

Satisfaction of quality of care in a Pediatric Emergency Room

Satisfação da qualidade de atendimento em um Pronto-Socorro Infantil

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Keywords

Quality of health care; Emergency service, hospital; Child; Patient satisfaction

Descritores

Qualidade da assistência à saúde; Serviço hospitalar de emergência; Criança; Satisfação do paciente

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Abstract

Objective: To evaluate the satisfaction index of pediatric patients' companions in relation to the quality of care provided in an emergency service.

Methods: Cross-sectional and descriptive study conducted in a Pediatric Emergency Room of a teaching hospital with participation of 300 companions of pediatric patients. A validated instrument was offered to family members for their evaluation of the emergency service quality.

Results: Pediatric patients' companions demonstrated satisfaction with the quality of care provided at the Pediatric Emergency Room. There was a significant statistical difference ($p < 0.05$) in the satisfaction index of family members of children diagnosed with dermatological diseases and who received medications administered via rectal route, and those who sought the service because they considered it a reference or because they did not have health insurance.

Conclusion: The family members surveyed are satisfied with the quality of care provided to their children in the emergency room service.

Resumo

Objetivo: Avaliar o índice de satisfação do acompanhante do paciente pediátrico com relação à qualidade do atendimento prestado em um serviço de emergência.

Métodos: Pesquisa transversal e descritiva desenvolvida em um Pronto-Socorro Infantil de um hospital universitário, com a participação de 300 acompanhantes dos pacientes pediátricos. Utilizou-se um instrumento validado oferecido aos familiares para avaliar a qualidade do serviço de emergência.

Resultados: Os acompanhantes dos pacientes pediátricos demonstraram satisfação com a qualidade de atendimento prestado pelo Pronto-Socorro Infantil. Registrou-se diferença estatística significativa ($p < 0,05$) quanto ao índice de satisfação manifestado pelos familiares das crianças diagnosticadas com doenças dermatológicas, que receberam medicações administradas pela via retal e que procuraram o serviço por considerarem-no como referência ou por não possuírem plano de saúde.

Conclusão: Os familiares pesquisados encontram-se satisfeitos no que se refere à qualidade de atendimento prestado às suas crianças no serviço de pronto-socorro.

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Introduction

Currently, patient overcrowding has become a common problem in many emergency rooms. The easy geographical access to emergency services, low resolution of basic care reported by users, and the need for agility in the resolution of complaints were mentioned as the main causes of high demand of patients in emergency services.^(1,2)

Initially, the increased demand of patients in emergency services resulted in care without clinical evaluation and provided in order of arrival. Given this situation, in 2004, the Ministry of Health created the guide on the National Humanization Policy (Portuguese acronym: PNH) that established the risk classification of patients seeking emergency care.⁽³⁾

Risk classification is a dynamic process in which patients are evaluated and classified according to their vital parameters and potential risk. The care is prioritized according to changes in their clinical conditions that imply life risk, instead of providing service in order of arrival as it used to be.⁽⁴⁾

The Manchester protocol is stratified into five colors or categories, and is one of the most used systems in scientifically based screening services. It offers greater reliability on patients' clinical condition and can be applied to all age groups in emergency services. The classification by colors consists of: Red (immediate: immediate care by the doctor), Orange (very urgent: service in 10 minutes), Yellow (urgent: service in 60 minutes), Green and Blue (non-urgent: service in 240 minutes).⁽⁵⁾

The difficulties with achieving goals of equality, universality and decentralization of access in the health system are also evident in pediatrics because of the overload in emergency services and the fragility of the referral/counter-referral system.^(6,7)

The overcrowding of children in Pediatric Emergency Rooms (PER) has impaired the quality of care. Patients in need of agile care wait long hours with those demanding primary care and guidance, which in turn, compromises the quality of care.⁽⁸⁾

In the international scenario, research shows the constant concern regarding the improvement in treatment of acute and chronic diseases and preventive care in order to reduce the unnecessary demand of children in emergency services.⁽⁹⁻¹¹⁾

In pediatric emergency services, the presence of nurses with specific knowledge and technical skills is crucial. These professionals are able to recognize situations of risk and those that minimize children's complications and diseases, and thus ensure the quality of care provided to them and their families in emergency rooms.⁽¹²⁾

The aim of the present study was to evaluate the satisfaction rate of the pediatric patient's companion in relation to the quality of care provided in the Pediatric Emergency Room.

Methods

This is a cross-sectional, prospective, descriptive study of quantitative approach conducted in the Pediatric Emergency Room of a general public teaching hospital in the city of São Paulo during the months of February and March 2016.

The study population were the pediatric patients admitted to the service. Since they were minors (public care comprised of newborns and adolescents up to 14 years, 11 months and 29 days of age), the legally responsible person was the main informant for collection of data. The sample consisted of 300 children, after consulting a statistical professional and performing a pretest in order to adapt the developed instrument to the flow of the Pediatric Emergency Room, analyze the companions' understanding of the validated instrument, estimate the time necessary for its correct completion and determine the number of participants per day of collection.

It was a convenience sample, and there was no draw. From the moment the researcher was informed about the medical procedure (discharge or hospitalization), she approached the person responsible for the patient and invited to participate in the study. The companions clarified about the reasons for the study and who did not agree to participate were excluded.

For collection of data was designed a script to evaluate the flow of pediatric patients admitted to the emergency room in order to characterize the sample in relation to the following criteria: name initials, age, sex, classification of screening, diagnostic hypothesis, procedure, destination after admission to the Pediatric Emergency Room and length of stay in the emergency service.

In order to facilitate understanding, some variables are categorized as 0 and 1. In the statistical analysis of these variables, category 0 represents 'no' and category 1 refers to "yes".

An instrument validated in a previous study was used.⁽¹³⁾ It has 18 questions for the evaluation of the family member of pediatric patients in relation to their satisfaction with the quality of care from the client's admission to the Pediatric Emergency Room until discharge from the emergency service. At the end of the instrument, there was an open question directed to the child's companion about the reason for seeking the emergency service.

In the instrument, category 0 represents the opinion "Dissatisfaction" obtained by the grouping of items (Totally dissatisfied/Very dissatisfied/Little dissatisfied/Little satisfied). Category 1 represents the 'Satisfaction' opinion obtained by the grouping of items (Very satisfied/Totally satisfied). Gross satisfaction questions (values from 1 to 6) categorized as 0 (gross values from 1 to 4) and 1 (gross values from 5 to 6) were associated with a satisfaction index ranging from 0 to 100%. Such dichotomized grouping occurred in a similar way to the instrument validated in a previous study, and was used in the present study.

Data were analyzed by means of descriptive statistics by characterizing the subjects of the study and the answers provided by them, which are presented in the form of tables in absolute and relative frequencies. The Mann-Whitney test was used, and the significance level was set at 5% ($p < 0.05$).

This study was approved by the Research Ethics Committee of the Universidade Federal de São Paulo under number 878/2015 and CAAE 47404015.0.0000.5505. The norms of resolution

number 466/12 of the National Health Council were respected. Formal authorization was obtained with the author for using her validated instrument throughout the research, and all participants signed the Informed Consent form.

Results

The study sample consisted of 300 children who attended the Pediatric Emergency Room together with their companions. Of these patients, 159 (53.0%) were females and 141 (47.0%) were males, with a mean age of 4.6 years.

As for the risk classification in the screening room, 214 (71.4%) pediatric patients were classified as green, 64 (21.3%) were yellow, 15 (5.0 %) were blue, and seven (2.3%) were red. Among the diagnoses, respiratory diseases were predominant in 139 (46.3%) pediatric patients, and 67 (22.3%) children had digestive diseases.

The medical procedure was evidenced by the prescription of intravenous medications in 137 (45.6%) children and inhalation medication in 113 (37.6%), followed by X-ray, and blood tests in 103 (34.3%) and 80 (26.6%) children, respectively. Of the total number of patients, 221 (73.6%) were discharged, 72 (24.0%) were transferred to the pediatric ward, and four (1.3%) were referred to the Pediatric Intensive Care Unit.

The mean time between opening patients' record at the reception until pediatric care in the screening room was 32.26 minutes. The average length of stay of the patient from admission to the Pediatric Emergency Room reception until leaving the sector was 7 hours and 31 minutes.

In order to facilitate the understanding of reading, the 18 questions addressed to pediatric patients' companions to assess their satisfaction rate through the average satisfaction index were presented by representing the central idea contained in the collection instrument (Table 1).

Table 1 shows the satisfaction index mean value of 63.72 for the 300 companions interviewed, with the lowest value of 0% and greatest value of

100%. As in the study was evaluated the satisfaction rate with a pediatric emergency room service, in question 6 it was observed that 132 companions (44.0%) were very satisfied and totally satisfied with the waiting time until their children's care in the screening room or emergency room. However, in question 8, the dissatisfaction stood out in 73.3% of pediatric patients' family members with regard to comfort of the reception room environment. In

question 18, 63.6% of participants demonstrated dissatisfaction with the absence of comfort and hygiene in the Pediatric Emergency Room.

Regarding the variables related to the flow of care (diagnostic hypothesis related to the pathologies presented by children and medical procedure directed to them) associated with the mean satisfaction index demonstrated by companions, there was statistical significance.

Table 1. Companions' satisfaction index

Variable	Frequency(%)	Mean	SD	n
Question 1				
Ease of access to the counter				
0	93(31.0)	4.83	1.04	300
1	207(69.0)			
Question 2				
Waiting time to open patient's record				
0	126(42.0)	4.47	1.36	300
1	174(58.0)			
Question 3				
Receptionist's education				
0	76(25.3)	4.92	1.05	300
1	224(74.6)			
Question 4				
Fast completion of the record form				
0	80(26.6)	4.86	1.09	300
1	220(73.3)			
Question 5				
Receptionist's clarification				
0	142(47.3)	4.35	1.31	300
1	158(52.6)			
Question 6				
Waiting time for screening or emergency room				
0	168(56.0)	3.90	1.62	300
1	132(44.0)			
Question 7				
Organization of initial care				
0				
1	155(51.6)	4.15	1.49	300
Question 8				
Environment comfort while waiting for the consultation at the reception				
0	220(73.3)	3.45	1.59	300
1	80(26.6)			
Question 9:				
Medical staff care				
0	80(26.6)	4.85	1.31	300
1	220(73.3)			
Question 10				
Nursing team care				
0	78(26.0)	4.84	1.30	300
1	222(74.0)			
Question 11				
Medical staff education				
0	56(18.6)	5.04	1.16	300
1	244(81.3)			

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Variable	Frequency(%)	Mean	SD	n
Question 12				
Nursing team education				
0	60(20.0)	5.05	1.16	300
1	240(80.0)			
Question 13				
Medical staff commitment				
0	70(23.3)	4.99	1.18	300
1	230(76.6)			
Question 14				
Explanations provided by the medical staff				
0	89(29.6)	4.82	1.29	300
1	211(70.3)			
Question 15				
Explanations offered by the nursing staff				
0	109(36.3)	4.64	1.24	300
1	191(63.6)			
Question 16				
Respect to privacy				
0	74(24.6)	4.99	1.00	300
1	226(75.3)			
Question 17				
Treatment outcome				
0	92(30.6)	4.79	1.24	300
1	208(69.3)			
Question 18				
Comfort and hygiene at the PER				
0	191(63.6)	3.69	1.65	300
1	109(36.3)			
Satisfaction Index		63.72	27.76	300

Table 2 shows a mean satisfaction of 74.45 among companions of patients with dermatological disease. That is, those responsible for children diagnosed with dermatological diseases demonstrated a statistically significant satisfaction index.

Table 3 shows a statistically significant satisfaction index among patients who received medication administered via rectal route. Thus, the relatives of children who received medications administered by this route were satisfied with the quality of service compared to companions of other patients who underwent other treatments proposed by the medical team.

As for the reasons that led companions to seek the Pediatric Emergency Room, there was a statistically significant difference among the 53 companions who sought the service because they considered it a reference hospital, with a mean satisfaction of

Table 2. Satisfaction index of companions of pediatric patients admitted to the Pediatric Emergency Room according to pathology

Variable	Mean	SD	n	Test	p-value*
Respiratory disease					
0	64.94	28.69	161	Mann-Whitney	0.254
1	62.31	26.69	139		
Digestive disease					
0	63.11	27.86	233	Mann-Whitney	0.449
1	65.84	27.54	67		
Infectious disease					
0	63.75	27.74	278	Mann-Whitney	0.977
1	63.39	28.67	22		
Neurological disease					
0	63.79	27.47	278	Mann-Whitney	0.954
1	62.88	31.95	22		
Dermatological disease					
0	62.75	27.85	275	Mann-Whitney	0.035
1	74.45	24.9	25		

*p of Mann-Whitney <0.05

Table 3. Satisfaction index of companions of pediatric patients admitted to the Pediatric Emergency Room according to medical procedure

Variable	Mean	SD	n	Test	p-value
Blood tests					
0	65	27.48	220	Mann-Whitney	0.201
1	60.21	28.4	80		
Urine tests					
0	64.84	27.74	252	Mann-Whitney	0.091
1	57.87	27.45	48		
Liquor examination					
0	63.89	27.6	298	Mann-Whitney	0.378
1	38.9	55.01	2		
X-ray					
0	65.71	27.78	197	Mann-Whitney	0.055
1	59.92	27.46	103		
Ultrasonography					
0	63.57	27.77	298	Mann-Whitney	0.239
1	86.1	19.66	2		
Tomography					
0	63.72	27.51	294	Mann-Whitney	0.651
1	63.9	41.96	6		
Electrocardiogram					
0	63.73	27.81	299	Mann-Whitney	0.794
1	61.1	NA	1		
Inhalation medication					
0	64.83	29.1	187	Mann-Whitney	0.155
1	61.9	25.42	113		
Oral medication					
0	64.56	26.91	230	Mann-Whitney	0.555
1	60.96	30.44	70		
Intramuscular medication					
0	64.44	27.58	192	Mann-Whitney	0.539
1	62.45	28.16	108		
Intravenous medication					
0	63.57	27.72	163	Mann-Whitney	0.896
1	63.91	27.92	137		
Subcutaneous medication					
0	63.92	27.89	295	Mann-Whitney	0.208
1	52.24	16.49	5		
Rectal medication					
0	63.33	27.73	296	Mann-Whitney	0.018
1	93.05	8.34	4		

* p de Mann-Whitney <0,05

77.25. Among the two companions who took their children to the emergency room because they did not have medical insurance, the satisfaction mean value was 64.11, and it had statistical significance.

Discussion

The limitations of this study are related to the fact that the validated instrument was used in an emergency service to the adult population. Therefore, when directed to children's companions it

can restrict their perceptions in the pediatric scenario. Nonetheless, the results obtained will contribute to increasing the quality of care provided to pediatric patients and their families in emergency services.

The results of the present study show most of the sample was composed of female children attending preschool.

In studies performed in pediatric emergency services, the mean age of the samples was similar to the present study, that is, children in the preschool age group. However, in those studies there was predominance of male patients who attended the service.^(14,15) The gender divergence between our study and findings in the literature may be associated with institutions where the studies were conducted.

Regarding the classification of risk, green classification (non-urgent) and yellow (urgent) classification were predominant. A study that used the Manchester screening system in an emergency service in southern Brazil found similar results to the present study, and 43.6% of pediatric patients were classified in the yellow category (urgent), followed by 34.0% of children classified as green (non-urgent).⁽¹⁶⁾

Among the pathologies presented by children who attended the Pediatric Emergency Room, respiratory and digestive diseases were predominant, and these data are in line with findings of studies conducted in the Netherlands.⁽¹⁷⁾ The main diseases affecting pediatric patients that led them to seek the emergency room were those of the respiratory system (56.2%), followed by gastrointestinal diseases (16.6%), and viruses (13.1%).⁽⁷⁾

In large part of pediatric patients who used the Pediatric Emergency Room, the main procedures prescribed by the medical team were administration of intravenous and inhalation medications, followed by X-ray. Researchers recorded the administration of inhalation medications together with radiography in 22.0% of children treated at an emergency service.⁽¹⁴⁾

In a study conducted at a teaching hospital, use of medications was a predominant action among

nursing procedures performed in the Pediatric Emergency Room, with a higher incidence of intramuscular, oral, inhalation and intravenous medications, respectively.⁽¹⁸⁾

Regarding children attended at the Pediatric Emergency Room and discharged from the service, a study conducted in a pediatric emergency room in the southern region of Brazil found a similar result. The majority of patients admitted to service were discharged after medical treatment, or after receiving treatment for their acute clinical condition in the pediatric emergency room, and thus, were released to go home.⁽¹⁶⁾

This is a common situation in pediatric emergency services, and demonstrates the real importance of the risk classification triage by a highly trained and qualified professional in specific care to pediatric patients.^(8,19)

In the present study, the average time between opening the patient's record and child care in the screening room was 32.26 minutes. However, in severe clinical cases it is noteworthy that patients' risk classification was performed in the emergency room during immediate care of the child at risk. Paraguayan researchers recorded mean time of 4.7 minutes between patients' admission and screening in their sample.⁽¹⁴⁾

Question 6 reported that the companions were very satisfied and totally satisfied about the waiting time spent until pediatric patients were seen in the triage or emergency room.

A qualitative study performed in a hospital in Rio de Janeiro through a semi-structured interview revealed that in the perception of companions to children in emergency situations, the care was performed efficiently and quickly by the nursing team. Family members reported that nursing care in emergency departments contributed to saving lives and was considered fast and decisive.⁽¹⁹⁾

In pediatric screening, it is the role of nurses (owners of clinical knowledge) to establish the initial contact with patient and parents, and explain that care priority criteria consider the severity of cases and not order of arrival. Furthermore, when using the Manchester protocols,

they should also advise family members that the classification given to the pediatric patient does not necessarily implies waiting the maximum time for this color until the child receives medical care.⁽⁸⁾

Although the average value for the satisfaction index was 63.72% for the family members interviewed regarding the quality of care provided to the pediatric patient, a strong dissatisfaction was manifested by companions given the lack of comfort in the reception room in the emergency service, as mentioned in questions 8 and 18, respectively.

Such dissatisfaction is supported by data in the literature. There is record of some pediatric patients who attended a municipal pediatric emergency room in Rio de Janeiro and considered the site structure was poor, in poor hygiene conditions, and the chairs for their accommodation were uncomfortable, which made sleep and rest with their children more difficult.⁽¹⁹⁾

Emergency services are intended for the care of critically ill patients, who require complex care and interventions. Therefore, the environment must be safe and have the right materials and infrastructure for the provision of effective and adequate assistance to those who need complex procedures until the stabilization of their clinical picture. Moreover, there must be conditions of minimal comfort to the companion.⁽⁸⁾

Parents whose children were diagnosed with dermatological diseases had a higher index of satisfaction with the quality of service provided.

Urticaria is a common manifestation in the pediatric age group and of enormous demand in emergency services. Skin-related conditions may be associated with a strong allergic process characterized by rash, plaques on the body surface, generalized papules that cause intense pruritus, in addition to palpebral and labial edema, which may compromise patients' respiratory condition if not treated immediately.⁽²⁰⁾ Thus, an adequate risk classification in screening resulting in a reduced waiting time to receive medical care, associated with administration of parenteral (intramuscular or intravenous) medications to improve or stabi-

lize the acute condition may have contributed to raise companions' satisfaction index regarding the quality of service provided.

Researchers pointed that parents whose children had severe skin disease such as urticaria were more likely to seek emergency care at a pediatric hospital in Lithuania, compared to other companions.⁽¹¹⁾

In relation to medical procedures aimed at children, the companions showed a higher index of satisfaction with the quality of service when pediatric patients received medications administered by rectal route.

Patients in the sample who received medications administered via rectal route presented a diagnosis of intestinal constipation and were grouped in gastrointestinal pathologies, which are greatly predominant in pediatric patients visiting the Pediatric Emergency Room.

The severity of the condition is related to children's stress and suffering associated with bowel movements, which contribute to emergency room visits. Medicinal treatment is through oral laxatives (mineral oil, milk of magnesia and lactulose) or by saline and/or glycerin solution enemas administered via rectal route.⁽²¹⁾

The pediatric population has peculiarities in pharmacodynamics and pharmacokinetics mechanisms, and for this reason, drug absorption via rectal route is more effective compared to other routes of administration.⁽²²⁾

As this procedure does not occur parenterally, that is, it does not require needle punctures in the vein or muscle, it is considered less painful and occurs in a shorter period of time compared to the others. These aspects justify the significant satisfaction index demonstrated by companions regarding the quality of service directed to patients of the Pediatric Emergency Room.

Family members who sought the pediatric emergency service for considering it a reference hospital or because they did not have health insurance were satisfied with the quality of care provided to their children.

Pediatric patients' companions seek emergency services because they consider the Pediatric

Emergency Room a referral service. This fact is justified by the lack of resolve in primary care and the rapid assistance to their children's diseases, thus in these places is provided a humanized and qualified care.^(19,23)

A systematic review of the literature that included studies conducted in the United States between 1980 and 2012 involving children aged zero to 18 years, found that parents' poor health knowledge favors visits to Emergency Room. As they consider the pediatric emergency service a reference to their children's treatment, they contribute to overcrowding and increased child hospitalization in the country.⁽²⁴⁾

Regarding the fact that companions without health insurance for their children were satisfied with the quality of care of the Pediatric Emergency Room, their satisfaction may be related to the emergency character of the pathology manifested by the pediatric patient and consequently, to the care provided.

Researchers report the population with health insurance tends to have greater access to preventive exams, routine consultations aimed at health promotion and thus, drastically reduce their visits to emergency room services.⁽²⁵⁾ As the sample of the present study does not have access to private health insurance, they registered a significant satisfaction index regarding the quality of care when searching for the Pediatric Emergency Room where this study was conducted.

Conclusion

The pediatric patients' companions are satisfied with the quality of care in the studied Pediatric Emergency Room. The significant satisfaction index among the family members of children who had dermatological diseases and received medication administered via rectal route stands out, as well as that of companions who sought the Pediatric Emergency Service because they considered it a referral service, and those who did not have health insurance.

Collaborations

Macedo GPOS contributed with project design, collection, interpretation, data analysis, article

writing and critical review of relevant intellectual content. D'Innocenzo M collaborated with project design, interpretation, data analysis, article writing, critical review of the intellectual content and final approval of the version to be published.

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