Residência RP Pediátrica
Publicação Oficial da Sociedade Brasileira de Pediatria

ORIGINAL ARTICLE

The medical appointment understanding in pediatric dermatology

Mariana Canato[1], Vânia Oliveira de Carvalho[2]

Keywords:
child,
comprehension,
evaluation,
physician-patient relations,
surveys and questionnaires.

Abstract

Objective: To evaluate the degree of understanding of caregivers and relatives regarding patients' disease, prescriptions and orientations given by the medical staff during appointments at the dermatological section in the division of pediatrics of the Hospital de Clínicas. **Materials and methods:** Cross-sectional study performed by surveys (n = 64) applied to the companions of patients aged under 14 years old coming to their first appointment in pediatric dermatology. The data included general information from patients, their companions and the understanding of the disease and prescription by caregivers. **Results:** 16 (25%) companions did not understand the definition of the diagnosed dermatosis and 32 (50%) did not know the name of the disease. 80% of caregivers considered the explanation provided by doctors easy and 50% understood the posology and therapeutic recommendations. There was no difference between the degree of understanding of companions when analyzed by education level and financial income. An easy explanation by the doctor was referred by 43 (67%) participants as a facilitator of their understanding while 15 (23%) mentioned legible handwriting as being important to understand the prescription. The use of technical terminology was cited by 22 (34%) as a complicating factor to the comprehension of the disease and medications. **Conclusion:** There was a great percentage of incomprehension of disease and prescription. The use of technical terminology was the main complicating factor, while an easy explanation collaborated to the understanding of the disease and prescription. The data demonstrates the importance of verifying patients' understanding at the conclusion of appointments.

[1] Second-year medical resident in Pediatrics at the Clinics Hospital of Paraná, Curitiba, PR, Brazil.
[2] Assistant Professor at the Department of Pediatrics at the Federal University of Paraná, Curitiba, PR, Brazil.

Correspondence to:
Mariana Canato.
Clinics Hospital of the Federal University of Paraná. Rua General Carneiro, nº 181, Curitiba, PR, Brazil. CEP: 80060-900. E-mail: marianacanato@hotmail.com

Residência Pediátrica 2016;6(3):114-120.

INTRODUCTION

One of the goals of medicine is the resolution or relief of suffering for the patient. Some factors are directly associated with the fulfillment of this purpose, and the absence of these factors may completely change the effectiveness of the medical appointment and the disease outcome. These factors rely primarily on three elements: physician, patient, and the physician-patient relationship[1,2].

The physician may use various tools to ensure the success of the appointment, including the use of vocabulary that is compatible with the educational level of the patients and their families, and the use of simple analogies to explain complex situations[3]. There is evidence that many patients leave the appointment without the proper understanding of the information provided by the medical staff[4].

With regard to the doctor-patient relationship, the Toronto Consensus showed that in 58% of appointments, the level of understanding of the patient about the diagnosis and the therapeutic indications was not evaluated[1,3].

It is known that the understanding of the medical prescription and the disease leads to greater adherence to the treatment proposed by the medical staff. Furthermore, approximately 50% of mothers who do not follow the prescription do not understand the importance of the recommended treatment[5].

Therefore, this study aimed to evaluate the level of understanding of caregivers and family members about the diseases, drug prescriptions, and guidelines provided by the medical staff in the Pediatric Dermatology Clinics at the Clinics Hospital.

MATERIALS AND METHODS

This analytical cross-sectional study was approved by the Research Ethics Committee of the Clinics Hospital and included children and adolescents younger than 14 years who attended their first appointment in the Pediatric Dermatology Outpatient Clinic at the Clinics Hospital of the Federal University of Paraná between March 1 and October 1 of 2015, regardless of disease diagnosis. The evaluation was conducted twice a week using questionnaires, which were provided to the patients after their signature of the informed consent form.

The questionnaires were applied by the same researcher (V.O.C.) at the end of the appointment and inquired about general information about the patient and caregiver, and general understanding of the disease and drug prescription (Chart 1).

The caregiver's education was divided into the flowing categories: illiterate, elementary school, high school, and higher education. The family's monthly income was divided into four groups according to the IBGE classification considering the current minimum wage in Brazil: up to R$ 197,00 per capita, between R$198,00 and R$ 394,00 per capita, between R$ 395,00 and R$ 788,00 per capita, and more than R$ 788,00 per capita[6].

The participants were inquired about the name of the diagnosis they received during the appointment. Furthermore, they scored their understanding about the meaning of the disease, the physician's explanation about dermatosis, and the drug prescription and medical guidelines using the Likert scale, which was simplified as "easy," "medium," or "difficult," and to explain their choices.

The questions were related to the medical guidelines received during the appointment, drug prescription, and adverse effects.

The professionals who performed the medical appointment were categorized into five groups, as described in Table 1.

Data were organized into an Excel® spreadsheet and analyzed using JMP® software and Statistica software version 10.0® (Statsoft ®-Tulsa, OK). All analyses were performed using Pearson's and Mann-Whitney's chi-square tests at a level of significance of 5%.

RESULTS

The questionnaires were applied to caregivers of 64 children during the study period. The average age of the caregivers was 33 years, ranging between 18 and 64 years, and 56 (87%) were women. Among the caregivers, 52 (81%) had a maternal relationship with the child, 9 (14%) were other relatives, and in 5% of the appointments, both parents were present.

The education level of 35 (55%) caregivers was high school. Twenty caregivers (31%) were in the workforce, and 21 (33%) called themselves homemakers (Table 1).

With regard to the monthly income, 26 (46%) families reported receiving between R$ 394.00 and R$ 788.00 per capita (Table 1).

Sixteen (25%) caregivers did not understand the definition of dermatosis, and 32 (50%) did not know how to pronounce the name of the disease.

Chart 2 shows the level of understanding of the caregivers about dermatosis and the pronunciation of the name of the disease during the interview.

The diagnosis was confirmed in 54 (84%) appointments and unclear in 10 (16%) appointments; therefore, for the latter group, additional tests were conducted to evaluate disease progression and clarify the diagnosis. There was no difference in the level of understanding about the disease among the cases in which diagnosis was not confirmed during the appointment (Table 2).

No statistically significant differences in the level of understanding about dermatosis were found between the groups considering the education and per capita income of the participants (Table 2).

Chart 1. Variables analyzed in the questionnaire given to patients' caregivers.

Questions asked	Variables analyzed
Related to the patient	Age
	Sex
	Diagnosis
	Number of dermatologic diagnoses
	Follow-up with other medical specialists, including other dermatological services
Related to the caregiver	Age
	Education
	Relationship to patient
	Monthly income
	Profession
	Number of rooms and residents in the house
Related to the disease	Ability to pronounce the name of the disease and understand the disease
	Awareness about the severity, ease of treatment, and cure
Related to doctor's directions	Classification of the explanation given by the doctor about the disease, prescription, and medical guidelines
	Ability to score the directions given at the end of the appointment, prescription medications, as well as their dosages and directions
	Need to check the information on the prescription
	Awareness about the adverse effects of prescribed medications
	Factors that facilitate or hinder the understanding during the appointment
Professional who was in charge of the appointment	Resident in Pediatrics, resident specializing in Pediatric Dermatology, medical student from the Federal University of Paraná

Table 1. Characteristics of the caregiver who accompanied the patient to the appointment (n = 64).

Educational Level	Absolute Number	Percentage
Illiterate	1	2
Elementary School	20	32
High School	35	55
Higher Education	8	11
Unknown	1	-
Monthly income per capita	Absolute Number	Percentage
Up to R$ 197.00 (1/4 minimum wage)	6	11
Between R$ 197.00 and R$ 394.00 (1/4 to 1/2 minimum wage)	15	27
Between R$ 394.00 and R$ 788.00 (1/2 to 1 minimum wage)	26	46
More than R$ 788.00 (1 minimum wage)	9	16
Unknown	8	-
Profession	Absolute Number	Percentage
Workers in sciences and arts	4	6
Medium-level technicians	3	5
Administrative service workers	4	6
Service workers, store vendors	20	31
Workers in the production of industrial goods and services	8	12
Workers in repair and maintenance services	1	2
Homemakers	21	33
Unemployed	3	5

Chart 2. Pronunciation of the name of the disease by the caregivers, their understanding of the disease, and the factors that contributed to their understanding during the appointment.

Knew the name of the disease and understood its meaning		
Diagnosis	**Name**	**Meaning**
Contact Dermatitis	"Contact dermatitis"	"Allergy"
Did not know the name and understood the meaning		
Diagnosis	**Name**	**Meaning**
Prurigo scrofulous	"She told me, but I forgot"	"It is an allergy to insects in which the body develops resistance"
Knew the name but did not understand the meaning		
Diagnosis	**Name**	**Meaning**
Vitiligo	"Vitiligo"	"I think it's a fungus that spreads through the body"
Did not know the name and did not understand the meaning		
Diagnosis	**Name**	**Meaning**
Mastocytosis	"I don't remember the name. Metastasis?"	"I think it's going to disappear"
Factors that improved or hindered understanding of the disease during the appointment		
Factors that improved understanding		**Factors that hindered understanding**
1. Easy explanation provided by the doctor: "This time it was easy, but with the former doctor, it was difficult. He referred me to a neurologist and dermatologist, but he didn't explain anything. I was terrified. Now I'm calm."		**1. External factors:** "The child calling you gets in the way", "I couldn't pay attention to the explanation of the disease because the appointment took too long and I was concerned with the trip back because I live out of town", "the last time I went to the dermatologist I didn't pay attention because he said it had no cure.
2. Doctor's behavior: "Being nicer makes it better," "Performing the examination helps to trust the doctor," "Being patient to explain. She doesn't talk in a rush."		**2. Technical terms:** "The association of technical terms with examples facilitates the understanding," "When they talk among themselves is bad, I feel lost."
3. Legibility: "A good handwriting helps. When the handwriting is bad, we don't understand. I had an appointment with a doctor with a bad handwriting once that even the pharmacist did not understand it, and then, I couldn't take the medication."		**3. Lack of attention from the mother:** "The mother's attention is vital, it's not just about what the doctor says," "I am a little at fault because I didn't pay attention. I was worried about something else."
4. Ask questions to the doctor: "Asking questions is what helps. If it was vitiligo, I'm afraid of prejudice", "it is difficult when the doctor doesn't explain correctly, and the patient is ashamed to ask. Pediatricians are very attentive."		**4. Doctor's behavior:** "Some doctors don't even look," "An adequate examination helps us to trust the doctor."
5. Other: "It would help to have written information about the sunscreen," "it helps when the doctor shows things like in an atlas," "the doctor called the head physician to see and I liked it."		**5. Quick appointment:** "A quick appointment limits our understanding and makes us nervous and scared."

Among the study participants, 9 (14%) children attended a previous appointment with a dermatologist in another clinic, of whom six children knew how to properly pronounce the name of the disease whereas seven children understood the meaning of the disease.

When questioned about the level of understanding of the disease, drug prescription, and general medical guidelines, 51 (80%) caregivers scored the explanation about dermatosis as easy. However, only 65% of these participants understood the meaning of the disease. Furthermore, 95% of the study population scored the explanation about the prescription received as easy, and 98% scored the general directions provided by the doctor as easy.

Of the 64 children, 60 (93%) were given prescription at the end of the appointment, and for all prescribed medications, more than 50% of children had an understanding about directions and dosages, except the antihistamine dosages, for which only 43% understood the dosages.

When questioned about the medications prescribed, 37 (62%) caregivers needed to review the prescription to be able to answer questions about the drug name, instructions for use, and dosage, and 34 (60%) caregivers did not understand the adverse effects of the prescription medications.

The reasons that contributed to the understanding of the disease and prescription included the "easy explanation by the physician" and "legible handwriting" by 43 (67%)

Table 2. Understanding the meaning of the disease according to education and per capita income (n = 64).

Education	Understood n (%)	Did not understand n (%)	*p*
Elementary school	15 (24)	5 (8)	
High school	26 (41)	9 (14)	
Higher education	6 (9)	1 (2)	0.79
Illiterate	0	1 (2)	
Unknown	1		
Monthly income per capita	**Understood n (%)**	**Did not understand n (%)**	***p***
Up to R$ 197.00 (1/4 MW)	4 (7)	2 (4)	
Between R$ 197.00 and R$ 394.00 (1/4 to 1/2 MW)	13 (23)	2 (4)	
Between R$ 394.00 and R$ 788.00 (1/2 to 1 MW)	20 (36)	6 (11)	0.63
More than R$ 788.00 (1 MW)	6 (10)	3 (5)	
Unknown	8		
Confirmation of diagnosis	**Understood n (%)**	**Did not understand n (%)**	***p***
Confirmed	42 (66)	12 (19)	0.25
Uncertain	6 (9)	4 (6)	
Distribution of responses on medical guidelines and dosage		(n = 60)	
Anti-histamines	Understood n (%)	Did not understand n (%)	
Guidelines	4 (57)	3 (43)	
Dosage	3 (43)	4 (57)	
Moisture cream	Understood n (%)	Did not understand n (%)	
Guidelines	26 (90)	3 (10)	
Dosage	25 (86)	4 (14)	
Sunscreen	Understood n (%)	Did not understand n (%)	
Guidelines	12 (100)	-	
Dosage	10 (83)	2 (17)	
Other medications	Understood n (%)	Did not understand n (%)	
Guidelines	35 (65)	19 (35)	
Dosage	39 (72)	15 (28)	

N: number/SM: minimum wage

and 15 (23%) caregivers, respectively; 6 (9%) caregivers mentioned the sympathy and interest of the physician, and 4 (6%) caregivers claimed that asking questions to the physician was important.

On the other hand, the reasons that contributed to the limited comprehension of the caregivers during the appointment were the following: use of technical terms in 22 (34%) cases, lack of attention of the mother in 7 (11%) cases, and external factors such as the inadequate date and time of the appointment to the caregiver or a crying child in 5 (8%) cases. Other reasons that compromised their understanding were the missing details about the prescription and the lack of information in writing (6%).

When asked about the difficulties in understanding their disease during appointments attended in other clinics, caregivers reported the appointment was made on short notice in 9 (14%) cases, and that the physician did not examine the patient or acted rudely in 5 (8%) cases. Chart 2 shows examples of the opinions of the caregivers on the factors that facilitated or hindered their understanding of the disease.

Of all appointments, 17 (27%) and 16 (25%) were made by a second- and first-year resident who were specializing in Pediatric Dermatology, respectively, whereas 13 (20%) and 12 (19%) appointments were made by a second- and first-year resident in Pediatrics, respectively. Only 3 (5%) appointments were made by a sixth-year medical student.

DISCUSSION

Few studies have assessed the level of understanding of patients at the end of a doctor's appointment, which limits data comparison. Most of the studies focused on the patient-doctor relationship and how this relationship influenced the adherence to the proposed treatment[1,2].

Although the understanding of the patients about the disease and the directions provided during the appointment is essential, few professionals attempted to assess this understanding[4].

In this study, the importance of the disease was not understood by 25% of caregivers, and this result is similar to that found by Waisman *et al.*, wherein the understanding of 482 parents about the diagnosis provided to their children in the emergency department in Israel was evaluated. These authors found that parents had a complete understanding of their condition in 75% of cases[7].

Fifty percent of the participants of this study knew how to pronounce the name of the disease (dermatosis) diagnosed during the appointment. However, some diagnostic terms were more complex and unknown, e.g., "prurigo scrofulous" had a greater verbal complexity than "contact dermatitis."

Their limitation in pronouncing the name of the disease may not represent a problem because the main meaning was understood. However, a simple attitude could minimize this problem, as it has been suggested by some participants: to write down the name of the disease.

The diagnosis was uncertain in 10 (16%) appointments, and in these cases, the understanding of the information provided was not statistically different from the understanding of the group with confirmed diagnosis. This result may be because the information was explained in more detail to patients whose diagnosis was uncertain.

In this study, we did not find a relationship between the education or socioeconomic status and a better understanding of the information provided by physicians in the appointment. This result may be because there was not a wide variation in the participants' income. Similarly, Sano et al.[5] did not find a relationship between education and income and the level of understanding of the patients. These authors observed that 78% of the patients with monthly income between two and five minimum wages and 68% of those who did not complete elementary school understood the pediatric prescription.

Abdulmalik *et al*. studied the relationship between the level of education of 90 patients and their understanding of the medications in a tertiary center in Saudi Arabia. Only 31% of patients could inform the possible adverse effects of the medications prescribed. For these researchers, this task was the most challenging[8]. In our study, we also found that the patients did not understand the adverse effects of the prescribed medications.

Although 96% of our participants classified the explanation about the prescription drugs as easy, only approximately 50% of them understood the dosage and treatment guidelines. This result indicates that the strategies used to assess the understanding of the patients may be ineffective and give the false impression that what was talked about during the appointment was comprehended in cases in which patients reported they had understood the directions[4].

The provision of easy explanations by physicians was reported as the best strategy to ensure a greater level of understanding[3,9]. In addition, legible handwriting contributed to the understanding of prescription in this study. An example of the importance of legibility was quoted by one participant: "I had an appointment with a doctor with a bad handwriting once, and even the pharmacist did not understand it, and for this reason, I couldn't take the medication." Studies show that more than 50% of patients do not understand the writing and abbreviations on the prescription[5,10].

Although few studies demonstrate that doctors' personal characteristics may either help or hinder the understanding of the patients during the appointment, some study participants reported that the nice and thoughtful attitude by the professional gave them calmness, which could contribute to their understanding during the appointment. On the other hand, the doctor's concern to patient's concerns has been reported as crucial to establishing a good relationship during the appointment, and therefore, to a better understanding and treatment adherence[1].

The participants reported that written information worked better than verbal information, and some studies corroborate this finding[9,11,12]. However, Waisman *et al.* showed that although written information helps to understand the proposed treatment, it does not help patients understand the diagnosis[7].

The study participants reported that the use of technical terms most strongly hindered their understanding in the appointment, and previous studies showed that the type of vocabulary used by physicians influenced the patient's understanding of the medical terms[7,13]. Patients have little knowledge about technical terms and, therefore, an explanation with a simple vocabulary is essential to improve the understanding during the appointment[13].

External factors, including a crying child, and the concern about the time of appointment or disease severity, also hindered the participants' understanding. In this context, it has been reported that the capacity of retention of the information provided during the appointment decreases as the anxiety level of the patients increases[3,4,9].

With regard to the doctor-patient relationship, the Toronto Consensus showed that patients are interrupted by doctors 15 seconds after explaining the problem[3], and, in our study, quick appointments were reported as a limiting factor in participants' understanding.

Other limiting factors in our study were the small number of participants and their similar socioeconomic status and level of education, which limited the assessment

of the variations between the groups. Notwithstanding this limitation, this study demonstrates that several patients did not understand about the disease and 50% of the participants did not know how to pronounce "dermatosis."

Our study also demonstrated the importance of communicating using a simple vocabulary that patients and family members can understand, and repeat the information in many ways to obtain a greater level of understanding. Furthermore, the fact that some participants were referred via the Primary Health Unit may have increased their level of understanding about the disease because these patients had at least one previous medical appointment to discuss their health issues.

Therefore, future studies should focus on the evaluation of the level of understanding of patients and caregivers during appointments considering the importance of the knowledge about the disease itself[11,12].

CONCLUSION

In this study, we showed that caregivers did not understand about the diagnosis in 25% of cases, and in 50% of the cases, they did not know how to pronounce the name of the disease. Although the explanation about the prescribed medications was considered easy for most caregivers, slightly more than 50% understood the dosage and directions of the proposed therapy.

The most important factor that hindered the participants' understanding of the diagnosis was the use of technical terms, and legible handwriting strongly affected the understanding about the prescription.

It is of the utmost importance that physicians assess whether patients or their caregivers have an understanding of the disease at the end of the appointment to ensure the adequate adherence to treatment.

ACKNOWLEDGMENTS

To Tony Tannous Tahan and Rosana Marques for the suggestions to improve this manuscript, and to Monica Nunes Lima Cat for the collaboration in the statistical analysis.

REFERENCES

1. Caprara A, Rodrigues J. A relação assimétrica médico-paciente: repensando o vínculo terapêutico. Ciênc Saude Coletiva. 2004;9(1):139-46. DOI: http://dx.doi.org/10.1590/S1413-81232004000100014
2. Sanchez CG, Pierin AMG, Mion Jr. D. Comparação dos perfis dos pacientes hipertensos atendidos em Pronto-Socorro e em tratamento ambulatorial. Rev Esc Enferm USP. 2004;38(1):90-8. DOI: http://dx.doi.org/10.1590/S0080-62342004000100011
3. Simpson M, Buckman R, Stewart M, Maguire P, Lipkin M, Novack D, et al. Doctor-patient communication: the Toronto consensus statement. BMJ. 1991;303(6814):1385-7. PMID: 1760608 DOI: http://dx.doi.org/10.1136/bmj.303.6814.1385
4. Kemp EC, Floyd MR, McCord-Duncan E, Lang F. Patients prefer the method of "tell back-collaborative inquiry" to assess understanding of medical information. J Am Board Fam Med. 2008;21(1):24-30. DOI: http://dx.doi.org/10.3122/jabfm.2008.01.070093
5. Sano PY, Masotti RR, Santos AAC, Cordeiro JA. Avaliação do nível de compreensão da prescrição pediátrica. J Pediatr (Rio J). 2002;78(2):140-5.
6. Brasil. Instituto Brasileiro de Geografia e Estatística. Uma análise das condições de vida da população brasileira 2013 [Internet]. [Citado 29 Out 2015]. Disponível em: http://www.ibge.gov.br/home/estatistica/populacao/condicaodevida/indicadoresminimos/sinteseindicsociais2013/default_tab_xls.shtm
7. Waisman Y, Siegal N, Chemo M, Siegal G, Amir L, Blachar Y, et al. Do parents understand emergency department discharge instructions? A survey analysis. Isr Med Assoc J. 2003;5(8):567-70.
8. Alkatheri AM, Albekairy AM. Does the patients' educational level and previous counseling affect their medication knowledge? Ann Thorac Med. 2013;8(2):105-8.
9. Kessels RP. Patients' memory for medical information. J R Soc Med. 2003;96(5):219-22. PMID: 12724430 DOI: http://dx.doi.org/10.1258/jrsm.96.5.219
10. Pereira BK, Munhoz STMB, Wiese LPDL, Buzzi V. Avaliação do Entendimento da Prescrição Médica pelos Usuários do Sistema Único de Saúde (SUS) da Regional de Saúde - Costa e Silva em Joinville - SC em 2009. Vita Sanitas. 2013;7:19-34.
11. Lin J, Sklar GE, Min Sen Oh V, Li SC. Factors affecting therapeutic compliance: A review from the patient's perspective. Ther Clin Risk Manag. 2008;4(1):269-86.
12. Dawood OT, Izham M, Ibrahim M, Palaian S. Medication compliance among children. World J Pediatr. 2010;6(3):200-2. DOI: http://dx.doi.org/10.1007/s12519-010-0218-8
13. Segall A, Roberts LW. A comparative analysis of physician estimates and levels of medical knowledge among patients. Sociol Health Illn. 1980;2(3):317-34. DOI: http://dx.doi.org/10.1111/1467-9566.ep11340704