

Parental beliefs on medication and satisfaction with child healthcare

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Abstract

Objective: The aim of this study is to explore a possible significant relationship between parental beliefs about medication and satisfaction with the medical care their children receive in two different healthcare settings. **Materials and Methods:** The study included a total of 1,517 parents whose children were being treated either in pediatric primary care or pediatric emergency centers in eastern Andalusia. Of these, 489 were men and 1,028 women. The research instruments used were the Beliefs about Medicines Questionnaire (BMQ) and the Scale of Satisfaction with Health Care Services. **Results:** Our results indicate that high levels of negative beliefs about medication were significantly associated with lower levels of parent satisfaction with healthcare received. **Conclusions:** Satisfaction with pediatric healthcare depends on aspects relating to the healthcare system, but certainly personal psychological and social variables like beliefs and parent's previous expectations may play an important role too. (Gac Med Mex. 2015;151:315-21)

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Introduction

Recently, healthcare systems users' beliefs, opinions and appraisals have been attracting researchers' attention in different fields of study. Opinions, expectations and beliefs on received treatments and specifically with regard to drug administration have caused, from some time to date, for research to focus its interest on the topic. In fact, issues such as treatment adherence, following instructions or even efficacy and efficiency of medical interventions, with the ensuing aggravation of diseases, could be obstructed by this series of beliefs¹⁻⁴. Specifically, some authors have

pointed out that between 30 and 50% of medication discontinuation could be associated with negative beliefs on medication^{5,6}, and recent data even associate parental beliefs with the seriousness of the condition in some childhood diseases⁷.

An additional proof of the increasing interest on this topics is the development or application of important psychological theories that have focused on this issue since some time ago, including the planned behavior theory, the model of beliefs on health or the common sense self-regulatory model of illness^{8,9}.

Traditionally, among the most frequently studied aspects with regard to beliefs on medication, the belief on the potential harm of medication consumption and

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the appraisal of the need for the drug or belief on the abuse of this type of intervention that can be incurred by medicine and its professionals stand out¹⁰. Concerns raised by both dimensions seem to specifically associate with patients discontinuing the medication or forgetting to take it or the prescribed dose^{4,11}.

The analysis of variables such as age and education level with regard to beliefs has shown conflicting results. While some authors have found data indicating that older people use to have more positive beliefs than younger people on alternative treatments over those based on drugs¹², other authors maintain that beliefs on medications do not vary depending on age over the course of life¹³. In our country, older age has been associated with higher level of belief on potential harm of medication¹⁴. With regard to level of education, the higher it is, the lesser the concerns about the treatment and the beliefs on harm of medication¹⁴.

Multiple studies focused on the analysis of opinions and evaluations of healthcare users have also paid attention to satisfaction of both patients and their families. In this sense, satisfaction has been a widely studied variable in primary and specialized healthcare settings, owing to its importance as an indicator of users' wellbeing and, of course, of quality of the provided services¹⁵⁻¹⁷. However, in spite of having been frequently studied, it remains a complex and hard to conceptually demarcate variable, which is difficult to assess in the pediatric healthcare setting¹⁸⁻²¹. It seems to be evident that variables of very diverse nature, sometimes originating outside the very own context of healthcare, might play a primary role on user's satisfaction, including aspects such as the care received from healthcare personnel, the distance between the health center and the patient's home or seriousness of the patient's condition at the moment of receiving medical attention^{22,23}.

According to different studies, our country appears to have a good or elevated level of satisfaction among users of public healthcare services, both in primary care level and in the case of hospitalized patients^{19,24,25}. According to these studies, although general level is high, in the same line as other countries²⁶, there are possibly some details to be improved, such as information received from healthcare personnel during the medical attention process or parental participation in decision making.

When satisfaction is comparatively analyzed in healthcare settings, there appear to be differences according to the type of department where it is studied.

Specifically, data indicate that there appear to be higher levels of satisfaction in primary care than in emergency care when general population samples are studied²⁷.

In Emergency Departments, the perception of patients and their families on different aspects could be different, which might be associated with lower levels of satisfaction. For example, in the emergency room, the seriousness perceived by patients with regard to their problem or condition is often higher, waiting times occasionally seem longer to users, contact and interaction with medical personnel are usually brief, medical tests always appear to take too long and information available to the user always seems scarce and hard to understand²⁸⁻³⁰. Furthermore, these are departments where the user and his family usually have diverse degrees of emotional distress, such as anxiety, fear, stress, etc., with situations of annoyance and anger even being found³¹.

The relationship between personal aspects such as the users' age or level of education and satisfaction has also been studied, and the results vary according to the different healthcare settings and samples. Hence, while some authors have found higher levels of satisfaction among older people in comparison with other age strata in hospitalized patients¹⁹, other authors, more focused on pediatric care, have not found differences in terms of satisfaction between different types of departments according to age or level of education, among other psychosocial variables^{26,32}.

Finally, it should be emphasized that the relationship between satisfaction and beliefs on medication has already been studied, although in other primary care settings, and beliefs on medication associated with elevated concerns have been found to be related to lower levels of satisfaction, specifically beliefs on harm and excessive use of medication^{33,34}. However, few studies have looked for this association in pediatric care and even fewer have contemplated this study objective in our country.

The purposes of this work are, first, to determine the possible association between beliefs on medication, satisfaction, age and level of education in a sample of participants. Based on the reviewed literature, we expect to find for high negative beliefs on medication to be associated with lower levels of satisfaction. According to Beléndez-Vázquez, et al. results¹⁴, we might expect for higher negative beliefs on medication to be associated with lower level of education and, similarly, for older paternal age

to be associated with higher beliefs of harm resulting from medication.

Second, this work attempts to look for the existence of differences in satisfaction and general beliefs on medication, as a function of the considered pediatric care modality, differentiating between primary and emergency care. Based on the reviewed literature, significant differences might be found between both healthcare modalities considered, with levels of satisfaction being slightly higher in pediatric primary care.

Finally, we will attempt to investigate if beliefs on medication being able to produce harm, on medication being excessively used and level of education can predict paternal satisfaction. We expect for high levels of beliefs on harm resulting from the use of medication and for beliefs on excessive prescription, lower levels of satisfaction.

Material and methods

Participants

The study included a total of 1,517 parents whose children were being treated in pediatric departments of 29 centers of the Spanish provinces of Almería, Granada, Jaén and Málaga. Of them, 806 (53.1%) were treated in pediatric primary care departments and 711 (46.9%), in pediatric emergency units. Age of the participants ranged from 17 to 67 years, with a mean of 34.86 years and a standard deviation of 7.85. There were 489 (32.2%) males and 1,028 (67.8%) females. With regard to the level of education, 164 (10.8%) reported not having studies or not having completed basic education; 456 (30%) had primary education; 538 (35.5%), middle education, and 359 (23.7%) referred having completed superior education. A random stratified sampling was followed, and participants were randomly selected among parents whose children were being treated in the aforementioned departments.

Voluntary participation in the study, after signature of an informed consent form, and being in the above described situation were considered the inclusion criteria. Exclusion criteria included issues that might difficult or preclude answering the assessment instruments, such as circumstances of the pediatric patient that would hinder parental collaboration (for example, presence of severe pain, severe discomfort requiring continued attention from the parents, etc.), mental or idiomatic limitations making the assessment

questionnaires difficult to understand, or simple refusal to participate in the study.

Procedure

An interview was conducted with the parents during pediatric care in the waiting room of the previously mentioned healthcare centers.

Prior to data collection, the investigators obtained the relevant authorizations of the healthcare centers to do so, by informing on the characteristics and purposes of the study, as well as on ethical standards of the research.

The investigators, or trained personnel, went to the healthcare centers or Pediatric Emergency Departments to personally ask for collaboration to parents whose children were being treated. The assessment instruments were individually administered and separately in cases where both the mother and the father of the same patient wanted to collaborate.

The participants were briefly informed on the purposes of the investigation, on anonymity of participation (no personal data were recorded) and confidentiality of responses. They were asked to read and sign an informed consent form and were informed on the possibility of discontinuing their participation any time if they decided so.

Instruments

Initially, sociodemographic natured data, such as age and level of education, were collected.

In order to assess the beliefs on medication, the Spanish version¹⁴ of the Questionnaire of Beliefs on Medication was used⁶. It is an instrument composed of two sections: a general one, and a specific one. In this study, only the general section was used, which allows, in addition to a global index on the cognitive representation of medication, two independent dimensions to be obtained: beliefs of overuse and harm associated with the use of medication. The questionnaire is comprised by 8 items with a 5-point scale for possible responses ranging from 1 (complete disagreement) to 5 (complete agreement). Items 1, 7 and 8 comprise the subscale of beliefs on overuse of medication, and items 2, 3, 4, 5 and 6, the subscale of beliefs on medication being able to produce harm. Thus, the higher the score, the more the parents believe in a possible danger associated with overuse or harm of a drug treatment received by their children.

Table 1. Correlations between satisfaction, age, level of education and the different expressions of beliefs on medication

Beliefs on medication	Satisfaction	Age	Level of education
General beliefs expression	-0.16*	0.01	-0.06†
Beliefs of excessive use	-0.20*	0.02	-0.07*
Beliefs of harm	-0.12*	0.03	-0.06†

*p < 0.01.

†p < 0.05, two-sided.

Table 2. Differences in satisfaction and beliefs between primary care and pediatric emergencies

Variable	Type of healthcare service	n	Mean	SD	t-test
Total satisfaction	Primary care	806	37.02	6.68	t (1,1515) = 0.57 (p = 0.57)
	Emergency Department	711	37.24	8.01	
General expression of beliefs on medication	Primary care	806	19.72	4.89	t (1,511) = 0.94 (p = 0.35)
	Emergency Department	711	19.94	4.51	

With regard to psychometric characteristics of the instrument, the original study showed a α coefficient of 0.60 for the overuse scale and 0.51 for harm scale⁶. In Spanish samples, Beléndez-Vazquez, et al.¹⁴ obtained a value of 0.69 for the overuse scale and 0.68 for harm scale. The instrument has shown good psychometric properties both in studies conducted in other countries^{35,36} and in our case, where Cronbach's α coefficient for the general scale was 0.80, 0.74 for the harm scale, and 0.70 for overuse scale.

For satisfaction assessment, the Scale of Satisfaction with Health Care Services was used²⁵. This instrument is composed of 11 items asking the participant for an answer ranging from 1 (not satisfied at all) to 5 (very satisfied). The scale allows for an indicator of satisfaction with healthcare services to be obtained, as well as specific indexes with 4 concrete satisfaction indicators. It is a short, simple scale and has good psychometric properties, as demonstrated by a Cronbach's α of 0.80 to 0.82 for the general expression of satisfaction reached in the original studies²⁵ (0.88 in our case).

Statistical analysis

In addition to the descriptive analysis of the sample and internal consistency analysis of the instruments, bivariate correlation analyses, means comparison and linear regression analyses were carried out with the

SPSS program, version 11.5. A level of significance > 0.05 was considered for all analyses.

Results

The initial bivariate correlation analysis showed a significant and negative relationship between all expressions of beliefs and satisfaction, as shown in table 1. That is, the lesser the beliefs both on excessive use and possible harm or danger the medication can cause in the child, the higher the general satisfaction that parents express.

On the other hand, no significant relationships were found between the beliefs on medication and age, but it appears that the level of education could be considered associated with the beliefs on medication, especially with the belief on overuse, since a higher education level might be associated with lower levels of beliefs on excessive use of medication or potential harm resulting of its use.

With regard to possible differences between the types of considered healthcare modalities, as shown in table 2, no differences were found for parental satisfaction: they were not more or less satisfied in primary care or emergency settings. In the same line, no differences were also found between parents of children treated in both settings with regard to beliefs on medication.

As to the third of our endpoints, a multiple linear regression analysis was performed, considering the

Table 3. Multiple regression analysis: beliefs on medication, level of education and satisfaction in pediatric care

Criterion	Predictors	β	Significance
Satisfaction	Beliefs of excessive use	-0.18	0.00
	Beliefs of harm	-0.01	0.79
	Level of education	0.01	0.69

level of satisfaction with the received care as dependent variable and, as predictors, both the considered expressions of beliefs on medications, as well as parental level of education. The results are detailed in table 3.

The model reached an explanatory power for satisfaction variability of 3%, according to the corrected R^2 . The results point at beliefs of excessive use as the only predictor of satisfaction. Neither the beliefs on harm nor parental level of education reached statistical significance in the model.

Discussion

In the present study we attempted, in the first place, to explore a possible association between the paternal cognitive representation (beliefs) about medication, both in specific dimensions of harm or excessive use and in a general index of both on one side, and 3 variables of interest such as satisfaction, age and level of education of parents of children treated in healthcare departments on the other. In second place, we tried to find out if there are differences in satisfaction and beliefs on medication between primary care departments and pediatric emergency departments. Finally, and in order to further explore on the knowledge of possible variables that might predict parental satisfaction, the type of beliefs and level of education were studied as predictors.

With regard to the first of these objectives, our data reflect, in the first place, that elevated levels in the general indicator of negative beliefs on medication are associated with lower levels of satisfaction with the medical attention received. In the same line, elevated levels of beliefs on excessive use of medication or potential related harm are also associated with less parental satisfaction. Therefore, most satisfied parents are those who perceive no danger or threat to exist with the prescription of drugs to their children in the considered healthcare departments. This result is

consistent with other studies that had already found this trend in non-pediatric healthcare samples and in other countries^{33,34}. All these results support the idea that opinions and beliefs of healthcare users are associated with their satisfaction, beyond aspects inherent to the functioning of the departments.

With regard to age, the beliefs do not vary as a function of it in the studied sample. This relationship, on which we already saw there was some controversy in other authors' results, is quite clear in our case. Thus, our results are consistent with those obtained in other studies¹³, but at the same time they differ from those obtained in our country in non-pediatric samples¹⁴. In our case, the obtained result might be due to the specificity of the sample and the setting of the study, although there is no solid reason in the literature that might explain possible differences in beliefs depending on age. Additionally, the sample we have worked with, involves a mean of younger people than in other studies not focused on parents¹⁴. Things are different with regard to the level of education in our study, which, the higher it is, it is associated with less negative beliefs in all studied dimensions, especially in the belief of excessive use. This result is consistent with those from other works¹⁴.

As to the second of our objectives, there were no differences between parents of children treated in emergency departments and parents of children treated in primary care departments with regard to satisfaction and, of course, beliefs, since there were similar levels in both settings. Some studies have found differences pointing towards higher levels in primary care than in emergency departments, but this result corresponds to general samples, not pediatric²⁷. Our results, therefore, do not point in the same direction. In spite of differential characteristics of both types of pediatric care, parents in our study are equally satisfied with both. We also have no evidence to think that paternal beliefs are different in both departments or that this variable is decisive at the moment of choosing the

type of healthcare department to look for care, although this issue has not been specifically studied in this work.

Finally, with regard to the third objective, of all studied variables, the one that is the stronger predictor of lower satisfaction levels is the belief of medication prescription and consumption excess in the pediatric setting. In parallel, neither the level of education, nor the beliefs of potential harm deriving from medication predict satisfaction in the studied sample.

These results underscore the existence of trust in pharmacological intervention, but the presence of beliefs on elevated use of it reduces paternal satisfaction with healthcare intervention. This belief on medication excessive use might generate, in the light of other studies, withdrawal or lack of compliance with instructions, related to adherence to the medical prescription.

We should mention that one limitation of our study is the low level of power of our regression model, which indicates, among other things, that other relevant variables are possibly being left out. This could be the subject of other research studies on this topic.

On the other hand, the association found between beliefs and satisfaction allows for the importance of improving the communication channels between pediatricians, other healthcare professionals and parents to be underscored. It would be a way to know and be able to react based on specific parental beliefs. According to different sources^{1,19}, both treatment adherence and satisfaction or even beliefs on medication can be improved with interventions contemplating different issues. It is important for patients, and in our case for their families, to have access to and understand the information provided from the medical context; this is with no doubt aided by knowing that their concerns are listened by the institution and the professionals, as well as by participating in the decision making process^{37,38}. These aspects improve trust and motivation of patients, with the resulting impact on participation and recovery.

It is also relevant for healthcare professionals to be sensitive to the patients' beliefs about treatment and medications, and to take them into account at the moment of planning an intervention. Again, listening to patients is a good system to know their attitudes, motivations and, ultimately, their opinion, and to what extent these are in conflict with treatments. Finally, although beliefs on medication are not to be understood as an obstacle or barrier, it would appear

beyond any doubt that, from the healthcare context, it is important to make an effort to eliminate, or at least minimize, all kind of variables that can hinder the collaboration of the patient or his/her family in any aspect of the recovery process, in the medium and long term.

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