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ORIGINAL ARTICLE / ARTIGO ORIGINAL

Evaluation of ophthalmologic assistance from the perspective of users

Avaliação da assistência oftalmológica na perspectiva dos usuários

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ABSTRACT: The prevalence of need of, access to, and dissatisfaction with ophthalmic assistance was estimated among those who were assisted in such services in the last year; factors associated with dissatisfaction were identified. Complex probabilistic sample was used. A descriptive, bivariate, and multiple analysis with correction for design effect was conducted. Of 2.582 participants, 76% needed assistance and, of those, 82.5% possessed access to it. Among patients who received assistance in the last year, 13.1% were dissatisfied. Dissatisfaction was higher among older patients, those who went walking or cycling to the location of assistance, and those who described the following aspects as regular/bad/terrible: being received and treated with respect, the clarity with which the service provider explained things, and their autonomy to choose their provider of ophthalmic assistance. Most of them was in need of and possessed access to assistance. Dissatisfaction was low. Patient's age, means of transport used to get to the local of the assistance, patient-professional relationship, and autonomy to choose are factors that interfere for the outcome of dissatisfaction.

Keywords: Patient satisfaction. Health services. Quality of health care. Ophthalmology. Health services evaluation. Health services accessibility.

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RESUMO: Estimou-se as prevalências da necessidade, do acesso e da insatisfação com a assistência oftalmológica entre os que a obtiveram no último ano; identificaram-se os fatores associados a essa insatisfação. Considerou-se uma amostra probabilística complexa. Conduziu-se análises descritivas, bivariadas e múltiplas com correção pelo efeito de desenho. Dos 2.582 participantes, 76% necessitavam de assistência, dentre os que necessitavam, 82,5% tiveram acesso. Dentre os que obtiveram assistência no último ano, 13,1% estavam insatisfeitos. A insatisfação foi maior entre mais velhos, os que foram andando ou de bicicleta para o local da consulta e os que relataram que foi regular/ ruim/péssima: a experiência de ter sido recebido e tratado com respeito, a clareza com que o prestador explicou as coisas e a liberdade que teve para escolher o seu prestador de assistência oftalmológica. A maioria necessitava e teve acesso à assistência. A insatisfação foi baixa. A idade do paciente, o meio de transporte utilizado para chegar ao local da consulta, o relacionamento paciente/profissional e a liberdade de escolha intervêm na insatisfação.

Palavras-chave: Satisfação do paciente. Serviços de saúde. Qualidade da assistência à saúde. Oftalmologia. Avaliação de serviços de saúde. Acesso aos serviços de saúde.

INTRODUCTION

The evaluation of quality of service and user satisfaction with health care has been given focus increasingly in scientific literature¹⁻⁵. Satisfaction relates to the vision and/or experience of users at the services^{2,3}. User evaluation, important management tool, enables the organization and ordering of resources, aiming to appropriately meet the population's health needs. The identification of determinants of dissatisfaction can lead to improvements in patient–professional relationship, in the physical structure of health facilities and in health outcomes², i.e., the quality of service delivered.

The quality of health services can be seen as the result of various factors such as professional competence, access, effectiveness or resoluteness of care, efficiency, and user satisfaction⁴. Among different health services, ophthalmic care has been evaluated from the perspective of users⁵. The assessment indicates that these care services deserve attention because of the high prevalence of ophthalmic problems found in the population^{6,7}. The shortage of qualified ophthalmic care services, economic difficulties, lack of care, and insufficient or lack of educational efforts for the adoption of preventive behavior regarding ophthalmic health are also considered⁶. Therefore, the evaluation of ophthalmic care from the perspective of users is mandatory with view to the organization and improvement of assistance⁸ or the preparation and upgrading ophthalmic health policies⁹.

The World Health Organization has proposed a method to assess effectiveness of health systems addressing the relevance, recognition, and responsiveness of users to the health system. This method was found in the Responsiveness Questionnaire Ophthalmic Care System (QRSAO), which was based on the responsiveness of individuals at the health service, i.e., how well the health system responds to the population's legitimate expectations. QRSAO considers the following domains: timeliness in attendance, dignity, privacy, communication, autonomy, choice and infrastructure, and the element of approach is the users' response to the health system^{5,10}. QRSAO had been formerly used in a Brazilian study⁵.

The quality of health services is often seen as the main factor to be considered when evaluating these services¹¹. In 1988, Donabedian² suggested that the best strategy to assess health care must involve the triad structure–results–process. Structure refers to the characteristics involving suppliers, instruments, and resources and physical and organizational conditions; process corresponds to the relationship established between professionals and patients during health-care activities; and results are related to the changes seen in health status, knowledge, behaviors, and satisfaction with the care provided in health services from the perspective of patients².

Considering the questions proposed by QRSAO⁵ and the triad of Donabedian², this study aimed to identify the prevalence of need of and access to assistance at ophthalmic care services among elected subjects from a population-based household study. In addition, among those who used such services, the prevalence and factors related to dissatisfaction with assistance was also obtained.

METHODS

This was a cross-sectional study composed of interviews with a representative from households selected according to a probabilistic complex cluster sampling in Montes Claros, Minas Gerais (Brazil), 2012. Patients who had received ophthalmic care assistance in the previous year were eligible to evaluate ophthalmic services. We investigated the need of and access to ophthalmic care, social and demographic characteristics of patients, satisfaction with the service delivered, characteristics/structure of assistance, and QRSAO process/structure.

The estimate of cluster sampling considered the population reported by the Brazilian Institute of Geography and Statistics (IBGE) in 2010, a 50% proportion, 5% error, 20% nonresponse rate, and deff (design effect) of 2.0. A plan of cluster sampling in two stages was performed; first, we randomly selected 30 census tracts by probability proportional to size (PPT), and for each sector drawn, the sampling fraction was calculated based on the number of households selected and the total households in the municipality. In the second stage, a percentage of blocks in each sector selected in the first stage were drawn by simple random sampling. All households of the selected blocks were visited, and only one resident, aging more than 18 years, was invited to participate in the survey. The sampling fraction of that stage was obtained by dividing the number of households visited in each area by the total number of households in that sector.

Then, the probability of inclusion of each household was calculated by the product of probability of inclusion in both stages. The response rate (T_r) of each sector was

incorporated, and the final probability of inclusion of each household was then obtained. Different weights were assigned to sample elements, as they were calculated using the inverse of the product of probabilities of inclusion in the various stages of selection; nonresponse rates by conglomerate were also considered¹². A sample of 2,712 people was estimated, among those who agreed to participate. The study population to evaluate dissatisfaction with health services was composed by people who reported using ophthalmic care services in the previous year and people who answered the question about the assistance received.

Interviews were conducted by medical, dentistry, or mathematics students who had attended a training.

The evaluation of ophthalmic care services was obtained from the question: "Overall, would you say you are very satisfied, partially satisfied, neither satisfied nor dissatisfied, partially dissatisfied or very dissatisfied with the conditions of the services provided?". The answer was dichotomized in "satisfied" (very satisfied/partially satisfied) or "dissatisfied" (neither satisfied nor dissatisfied/partially dissatisfied.

The variables assessed were: sociodemographic characteristics, ophthalmic care features; QRSAO, process domains (dignity, privacy, communication, and autonomy), and infrastructure^{5,10}. This instrument, to be found in a previous publication⁵, comprised aspects of ophthalmic care, was developed by the World Health Organization (WHO), and translated into the Brazilian Portuguese language and culture⁵. It assesses user responsiveness as to the service used when it comes to: timeliness in attendance, dignity, privacy, communication, autonomy to choose, and infrastructure⁵. In a pilot study that required a workload of 40 hours, interviewers were trained by one of the authors who possessed experience in training and gauging for epidemiological studies. Reliability of QRASO was estimated and the questionnaire applied and reapplied to 80 volunteers not included in the analysis of the results of this study over a two-week range, and a reasonable agreement kappa coefficients ≥ 0.61 was found¹³.

Absolute values, the percentage with correction for the design effect in descriptive analysis, the magnitude of dissatisfaction with the services provided in association with independent variables — odds ratios (OR) and 95% confidence intervals (95%CI), were estimated. Bivariate analyses were conducted using the χ^2 test, considering variables with p-value < 0.20 in the multiple model. Multiple analyses were made by logistic regression at a 5% significance level. The software SPSS[®] 17.0 was used to input data. The research complied with ethical principles, protocol 112/2010 at the Ethics Committee of Faculdades Unidas do Norte de Minas, Brazil Educational Society (FUNORTE/SOEBRAS).

RESULTS

Of patients selected, four refused to participate (response rate = 99.8%). Of 2,582 participants, 2,578 were evaluated as to the need of ophthalmic care; 24% of the sample referred never demanding assistance before. Of those who were in need of assistance,

82.5% possessed access to it. Among those who possessed access, 41.2% reported having got ophthalmic care in the previous year. Among those who got ophthalmic care in the previous year, 0.5% did not answer the question addressing ophthalmic care assessment and, therefore, did not participate (Figure 1).

Those who needed and could access ophthalmic care in the previous year were characterized as to sociodemographic conditions, satisfaction with care provided, characteristics of care/structure, and issues relating to domains structure and process, addressed by QRSAO. Most respondents were female subjects, with 13 or more years of schooling and having used private/insured/other service. The domains of QRSAO were mostly reported as an excellent/good experience of being treated with respect, having



*Correction by design effect.

Figure 1. Flowchart of participation in the survey conducted to identify the assessment of ophthalmic care from the perspective of users in a household sample in Montes Claros, MG, 2012.

autonomy to choose the professional and service location (Table 1). Among respondents, 13% said they were dissatisfied with the care provided. In the bivariate analysis, associations ($p \le 0.20$) considered in the multivariate analysis were identified (Table 1).

In the multivariate analysis, a greater level of dissatisfaction with ophthalmic care was found as users' age increased and according to means of transportation used to get to the place of appointment, the experience of having been welcomed and treated with respect, the clarity with which the provider explained things, and the user's autonomy to choose the provider of service, as per the domains of dignity, communication, and autonomy established at QRASO (Table 2).

DISCUSSION

Most patients reported a need for ophthalmic care (76.0%). It points out that the need for and access to this kind of attention can highlight the importance of such assistance for the quality of these people's vision and health⁶. Approximately 17% of those who

Sociodemographic	Total	Dissatisfied	OR*	95%CI*	p-value
	%	%			
Sex					
Male	27.2	7.5	1.00		
Female	72.8	10.2	1.40	0.68 – 2.88	0.349
Race or color**					
White/Asian	31.9	6.2	1.00		
Black/brown	68.1	11.1	1.90	0.89 - 4.04	0.093
Age (years)					
Up to 39	37.3	6.6	1.00		
40 – 59	36.9	11.0	1.77	0.79 – 3.95	0.157
60 or more	25.7	11.6	1.88	0.90 - 3.93	0.092
Age (discrete variable, age in years)		-	1.01	1.00 – 1.03	0.114
Education (years)**					
13 or more	37.6	7.6	1.00		
9 to 12	27.8	9.3	1.28	0.52 – 3.16	0.580
Up to 8	34.6	12.3	1.76	1.01 – 3.06	0.047
Education (discrete variable, years of schooling)		-	0.96	0.92 – 1.01	0.114

Table 1. Description of the variables and bivariate analysis of associated factors ($p \le 0.20$) to dissatisfaction with the ophthalmic care among users of Montes Claros, MG, 2012 (n = 659).

Continue...

Sociodemographic	Total	Dissatisfied	OR*	95%CI*	p-value		
	%	%					
Marital status**							
Married/common-law marriage	49.1	10.8	1.00				
Single/separated/divorced/widowed	50.9	8.1	0.73	0.35 – 1.50	0.376		
Per capita income**							
Greater or equal to 1 MW	28.4	6.4	1.00				
Less than 1 MW	71.6	10.6	1.73	0.57 – 5.21	0.317		
Income per capita (discrete variable, in reais)		-	1.00	1.00 – 1.00	0.236		
Work**							
Active	50.5	10.2	1.00				
Retired/pensioner	20.8	12.5	1.26	0.56 – 2.83	0.564		
Never worked/unemployed	28.7	6.3	0.60	0.28 – 1.28	0.173		
Characteristics of ophthalmic assistance/structure							
Query site**							
Private hospital or clinic/covenant	62.9	8.4	1.00				
Hospital or public clinics	37.1	11.6	1.43	0.77 – 2.65	0.245		
Payment service**							
Particularly without refund	29.9	9.6	1.00				
Health insurance	34.6	5.8	1.70	0.22 – 1.55	0.265		
Not paid/public system	35.6	12.6	1.35	0.77 – 2.37	0.285		
Means of transportation used to get to the site of consultation**							
Private car/bike/taxi/public transport	48.7	14.8	1.00				
Public transport	29.3	8.1	1.98	1.15 – 3.41	0.015		
Walking/bike	22.0	-					
QRSA0 in your last visit, how would you rate							
Domain readiness for meeting/case							
The travel time to the ophthalmiccare provider **	k						
Excellent/good	74.7	8.0	1.00				
Fair/poor/very bad	25.3	14.7	1.99	1.13 – 3.53	0.020		
Time you waited before being assisted**							
Excellent/good	58.2	6.0	1.00				
Fair/poor/very bad	41.8	14.8	2.73	1.40 - 5.33	0.005		

Table 1. Continuation.

Continue...

Sociodemographic	Total	Dissatisfied	OR*	95%CI*	p-value		
	%	%					
Domain dignity/process							
The experience of being welcomed and treated w	with resp	ect**					
Excellent/good	95.5	8.2	1.00				
Fair/poor/very bad	4.5	40.1	7.48	2.62 - 21.33	0.001		
Domain privacy/process							
Your privacy being respected during examinatio	ns and tr	eatments**					
Excellent/good	96.5	9.0	1.00				
Fair/poor/very bad	3.5	22.3	2.89	0.92 – 9.11	0.069		
The way the service ensured you could talk priva	ately**						
Excellent/good	86.6	7.3	1.00				
Fair/poor/very bad	13.4	24.3	4.09	1.74 – 9.61	0.002		
Domain communication/process							
The clarity with which the provider explained thi	ngs to y	ou**					
Excellent/good	90.1	6.6	1.00				
Fair/poor/very bad	9.9	35.1	7.63	3.67 – 15.84	0.000		
Having enough time to ask questions about you	r vision	problem or tre	eatment	**			
Excellent/good	84.3	6.8	1.00				
Fair/poor/very bad	15.7	22.1	3.89	1.70 – 8.88	0.002		
The experience of having information about additional types of tests or treatments**							
Excellent/good	72.8	5.7	1.00				
Fair/poor/very bad	27.2	19.3	3.93	2.20 – 7.01	0.000		
Domain autonomy/process							
The experience of being involved in making decisions about your treatment**							
Excellent/good	82.0	5.8	1.00				
Fair/poor/very bad	18.0	27.3	6.05	2.90 – 12.60	0.000		
Domain autonomy/process							
The autonomy you had to choose your ophthalm	niccare p	rovider**					
Excellent/good	73.4	4.8	1.00				
Fair/poor/very bad	26.6	21.9	5.59	2.84 - 11.01	0.000		
Domain infrastructure/structure							
The cleaning of the rooms within the test site, including the restrooms **							
Excellent/good	92.0	8.8	1.00				
Fair/poor/very bad	8.0	19.3	2.49	1.11 – 5.56	0.028		
The space in the waiting room and the room where you were examined**							
Excellent/good	79.7	9.5	1.00				
Fair/poor/very bad	20.3	16.4	2.34	1.25 – 4.38	0.010		

Table 1. Continuation.

OR: odds ratio; *correction by the design effect; **number of respondents was smaller than number of participants; MW: minimum wage (current R\$ 622.00; \$1.00 = R\$ 2.01; May 2012); QRSAO: Questionnaire on Responsiveness to Ophthalmic Care System. Table 2. Multiple analysis of factors associated with dissatisfaction ($p \le 0.05$) with ophthalmic care among users in Montes Claros, MG, 2012 (n = 659).

Variables	$OR_{adjusted}^{*}$	95%CI*	p-value			
Sociodemographic						
Age	1.03	1.00 – 1.05	0.024			
Characteristics of ophthalmic assistance/structure						
Means of transportation used to get to the site of consultation	on**					
Private car/bike/taxi/public transport	1.00					
Walking/bike	2.05	1.16 – 3.62	0.016			
QRSA0 in your last visit, how would you rate						
Field of dignity/process						
The experience of being welcomed and treated with respe	ct?					
Excellent/good	1.00					
Fair/poor/very bad	4.14	1.16 – 14.71	0.030			
Field communication/process						
The clarity with which the provider explained things to you	1?					
Excellent/good	1.00					
Fair/poor/very bad	3.87	1.71 – 8.76	0.002			
Field autonomy/process						
The autonomy you had to choose your service provider?						
Excellent/good	1.00					
Fair/poor/very bad	3.40	1.47 – 7.85	0.006			

OR: odds ratio; *correction by design effect; **controlled by the variable "time of travel to the ophthalmic care service"; QRSAO: Questionnaire on Responsiveness to Ophthalmic Care System.

need the assistance could not access it. In Australia, access to care was not evaluated, but among 4,612 users, 8.9% had never had assistance¹⁴. In Montes Claros, the waiting time between the identification of visual problem and setting up appointments was not investigated, and dissatisfaction of users may be affected by difficulties in access to care.

The evaluation of health care quality is important for the planning and management of health services^{2,15}. A service is considered of good quality when there is resolution and satisfaction with the service provided, comprising physical structure of the service and professional–user relationship^{2,16,17}. The satisfaction of users with ophthalmic care was previously evaluated^{5,18-20}, but studies have identified factors associated with dissatisfaction instead.

In Montes Claros, 13% of participants said they were dissatisfied with ophthalmic care. Possibly owing to different assessment criteria working conditions and performance of professionals, different rates were reported in previous studies¹⁸⁻²¹. In one

study, the percentage of resolution was 85.96%, and the level of dissatisfaction was 0%¹⁸. In southern Brazil, dissatisfaction was 22.8%²⁰. The percentage at the Ophthalmology Institute of Federal University of São Paulo was 9%²¹. Virtually, 0% of users of an hospital described the service as poor/very bad²². In 2004, Hilton Rocha Foundation registered dissatisfaction regarding reliability and punctuality of appointments and the provision of services in due time¹⁹.

In Montes Claros, health policies should be aimed to minimize dissatisfaction with these services, as some of the people who report being satisfied may actually be thankful for being able to access services without direct financial costs for them, i.e., provided by the Public Health System (*Sistema Único de Saúde* – SUS). These users probably do not recognize the right to health care as a citizenship right³. We point out that despite dissatisfaction rate found in studies, a high prevalence of access to ophthalmic care and satisfaction of users is also found, which may indicate the resolution and quality of services in the municipality through SUS and ease of access.

In the multivariate analysis, among other issues related to the triad structure–process–results, result was the main user dissatisfaction, and an association of dissatisfaction with the process is also seen (dignity/communication). Despite the fact that the physical structure where the service is provided and/or the organization can influence user satisfaction²³, in this study, the structure² was not associated with it. It is suggested that the feeling of gratitude for using these services without direct costs makes users evaluate services with poor infrastructure positively. The possibility of a satisfactory structure and users' different expectations or criteria to assess service is also emphasized, as it may or not be related to satisfaction. Therefore, for further clarification, a technical evaluation of the structure of services should have been conducted and confronted with the perspective of users.

Dissatisfaction with these services was higher among older patients, results that are similar to those of a study that investigated satisfaction with hospitalization services⁴. The elderly people consider fundamental a medical user relationship ruled on trust and good communication²⁴. The fact that the elderly people use ophthalmic care services more frequently can raise their demand levels.

Dissatisfaction with ophthalmic care services was associated with the means of transportation used by the users to get to the services, suggesting iniquity or difficulty of access among those who need it the most. Family income, schooling²⁵, and the geo-graphical location²⁶ of users interfere in the choice of the service to be used. Equity is one of the principles of SUS²⁷; so, those who need it the most must be prioritized.

Those who described the experience of being welcomed and treated with respect as fair/poor/very poor showed more dissatisfaction. A previous study found higher prevalence rates of satisfaction among users who mentioned that the doctor would greet them, be attentive, let them talk about their problems, examine them, show interested in their case, give them the opportunity to solve doubts, explain their problems, use clear language; in short, users who referred to their relationship with the doctor as very good or good¹⁹.

One must consider the possibility of action–reaction in this association: the satisfied user tends to treat professionals with respect, and, hence, the professional tends to offer a respectful treatment to this user, who gets satisfied with the service. Important to note, however, that health professionals must be prepared to act respectfully with users, even if they feel disrespected. Humanization in health care must be improved, aiming to promote actions, campaigns, and welfare policies based on dignity, ethics, respect, mutual recognition, and solidarity^{3,28}.

The association between dissatisfaction and communication between the professional and the user of the health service reflects the importance of clarity in explanations given by doctors and enough time for users to ask questions and solve doubts; so, the relationship between professionals and patients is an important predictor of quality of the assistance provided²⁹. In Montes Claros, dissatisfaction was more reported by those who mentioned the clarity with which the provider explained things, and the time they had to ask questions about their problem or treatment was fair/poor/very poor, as shown in a previous study²⁰. The right to information about a person's own health is guaranteed by law²⁷. People have the right to make decisions about their own health, thus their "health literacy,"³⁰ meaning their ability to obtain, process, and understand the necessary information to make decisions about their health, must be respected³⁰.

One must consider the possibility of feedback in this association, for users with good levels of health literacy tend to pass on clear information for professionals, and when professionals understand the users, they tend to establish a clear communication, and, therefore, users get satisfied. However, it is emphasized that professionals must know how to deal with users with low health literacy levels and promote educational activities to improve such levels³⁰. The need for training and improving skills is an important factor reported by professionals of ophthalmology³¹ and, therefore, should be considered, noting the possibility of improvement of the service delivered and the professional–patient relationship.

The dissatisfaction of users with ophthalmic care services was higher among those who rated their autonomy to choose the professional as bad, regular, or very bad. The principle of autonomy at SUS² relates to the possibility of users to decide which professional will assist them, which treatment to accept or allow, based on their creed or other reason, thus determining their interests independently³². It actually seems that users are not entitled to choose the professional who will assist them, and the scheduling of appointments is made disregarding their autonomy, which contributes to further dehumanization. All of this should be taken into account aiming at humanizing^{3,33} and reorganizing health services. Moreover, the long wait for assistance for some ophthalmic problems in public services³⁴ may lead the user to accept any proposed professional.

One of the limitations of this study is the fact that QRSAO evaluates the structure of service considering two features only. Clinical, service, and structure effectiveness has not been evaluated from the perspective of ophthalmology professionals.

CONCLUSION

The percentage of need for ophthalmic care was 76%. Most patients in need of this assistance possessed support; however, access to such assistance should be improved, as 17.5% required care but did not obtain. Among those who accessed these services in the previous year, 13% were dissatisfied with them. In the evaluation by users, the dissatisfaction with ophthalmic care was associated with: the user's age; the means of transportation used to get to the service; the professional/user relationship, i.e., respect to the user; and the clarity with which the provider explained the proposed procedures, preventive measures and/or self-care, and autonomy of choice by users. Ophthalmologists and managers should consider these factors when planning and implementing assistance policies of eophthalmic care in order to minimize dissatisfaction among users.

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