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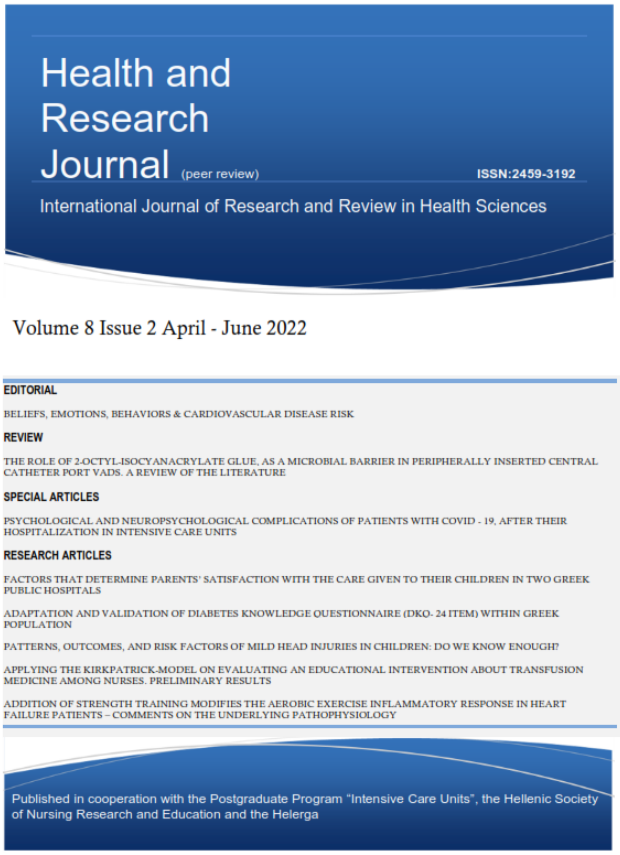

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RESEARCH ARTICLE

FACTORS THAT DETERMINE PARENTS' SATISFACTION WITH THE CARE GIVEN TO THEIR CHILDREN IN TWO GREEK PUBLIC HOSPITALS

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Abstract

Background: Patient satisfaction is a valuable measure of the healthcare quality, which in turn is the most necessary condition for effective healthcare services.

Aim: To evaluate the inpatient children's parental satisfaction, in order to assess the quality and outcomes of the public healthcare services.

Method and Material: A cross-sectional study was conducted, on a random sample of 120 parents of children who were hospitalized in the two major public pediatric hospitals of Athens, using the Greek version of the Swedish Pyramid Quality of Care Questionnaire - Parents version.

Results: Parental satisfaction was at high levels (overall index 80.2%), mainly due the medical and nursing staff attitudes (93.11%), medical & nursing care (92.32%) and information about the child's illness / condition provided (84.75%). Low satisfaction observed due the accessibility of health services (66.16%) and the working environment of the staff (68.14%), and also in respect of waiting times for clinical and laboratory tests, in low-moderate severity cases.

Conclusions: The high levels of parents' satisfaction with hospital pediatric care is a result of the attitudes, knowledge and skills of the medical and nursing staff.

Keywords: Parent's satisfaction, pediatric care, family-centered care, healthcare quality.

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INTRODUCTION

The dramatic growth of the Healthcare's resources demand mainly due the increase of life expectancy (and consequently the increase of the chronic diseases' prevalence), and the evolution of the biomedical technology, makes it necessary to achieve a high degree of efficiency and effectiveness of the healthcare services. This objective is largely achieved by ensuring the quality of the specific services - especially with regard to the public health system - in all their aspects and parameters.[1-3]

The definition of Quality includes characteristics that generally relate to the services sector and additional particularities of healthcare services, the results of which have a significant impact on the quality of life of citizens / users and the society's as a whole, standard of living.[2,4] Common condition of the various definitions of the healthcare quality is the satisfaction of the patient / user (or consumer) and the improvement of his level of health (in all his physical, psychological and social dimensions), with full utilization of the existing knowledge and technology, within the limits of available resources.[1,5]

Enhancing user satisfaction is part of the broader context of the customer-centric or patient-centered approach to health care delivery, which was designed to meet the current needs and requirements with the best quality.[6] The importance of patient/user satisfaction, is the cause of the continuous and growing research interest for its evaluation. At the same time, health care providers / organizations, as well as the political and administrative healthcare' system leadership, realize that measuring satisfaction is a cost-effective, non-invasive indicator of the quality of healthcare provided. On the one hand, they can allocate resources more efficiently, to handle problems that create greater dissatisfaction, and on the other hand, giving the patient / user the opportunity to express their views on their experience, involving them in the design of improved healthcare services and strengthen their confidence in healthcare system and its participants.[7]

The benefits of evaluate satisfaction and implementing appropriate interventions to enhance it, concern users (better outcomes and compliance with treatment), healthcare organizations and healthcare system management (better resource allocation, enhanced efficiency and effectiveness), medical staff (professional and emotional satisfaction, recognition of development opportunities), the medical and nursing educators (more effective and appropriate training programs), but also the social insurance providers (better allocation of resources).[1,8-9]

The research interest, in addition to the general satisfaction of patients / users, also focuses on the investigation of individual population groups with special needs and expectations. One of the most important groups is children and therefore the type of care that concerns them (pediatrics). In the context of protecting children so that any hospitalization and / or treatment of a health problem does not burden their future development, the framework of family-centered care for pediatric health care has been developed, especially with regard to hospitalized children.[10-11] To highlight the criteria of the quality of pediatric care and strengthening the framework of the family-centered approach, the satisfaction of the parents / caregivers of the patients - children, due to the objective inability of the children (in most cases) to express their views and demands, is investigated. [12-14] Parents' psychosocial functioning affects the physical and mental health of children and their attitude during a child's illness, especially during hospitalization, can significantly affect both the child's compliance with treatment and the overall impact of each disease.[15]

The findings of relevant researches lead to the conclusion that the application of the principles and framework of family-centered care promotes the satisfaction of parents / caregivers and patients / children.[16-18] Particular research interest is found in the investigation of parental satisfaction with pediatric care in Neonatal's or Pediatric ICUs. In Greece, where the family-centered approach is not yet widely applied (as the medical-centered model prevails in the public health system), relevant published research is limited. [19-25]

AIM

Based on the above assumptions, the aim of this study was to investigate the degree of satisfaction of parents of hospitalized children with pediatric care, considering that this satisfaction is a measure to assess the quality of services provided.

METHODOLOGY

Survey Context

This cross-sectional study took place in the medical and surgical departments of the General Pediatric Hospitals of Athens "Agia Sofia" and "Panagioti and Aglaia Kyriakou" (GPHA). It was used the convenience sampling method because it was easier considering the restrictions due to COVID -19 pandemia. Additionally, because of the availability of the admissions data, it was feasible to assess the credibility of the convenience sample. The sample was the parents of the children (120 questionnaires were completed) who were hospitalized for a period of> 3 days, in February 2020. Apart of the hospitalization duration, other inclusion criteria were to be the main guardians and caregivers of the patient, to use adequate the Greek language and the age of the child (>30 days). 167 parents corresponding to 167 children met those inclusion criteria, by the time of data collection.

Research was conducted using an acknowledged instrument, which developed specifically to measure the children's parental satisfaction with pediatric care.[12] This was the Greek version of the Swedish Pyramid Questionnaire (Quality of Patient Care Questionnaire) - Parents Version (SPQ-Pv)[21] (with the translators permission obtained). The questionnaire consists of 67 items in a 4-point Likert scale (from 1 = not at all to 4 = Yes, to a large extent). Of these, 33 (of which 8 have 4 sub-items, examining each behavior towards parents and children, by doctors and nurses respectively and 2 have 2 sub-questions, in terms of doctors and nurses) shape the instrument's dimensions. The variables are compose 8 principal factors / dimensions of healthcare quality: accessibility (3 questions), medical staff behavior (4 questions), healthcare delivery procedures (4 questions), information about the child's illness (3 questions) and the operation of the nursing department (3 questions), medical care (4 questions), participation of parents in the care (4 questions) and working environment of the staff (8 questions). The total reliability coefficients of each dimension (0.632-0.966) as well as of the total instrument (0.831) were high and both the questionnaire and its dimensions showed validity of content, structure or conceptual construction. Finally, the research approach in a random sample of the two major general public pediatric hospitals in Athens, using a weighted and widely used research instrument, enriches the literature. Also given the 5-year ago study[25] in the same hospitals, with the same instrument,[12,21] the (almost) corresponding calendar period (February-April), and the same purpose, conditions for benchmarking of parental satisfaction and the quality of pediatric care are formulated.

Ethics

All data were voluntary and anonymous and have been used exclusively for the needs of the research. Permission for the research had been given by the scientific and administrative boards of the two hospitals, on the condition to compliance with the General Data Protection Regulation[26-27] and the Helsinki Declaration.[28] Specific permission obtained too, as it concern the use of the Greek version of the Questionnaire by the correspondence author of the translation team.

Statistical analysis

Computation of satisfaction degrees had been made based on the instrument's authors algorithm, which transform the results to percent scores. Data analysis was performed by the statistical package SPSS 20:1, applying methods of descriptive and inductive statistics (i.e. Pearson and Spearman Correlation Coefficients; Crosstabs; t-test for quantitative variables; Chi-square test for qualitative variables). The statistical significance level was set to p=0.05.

RESULTS

From the 167 questionnaires that were distributed, 120 were accepted and complete (response rate 71.85%). The participat-

ing parents were mostly mothers (women) (76.7%), married (85%), private (40.8%) and public (22.5%) employees and graduates of higher education (59.2%) (table 1).

Regarding their (hospitalized) children, 61.7% were boys and 38.3% girls, while the majority were aged 2-6 (36.7%) and 7-12 (26.7%) years old. 39.2% were inpatients to the medical departments and 60.8% to the surgical departments, while 53.3% were hospitalized for the first time.

44.2% of the parents consider the child's condition serious and 90% express extreme & high concern for it. Regarding the waiting times, the relevant information showed high percentages (positive answer to 67.5%), but there is a 32.5% that did not receive any information. On the contrary, the answers regarding the explanation had been given for the waiting time were divided (50.8% "no" and 44.2% "yes"), as well as for the total waiting in the Emergency Department (ER) ("yes" = 45%, "not particularly = 49.2%). Waiting for clinical examination and laboratory tests were low (72.5% and 72.3%, respectively, answered negatively), while waiting for admission was longer (33.3% "yes"). The total satisfaction from the waiting times during the specific visit was characterized as "sufficient and absolutely sufficient" by 75%, "not enough" by 15.8% and "not at all" by 9.2% (table 2).

According to the results in the principal factors of SPQ-Pv, the participants generally score high on both hospitals. The factors that contribute to the satisfaction are mainly the behavior of the staff (Mean = 93.11%) and the medical care (Mean = 92.32%). When checking normality with the One-Sample Kolmogorov-Smirnov Test, the only factor in which results are normally distributed is the accessibility, which (also) gain the lowest degree of satisfaction. Low satisfaction with accessibility shows on the one hand social inequalities and on the other hand communication deficits. It is characteristic that the telephone communication with the treating doctor was scored with 75.2% and with the nurses at 67.3%. The routines of daily practice also need improvement. For example, the introductions of doctors and nurses to parents and children during their first contact, which should be routine, were satisfactory (and therefore sufficient) at only 67.9% to 76.25% (according the relevant variables). All the other factors gained a high degree of satisfaction, while the results of the general index also support the high satisfaction of the participants (Mean = 8.02/10) (Table 3).

The reliability of the SPQ-Pv scale, based on the 8 factors and the total satisfaction index was very high (Cronbach-a: 0.831). Based on the item-item analysis with the Cochran coefficient and the non-parametric analysis (given the non – normality of the data) with the Spearman correlation coefficient, the factors showed high positive correlations with each other, demonstrating a satisfactory degree of scale's internal consistency. The highest correlations were observed between "care procedures" and all other factors and the total index, followed by "staff behavior" and "nursing care". Respectively, the lowest correlations were observed between the "accessibility" and the other factors. The Total Satisfaction Index is mainly and strongly correlated with "staff's work environment", "behavior" and "care procedures" (Table 4).

Moderate and strong correlations were also observed between perceptions of the outcome of this hospitalization. The strongest correlation was observed between the positive perception of the hospital care received and the information about the child's problems (rho Spearman 0.627 / p= 0.000), as well as with the help to prevent other health problems (rho Spearman 0.437 /p=0.000). The "information" is also related to the belief of child's relief (rho Spearman 0.415 / p= 0.000) and "prevention of other health problems" (rho Spearman 0.383 / p= 0.000). Moderate correlations, also found between "complete cure" and "relief" (rho Spearman 0.338 / p= 0.000) and between "prevention" and "complete medical examination and laboratory tests" (rho Spearman 0.325 / p = 0.000) (Table 5).

DISCUSSION

The survey's results confirm that, despite the chronic problems of the Greek National Health System, the parental satisfaction with pediatric care is remarkably high. Key factors for this outcome, as well as for the maintenance and improvement of sat-

isfaction levels are the behavior of the medical/ nursing staff and the medical care provided, which ranked on primary positions of the scale, on a descending order. This result is common with the initial instrument's development research[12] but also with the two national local studies that used the scale.[21,25] More specifically, in the initial Swedish study[12] which was held in 2001, the factors "work environment" and "accessibility" were rated low in terms of satisfaction as in our study while all factors, as well as the Total Satisfaction Index are rated high and comparable with the present study. This study[12] was held on the pediatric departments of two regional Swedish hospitals and parents whose children were receiving care at the hospital during a 2-week period were most satisfied with staff attitudes, care processes and medical treatment. Regarding the previous Greek studies, in the earlier of them[21] which was held in 2010, the first three factors and the "parental involvement/participation" are common, while the "accessibility", the "work environment", the "healthcare procedures" and the "information about functions" were classified differently. More specifically, the sample of this study [21] consisted of 206 parents whose children were hospitalized for at least 3 days in medical and surgical departments of a Pediatric and a General hospital in Athens. The parents whose children were treated in the pediatric departments of the general hospital were more satisfied with the care provided compared to the parents of the pediatric hospital and at the same time they rated the general hospital higher on the evaluation scale.

The Total Index is much lower than in the present study (69.21% vs. 80.2%). In the other Greek study[25] which was conducted in the same hospitals and the same season in 2015, the first three factors and the last (accessibility) are common with our study while the "care procedures", "parental involvement/participation", "information about hospital's processes" and the "work environment" were classified differently. In addition to the ranking, the Satisfaction scores are much lower with the highest being at 81.9 - versus 93.11 - and the lowest at 39.5 - versus 66.16. The Total Index was 78.2% versus 80.2% and therefore there are no particular differences.

As it concern the variables except those which included to satisfaction factors, the waiting times, especially for clinical and laboratory examinations, remain problematic, despite the (derived from parental differentiation) prioritization of the most serious cases. The problem is highlighted as it demonstrates lack of infrastructure, staff and planning, which significantly burden the quality level.

Reviewing international studies, where similar methodology and research instruments were applied - and to the extent that it was possible to match the factors of these scales, the following observations were supported: satisfaction with the "nursing care" is recorded at 86.4% (compared to 92.3%) and with the "information about the disease" at 80.9% (compared to 84.75%), in a study of 979 patients, for the development of a research questionnaire (Child-ZAP) in Germany.[29] Similarly high satisfaction is recorded in the same country in another study[30] with "satisfaction from medical staff" and Total Satisfaction, to be at 3.56 and 3.65 respectively, with a maximum of 4. A survey conducted in Norway,[13] with the *Parent Experience of Pediatric Care Questionnaire*, on 3308 parents of hospitalized children, highlighted as the main predictive factor the "information about the disease" (71.41%), followed by the medical (69.96%) and nursing (64.05%) care. As in the present study, the correlations of satisfaction with socio-demographic characteristics were weak. In a Philadelphia study,[31] retrospectively analyzing data from parent satisfaction studies on convenience samples, between 2008 and 2010, of a total of 27,028 participants, "medical" and "nursing care", as well as "personal interest", were listed as the main satisfaction predictors. Additionally, with respect to inpatient children's parental satisfaction, the main predictive factor was "the medical care", while as the second was mentioned the "availability of infrastructure for the family / caregivers", which was a significant (spontaneous) request in the present study. Confidence in nursing staff was very high (> 98%) also, in a study conducted at the Zagreb's Pediatric Hospital in Croatia[32] using the *Modified Picker Questionnaire*, while the Total Satisfaction, ranked as "excellent" and "very good", which corresponds to 80,7%. The behavior, the skills

and the effectiveness of the nursing staff are recorded as key determinants of parental satisfaction and in another, nationwide, study of 1000 parents of children in need of urgent hospital pediatric care, although the overall satisfaction rate was low (40, 2%).[33]

The utility and necessity of the development and the availability credit research instruments, which can be used (and applied) by different researchers, in different countries, levels of hospitals and healthcare organizations and / or health systems, as enabling benchmarking, is demonstrated by surveys' results in the USA, Canada and Belgium.[34-36] The researchers used the questionnaire child HCHAPS, in samples of 17,727 parents from 69 hospitals (56 of them exclusively pediatric) from 34 states,[34] 3389 parents from 14 hospitals (1888 of them from 2 exclusively pediatric hospitals)[35] and 303 parents from 3 general pediatric departments within an academic hospital,[36] respectively. The Total Satisfaction in the first two surveys (concerning Children's hospitals) is at slightly lower levels (77% & 72.7%) compared to the present study (80.2%), while in Belgian survey is much lower (54.2%). As in the relevant research field (parental satisfaction), many variables are common to various reliable tools, it is possible to compare the findings of childHCHAPS variables with the findings in the present study, of similar variables of SPQ-pV. This comparison showed high and proportionate levels of satisfaction with parent-nurse and parent-physician communication, pain management, medication communication, and child discharge / rehabilitation (with the exception of the Belgian study, where satisfaction was moderate in the last two variables). Satisfaction with children's communication with nurses was moderate to high (which in the present study was high), while at moderate levels was satisfaction with children's – doctors immediate communication in all studies.

An important issue in all studies and the present one is the involvement of parents in treatment and decision making, a factor that is directly related to the model of family-centered care. Parental involvement, according to a dissertation which deals the quality of pediatric health are (based on 4 district empirical studies),[37] is related to the professionalism and responsibility of the nursing staff, their work environment and the degree of support provided, promoting effective communication, always for the benefit of the hospitalized child. These findings simultaneously explain the strong correlation of staff work environment with parental satisfaction, in the present and in most of the surveys mentioned above. As pointed out in a similar study conducted in Turkey,[38] the satisfaction of parents' questions, their sensitive and responsible approach by the medical staff during the hospitalization and of course the full and extensive examination and treatment of the child's health problem are the key determinants of the overall satisfaction.

Limitations

The small sample size is the main limitation of the study. Additionally, the sample came from convenience sampling. At the same time, the running time was particularly limited, due to measures taken in early March 2020 to encounter the Covid-19 pandemic.

CONCLUSIONS

Inpatient children's parental satisfaction with the pediatric care in the medical and surgical clinics of the two major general pediatric hospitals of Athens is remarkably high. The behavior and skills of the medical staff, as well as the degree of information provided about the disease, contribute mainly to this result. Parents involvement is still low, demonstrating that despite improvements over the past, family-centered care has not yet become central in Greek National Health System pediatric care.

According to the results of the present study and the corresponding findings of the literature, the systematic (through planning, reengineering of procedures and appropriate training) development of the conditions of family-centered care is important. The adoption of this perspective contributes to better and personalizing care, better communication between all "parts", more efficient procedures, reduction of re-admissions and effective participation and involvement of parents, as well as children themselves (from a certain age onwards), improving

the satisfaction of all participants in pediatric care.

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ANNEX

Table 1. Parents' Demographic characteristics

	N	**%**
Sex (of Parent)		
Man	28	23,3
Woman	92	76,7
Child's father Age cluster		
20-30	9	7,5
31-40	47	39,2
41-50	51	42,5
51-60	9	7,5
>60ετών	4	3,3
Child's mother Age cluster		
20-30	18	15,0
31-40	59	49,2
41-50	37	30,8
>50 ετών	6	5,0
Marital status (of participants)		
Single	6	5,0
Married	102	85,0
Divorced	11	9,2
Cohabitation	1	0,8
Educational level		
Elementary	2	1,7
Secondary	47	39,2
Higher	53	44,2
Postgraduate	14	11,7
Ph.D.	4	3,3
Profession		
Freelance / businessman	18	15,0
Private employer	49	40,8
Public Servant	27	22,5
Household	17	14,2
Worker	4	3,3
Retired	1	0,8
Other	4	3,3

TABLE 2. Children's Demographic characteristics.

	N	**%**
Sex (of Child)		
Boy	74	61,7
Girl	46	38,3
Child's Age cluster		
<2 years	18	15
2-6 years	44	36,7
7-11 years	32	26,7
12-14 years	26	21,6
Department		
Medical	47	39,2
Surgical	73	60,8
Frequency of hospitalization		
First time	64	53,3
Has been hospitalized last time	36	30
Has been hospitalized several times	20	16,7
Seriousness of the child's condition		
I don't know	7	5,80%
Not serious	8	6,70%
Not too serious	52	43,30%
Serious	53	44,20%
Concern about illness/effects		
Not at all	1	0,80%
A little	11	9,20%
Quite a bit	52	43,30%
A lot	56	46,67%
Satisfaction by waiting time		
Not at all	11	9,20%
A little	19	15,80%
Quite a bit	54	45,00%
A lot	36	30,00%
Long waiting time		
In the Emergency department	54	45,00%
In Radiology	22	18,50%
For clinical examination	29	24,20%
For another examination/treatment	22	18,30%
For laboratory tests	26	21,80%
For the admission	40	33,30%

TABLE 3. SPQ-Pv Descriptive Statistics.

SPQ-Pv Factors	N	Range	Min	Max	Mean	Standard Deviation	Median	Mode
Accessibility	120	88,89	11,11	100,00	**66,16**	24,84	66,67	55,56
Behavior / attitudes of medical & nursing staff	120	66,67	33,33	100,00	**93,11**	13,15	100,00	100,00
Healthcare procedures	120	77,08	22,92	100,00	**80,42**	17,89	83,33	100,00
Information on the child's disease	120	66,67	33,33	100,00	**84,75**	17,86	88,89	100,00
Information on the processes of the nursing department	120	88,89	11,11	100,00	**72,43**	25,66	77,78	100,00
Parental involvement in child's hospital healthcare	120	75,00	25,00	100,00	**77,42**	19,20	79,17	100,00
Medical care	120	66,67	33,33	100,00	**92,32**	12,61	100,00	100,00
Staff's work environment	120	66,67	25,00	91,67	**68,14**	11,27	70,83	75,00

TABLE 4. Non- parametric correlation analysis of SPQ-Pv factors and Total Satisfaction Index.

Rho Spearman Correlation Coefficient	Accessibility	Behavior / attitudes of medical & nursing staff	Healthcare procedures	Information on the child's disease	Information on the processes of the nursing department	Parental involvement in child's hospital healthcare	Medicalcare	Staff's workenvironment	Total Satisfaction Index
Accessibility	**1,000**	**0,374**	**0,340**	0,211	0,249	**0,366**	**0,347**	0,289	**0,316**
Behavior / attitudes of medical & nursing staff		**1,000**	**0,669**	**0,399**	0,288	**0,368**	**0,566**	**0,615**	**0,458**
Healthcare procedures			**1,000**	**0,440**	**0,556**	**0,508**	**0,656**	**0,499**	**0,406**
Information on the child's disease				**1,000**	**0,549**	**0,568**	**0,413**	**0,347**	**0,305**
Information on the processes of the nursing department					**1,000**	**0,500**	**0,425**	**0,306**	0,186
Parental involvement in child's hospital healthcare						**1,000**	**0,474**	**0,362**	0,276
Medical care							**1,000**	**0,483**	0,277
Staff's work environment								**1,000**	**0,597**
Total Satisfaction Index									**1,000**

TABLE 5. Non- parametric correlation analysis (Spearman's Correlation Coefficients) of the present admission's evaluation variables.

During the present hospitalization, you believe your child....	Became completely Cured	Get relief on its health problems	Received the appropriate medical care	Received help in order to prevent more health problems	Underwent adequate clinical & laboratory exams	You received appropriate information about your child's condition
Became completely Cured	**1,000**	**,338****	**,187***	**,233***	**,186***	**,227***
Get relief on its health problems		**1,000**	**,377****	**,275****	,107	**,415****
Received the appropriate medical care			**1,000**	**,437****	**,291****	**,627****
Received help in order to prevent more health problems				**1,000**	**,325****	**,383****
Underwent adequate clinical & laboratory exams					**1,000**	**,263****
You received appropriate information about your child's condition;						**1,000**

* p < 0.05 & ** p<0.001