sample of parents with each of the four questions on the block regarding tests and treatment.

| **BLOCK Tests and treatment** | | **Very good** | **Good** | **Average** | **Bad** | **Very bad** | **Total** |
|---|---|---|---|---|---|---|---|
| **Skill of the person who makes the lab blood tests** | | | | | | | |
| **1** | No. | 144 | 57 | 6 | / | / | 207 |
| | % | 69,57% | 27,54% | 2,90% | / | / | 100% |
| **Skill of the person who started the intravenous therapy** | | | | | | | |
| **2** | No. | 134 | 66 | 7 | / | / | 207 |
| | % | 64,73% | 31,88% | 3,38% | / | / | 100% |
| **The extent to which the tests and treatments have been explained to you in a way that is understandable** | | | | | | | |
| **3** | No. | 129 | 68 | 6 | 4 | / | 207 |
| | % | 62,32% | 32,85% | 2,90% | 1,93% | / | 100% |
| **Concern for your child's comfort during tests or treatments** | | | | | | | |
| **4** | No. | 128 | 60 | 14 | 5 | / | 207 |
| | % | 61,84% | 28,99% | 6,76% | 2,42% | / | 100% |

***Table 10:*** *Parent Satisfaction - a block for tests and treatment*

Related to the **"Skill of the person who makes the lab blood tests for your child"**most of the parents surveyed, 144 (69.6%) answered "very good" followed by 57 (27.5%) who answered "good", and 6 (2.9%) answered average.Related to the**"Skill of the person who started the intravenous therapy for your child"**most of the parents surveyed, 134 (64.7%) answered "very good" followed by 66 (31.9%) answered "good", 7 (3.4%) answered "average" " .For**"comprehensibility of test and treatment information "**made to their

children, most of the parents surveyed, 129 (62.3%) answered "very good" followed by 68 (32.8%) who answered "good", 6 (2.9%) answered " average ", and 4 (1.9%) who answered" bad ".Most of the parents responded to "**staff concern for child comfort and treatment**", with 128 (61.8%) responding "very good" followed by 60 (28.9%) "good", and 14 (6) , 8%) 'average'. Only 5 (4.7%) of parents rated staff concerns as 'bad'. No respondent rated it "very bad".

***Comparison of parents' overall satisfaction with TESTS and TREATMENTS by demographic variables***

The table below shows the average score of satisfaction with the tests and treatment of the child regarding different socio-demographic characteristics of the parents. The bivariate analysis indicated that there was no significant difference in the average scores of parents' satisfaction with tests and their child's treatment regarding parental status, place of residence, age of child, level of education, nationality, marital status, employment status, health status Admission and age of parents under / above 33 years. For $p < 0.05$, a significant difference in satisfaction score was found only in relation to the variable - improvement in health after treatment. This significant variable was incorporated into a multivariate regression analysis (Enter method) to determine its independent effect.

| Variable | number | total points for satisfaction | | | R |
|---|---|---|---|---|---|
| | | averag | SD | median | |
| **Parental status** | | | | | |
| mother | 146 | 5,71 | 2,20 | 5 | Mann-Whitney U Test: Z=0,4581 p=0,6468 |
| father | 61 | 5,54 | 2,16 | 5 | |
| **Place of residence** | | | | | |
| city | 134 | 5,69 | 2,29 | 4,5 | Mann-Whitney U Test: Z=-0,1359 p=0,8918 |
| village | 73 | 5,62 | 1,98 | 5 | |
| **Child's age** | | | | | |
| ≤ 6 | 119 | 5,65 | 2,29 | 5 | Kruskal-Wallis ANOVA test: H=0,8107 p=0,6667 |
| > 6 - ≤ 12 | 65 | 5,78 | 2,13 | 5 | |
| >12 - ≤ 18 | 23 | 5,35 | 1,75 | 4 | |

| | | | | | |
|---|---|---|---|---|---|
| **Degree of education** | | | | | |
| Elementary | 30 | 5,27 | 1,64 | 4 | Kruskal-Wallis ANOVA test: H=1,101 p=0,7767 |
| High school | 84 | 5,62 | 2,06 | 5 | |
| Middle high | 10 | 5,10 | 1,29 | 5 | |
| High | 83 | 5,92 | 2,53 | 5 | |
| **Nationality** | | | | | |
| Macedonian | 130 | 5,55 | 2,24 | 4 | Kruskal-Wallis ANOVA test: H=1,8568 p=0,3952 |
| Albanian | 59 | 5,83 | 2,15 | 5 | |
| other | 18 | 5,89 | 1,93 | 5 | |
| **Marital status** | | | | | |
| Single | 18 | 6,55 | 3,31 | 6 | Kruskal-Wallis ANOVA test: H=0,9406 p=0,6248 |
| Married | 184 | 5,56 | 2,04 | 4,5 | |
| Extramarital union | 5 | 6,00 | 2,00 | 6 | |
| **Working status** | | | | | |
| student | 5 | 6,40 | 1,34 | 7 | Kruskal-Wallis ANOVA test: H=2,2898 p =0,3183 |
| Employed | 114 | 5,53 | 2,29 | 4 | |
| Unemployed | 88 | 5,78 | 2,07 | 5 | |
| **Health status at admission** | | | | | |
| not too bad | 96 | 5,72 | 2,12 | 5 | Kruskal-Wallis ANOVA test: H=0,5384 p =0,9104 |
| average bad | 60 | 5,40 | 1,79 | 4 | |
| pretty bad | 38 | 5,95 | 2,86 | 4,5 | |
| very bad | 13 | 5,62 | 2,22 | 4 | |
| **Improving health after treatment** | | | | | |
| not much | 9 | 6,00 | 2,34 | 6 | Kruskal-Wallis ANOVA test: H=19,7422 p =0,0006** |
| average | 14 | 7,86 | 3,78 | 7,5 | |
| I don't know | 21 | 6,14 | 1,93 | 7 | |
| pretty | 73 | 6,03 | 2,23 | 6 | |
| a lot | 90 | 4,88 | 1,42 | 4 | |

*significant for p<0,05; ** significant for p<0,01

***Table 11:*** *Comparison of the average test satisfaction score and the treatment of the child according to socio-demographic characteristics*

***Predictors' analysis of test satisfaction and treatment of the child with multiple regression analysis***

| **Independent variables** | **Non-standard coefficient R=0,307R²=0,094 F=21,34p=0,0001** | | |
|---|---|---|---|
| | **B** | **t** | **p** |
| **Health condition after treatment** | 0,612 | 4,620 | 0,0001 |

dependent variable = total therapy and treatment score*significant for p<0,05

***Satisfaction with the ROOM where the child is hospitalized***

This section of the paper deals with questions about perceptions of parental satisfaction in the room where the child is hospitalized. This block deals with issues such as room hygiene, equipment operation, courtesy of the person cleaning the room and the appearance of the room. The results of this section refer to a total of four questions with five-point Likert-type scales of possible answers: very good, good, average, bad and very bad.

***Analysis of block questions for child's ROOM satisfaction***

The survey analyzes the satisfaction of the entire sample of parents with each of the four questions in the block concerning the child's room.

Regarding **"hygiene in the room**", the majority of the parents surveyed, 137 (66.2%) answered "very good" followed by 58 (28%) who answered "good", 11 (5.3%) average and 1 (0.48%) who answered - bad.

| **BLOCK Child's room** | | **Very good** | **Good** | **Average** | **Bad** | **Very bad** | **Total** |
|---|---|---|---|---|---|---|---|
| **Room hygiene** | | | | | | | |
| **1** | No. | 137 | 58 | 11 | 1 | / | 207 |
| | % | 66,18% | 28,02% | 5,31% | 0,48% | / | 100% |
| **How well the equipment works (TV, call button, lights, bed ..)** | | | | | | | |
| **2** | No. | 113 | 69 | 19 | 3 | 3 | 207 |
| | % | 54,59% | 33,33% | 9,18% | 1,45% | 1,45% | 100% |
| **Courtesy of the staff who cleans the room** | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **3** | No | 86 | 19 | 2 | / | / | 207 |
| | % | 80,37% | 17,76% | 1,87% | / | / | 100% |
| **Look of the room where the child is hospitalized** | | | | | | | |
| **4** | No | 130 | 69 | 8 | / | / | 207 |
| | % | 62,80% | 33,33% | 3,86% | / | / | 100% |

***Table 12:*** *Parents' satisfaction - block for child's room*

Regarding the **"functioning of the equipment like TV, call button, lights, bed etc."** most of the parents surveyed, 113 (54.6%) answered "very good" followed by 69 (33.3%) who Responded "good", 19 (9.2%) "average", and 3 (1.5%) answered "bad" and "very bad". Regarding **"kindness of the person who cleans the room"** most of the parents surveyed, 138 (66.7%) answered "very good" followed by 63 (30.4%) who answered "good", 4 (1.9%) "average", and 2 (0.9%) who answered "bad". Regarding the **"look of the room"** most of the parents, 130(62.8%) answered "very good" followed by 69 (33.3%) who answered "good" and 8 (3.9%) "average.".

***Comparison of the overall satisfaction of parents in the ROOM by demographic variables***

A descriptive analysis of parents' satisfaction score of their child's room at the PHIU Pediatric Surgery Clinic in Skopje regarding different socio-demographic characteristics is shown in the Table below. Parents generally consider that their children's room at the clinic is 'Good', with no significant difference between the satisfaction of parents in both age groups (Mann-Whitney U Test Z = -0.9613 p = 0.3364)

| **Group** | **No.** | **Average (Means)** | **Standard deviation (Std.Dev.)** | **Median (Median)** | **Minimum (Min)** | **Maximum (Max)** |
|---|---|---|---|---|---|---|
| **≤ 33** | 107 | 5,96 | 2,19 | 5 | 4 | 13 |
| **> 33** | 100 | 5,63 | 2,01 | 5 | 4 | 13 |
| **Total** | 207 | 5,80 | 2,11 | 5 | 4 | 13 |

Mann-Whitney U Test Z=-0,9613 p=0,3364; *significant for p<0,05

***Table 13:*** *Descriptive analysis of parents' satisfaction score on their child's room by groups*

**Comparison of child's average satisfaction score by socio-demographic characteristics**

| Variable | number | total points for satisfaction | | | R |
|---|---|---|---|---|---|
| | | averag | SD | median | |
| **Parental status** | | | | | |
| mother | 146 | 5,96 | 2,05 | 5 | Mann-Whitney U Test: Z=2,0692 p=0,0385* |
| father | 61 | 5,43 | 2,21 | 4 | |
| **Place of residence** | | | | | |
| city | 134 | 5,78 | 2,09 | 5 | Mann-Whitney U Test: Z=0,9228 p=0,9264 |
| village | 73 | 5,84 | 2,16 | 5 | |
| **Child's age** | | | | | |
| ≤ 6 | 119 | 5,78 | 2,21 | 5 | Kruskal-Wallis ANOVA test: H=0,739 p=0,6911 |
| > 6 - ≤ 12 | 65 | 5,95 | 2,06 | 5 | |
| >12 - ≤ 18 | 23 | 5,48 | 1,70 | 5 | |
| **Degree of education** | | | | | |
| elementary | 30 | 5,20 | 1,584 | 4 | Kruskal-Wallis ANOVA test: H=0,739 p=0,1118 |
| High school | 84 | 5,63 | 1,96 | 5 | |
| Middle High | 10 | 6,70 | 2,16 | 8 | |
| High | 83 | 6,08 | 2,36 | 5 | |
| **Nationality** | | | | | |
| Macedonian | 130 | 5,76 | 2,12 | 5 | Kruskal-Wallis ANOVA test: H=0,873; p=0,6461 |
| Albanian | 59 | 5,79 | 2,20 | 5 | |
| Other | 18 | 6,11 | 1,78 | 7 | |
| **Marital status** | | | | | |
| Single | 18 | 5,89 | 2,49 | 4 | Kruskal-Wallis ANOVA test: H=1,366; p=0,505 |
| Married | 184 | 5,75 | 2,03 | 5 | |
| Extramarital union | 5 | 7,40 | 3,361 | 7 | |
| **Working status** | | | | | |
| Student | 5 | 5,60 | 0,89 | 6 | Kruskal-Wallis ANOVA test: |
| Employed | 114 | 5,56 | 2,11 | 4 | |

| | | | | | |
|---|---|---|---|---|---|
| Unemployed | 88 | 6,12 | 2,13 | 5 | H=4,281; p=0,1175 |
| **Health status at admission** | | | | | |
| not too bad | 96 | 6,13 | 2,21 | 6 | Kruskal-Wallis ANOVA test: H=4,819; p=0,186 |
| average bad | 60 | 5,43 | 1,91 | 4 | |
| pretty bad | 38 | 5,58 | 1,99 | 4 | |
| very bad | 13 | 5,77 | 2,42 | 5 | |
| **Improving health after treatment** | | | | | |
| Not much | 9 | 6,22 | 2,73 | 5 | Kruskal-Wallis ANOVA test: H=22,351; p=0,0002** |
| average | 14 | 7,07 | 1,98 | 8 | |
| I don't know | 21 | 6,05 | 1,86 | 6 | |
| pretty | 73 | 6,31 | 2,28 | 6 | |
| A lot | 90 | 5,09 | 1,75 | 4 | |

*significant forp<0,05; ** significant for p<0,01

***Table 14***

The table above shows the average satisfaction score of the child's room with regard to different socio-demographic characteristics of the parents. Bivariate analysis indicated that there was no significant difference in the average satisfaction score of parents with their child's room regarding place of residence, age of child, level of education, nationality, marital status, working status, health status at admission and age of parents. under / over 33 years. For p <0.05, a significant difference in satisfaction score was found in terms of parental status and improved health after treatment. All analyzed socio-demographic characteristics that were confirmed in the bivariate analysis as significant for room satisfaction were included in the multivariate regression analysis (Enter method) to determine the effect of independent significant variables.

## Discussion

The research covers the parents of a total of 207 patients (children up to the age of 18) who were hospitalized in the studied period at the PHIU Clinic for Pediatric Surgery in Skopje. According to the age of the parents, the subjects in the survey are divided into two groups: a) age ≤ 33 years - total 107 (51.69%) and b) age> 33 years - 100 total (48.31%).In terms of the descriptive analysis of the patient relative relationship status, sample of a total of 207 surveyed parents of child patients, 146 (70.53%) were mothers and 61 (29.47%) were fathers with a ratio of 1: 2.39. At age ≤ 33 were 78 (53.42%) of mothers and 29 (47.54%) of fathers.Respondents from both groups (under / over 33 years)

were also analyzed regarding their nationality and were divided into three subgroups: a) Macedonians; b) Albanians and c) others. Descriptive analysis of the respondents from the sample in terms of nationality indicates that Macedonians are the most represented with 130 (62.8%) followed by Albanians 59 (28.5%) and other nationalities with 18 (8.7%). Both groups (under / over 33 years) are dominated by patients with Macedonian nationality and consequently 61 (57%) v.s. 69 (69%) followed by Albanian nationality 33 (30.8%) v.s. 26 (26%). Patients of other nationalities have a total of 13 (12.1%) among respondents up to 33 years and 5 (5%) among respondents over 33 years of age. , 73%).According to the level of education, the respondents in the research are divided into four groups: a) Elementary 30 (14.49%); b) high school 84 (40.58%); c) middle high 10 (4.83%) and d) high 83 (40.10%) The respondents from both groups (under / over 33 years) were analyzed regarding marital status and for this purpose were divided into three groups and that is: a) single; b) married and c) extramarital union. According to the descriptive analysis of the respondents in the sample regarding marital status, the majority or 184 (88.9%) are married with only 18 (8.7%) single and 5 (2.4%) in extramarital affairs.

For the analysis of the working status, the sample respondents are divided into three categories: a) student; b) employed and d) unemployed. ). The analysis of the respondents by employment status indicated that in the group under 33 years and in the group over 33 years the most numerous are employed persons, respectively 57 (53.3%) v.s. 57 (57%) followed by unemployed 47 (43.9%) v.s. 41 (41%) and students 3 (2.8%) v.s. 2 (2%).

As part of the research, an analysis of the age of hospitalized children was made. Their average age was found to be 5.88 ± 4.49 years with a minimum of 1 year and a maximum of 18 years. The analysis indicated that fifty percent of the patients were children younger than 5 years.

In our research, in order to perceive general satisfaction ie. The overall assessment deals with a block of four questions that relate to the overall impression and experience of parents of their children staying at the clinic. It deals with issues such as: the general positive atmosphere in the hospital, the impression of teamwork, the quality of care provided in the hospital and the likelihood that the hospital will be recommended to others. The results of this section refer to a total of four questions with five-point Likert-type scales of possible answers: very good, good, average, bad and very bad. The bivariate analysis indicated that there was no significant difference in the average parental satisfaction score in terms of parental status, place of residence, nationality, age of the child,

employment status, level of education, health status at admission and age of parents below / above 33 years.

## Conclusion

***1.*** The survey covers the parents of a total of 207 patients (children up to 18 years of age). Of these, 107 (51.69%) are> 33 years of age and 100 (48.31%) are> 33 years. 146 (70.53%) are mothers and 61 (29.47%) are fathers with a ratio of 1: 2.39. The average age of the mothers was 33.63 ± 6.84 years and that of the fathers was 34.97 ± 6.61 years. The average age of hospitalized children was 5.88 ± 4.49 years. The tested difference between parents of both sexes regarding the age of their children being cared for in a hospital is not significant (Mann-Whitney U Test Z = 0.314 p = 0.753). In terms of nationality, Macedonians are 130 (62.8%), Albanians 59 (28.5%) and other nationalities 18 (8.7%). The most represented are the respondents with secondary education 84 (40.58%) followed by higher education 83 (40.10%). 184 (88.9%) respondents were married. 114 (55.1%) of the parents were employed.

***2.*** An analysis of the block score scales for parents' satisfaction with their children's admission to the clinic indicated that it was "good", with significantly greater satisfaction for parents over the age of 33 (Mann-Whitney U Test Z = -2.062 p = 0.039). As an independent significant predictor of parents' satisfaction with their child's admission to the clinic, the study confirmed the parent's age below / above 33 years, which accounts for 4.1% of the changes in satisfaction (Stepwise method - R2 = 0.041).

***3.*** An analysis of the score from the block of parents' satisfaction ratings of their child's room indicated that it was "good", with no significant difference between parental satisfaction below / above 33 years of age (Mann-Whitney U Test Z = -0.9613 p = 0.3364). As an independent significant predictor of parents' satisfaction with their child's room at the clinic, research has confirmed health status after treatment, which accounts for 6% of changes in satisfaction (Stepwise method - R2 = 0.060).

***4.*** According to the score obtained, parents generally consider the tests and treatment of their children at the clinic to be "very good", with no significant difference between parental satisfaction below / above 33 years (Mann-Whitney U Test Z = -0,512 p = 0.609). As an independent significant predictor of parents' satisfaction with the tests and their child's treatment, the study confirmed an improvement in health after treatment, which affected the variance of this satisfaction by 7.8% (R2 = 0.078).

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