

Factors that influence outpatient service user satisfaction in a low-income population: a population-based study

Fatores que influenciam a satisfação do paciente ambulatorial em uma população de baixa renda: um estudo de base populacional

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Funding source: The present study was performed as part of the Project of Development of Health Service Management and Operation Techniques in an intra-city region of Porto Alegre – Restinga and Extremo-Sul districts, according to the *Programa de Apoio ao Desenvolvimento Institucional do Sistema Único de Saúde* (PROADI-SUS – Unified Health System Institutional Development Support Program), established between the Brazilian Ministry of Health and the Moinhos de Vento Hospital Association, under the adjustment agreement number 06/2008, signed on November 17th, 2008.

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Abstract

Aim: To measure the prevalence of overall satisfaction with the previous medical consultation and their associated factors, among adults aged 20 years or more, in a city located in southern Brazil. **Methods:** A cross-sectional population-based study was performed in Porto Alegre, RS, Brazil, from July to December 2009. Systematic sampling was used with a probability proportional to the size of each of the 121 census tracts in the area studied. Overall satisfaction with the previous consultation was evaluated with a standardized questionnaire. Crude analysis was performed using the chi-square test, while the adjusted analysis used Poisson regression with robust variance. Results were expressed as prevalence ratios. **Results:** Among the 3,700 eligible individuals, 3,391 answered the survey. Of those, 64.8% (1677) reported having had their previous medical consultation in the three months prior to the interview. Regarding the overall satisfaction with the previous consultation, 63.7% reported being satisfied and 23.2% were very satisfied. Adjusted analysis showed that those who went to private/health plan-affiliated services were 1.15 times more likely to be satisfied than those going to public services. Easy consultation booking and being well treated by receptionist and physician were directly related with a higher level of satisfaction. The length of time waiting was inversely associated with satisfaction both in the crude and adjusted analyses. **Conclusion:** The present study revealed a high prevalence of satisfaction with medical consultations and a significant positive association between satisfaction and the location of consultation (health plan-affiliated or private services).

Keywords: Health service, utilization. Patient satisfaction. Cross-sectional study.

Resumo

Objetivo: Medir a prevalência de satisfação geral com a última consulta médica e seus fatores associados entre adultos com 20 anos ou mais, em uma cidade do Sul do país. **Métodos:** Estudo transversal de base populacional realizado em Porto Alegre-RS, de julho a dezembro de 2009. Foi utilizada amostragem sistemática com probabilidade proporcional ao tamanho de cada um dos 121 setores censitários da região em estudo. A satisfação geral da última consulta foi avaliada por questionário padronizado. As variáveis independentes foram: sexo, idade, cor da pele, classe social, escolaridade, motivo e local da consulta. Na análise bruta empregou-se o teste qui-quadrado e na ajustada regressão de Poisson com variância robusta, com os resultados expressos em razões de prevalências. **Resultados:** Dos 3.700 indivíduos elegíveis, 3.391 responderam a pesquisa. Desses, 64,8% consultaram nos três meses antecedentes a entrevista. Em relação à satisfação geral da última consulta, 63,7% referiram estar satisfeitos e 23,2% estar muito satisfeitos. Na análise ajustada, indivíduos que consultaram em locais conveniados/privados apresentaram uma probabilidade 1,15 vezes maior de estar satisfeitos comparados a locais públicos. A facilidade para conseguir a consulta, o fato de ter sido bem tratado pela recepcionista e pelo médico esteve diretamente relacionado com uma maior satisfação. O tempo de espera para ser atendido esteve inversamente associado à satisfação tanto na análise bruta quanto na ajustada. **Conclusão:** O presente estudo revelou elevada prevalência de satisfação com a consulta médica e uma associação significativamente positiva entre satisfação e consulta em locais conveniados ou privados.

Palavras-chave: Serviços de Saúde, utilização. Satisfação do paciente. Estudo Transversal.

Introduction

The quality of medical consultations is a complex process that depends on several factors such as ease of access, length of consultation, quality of care provided and resolvability. The assessment of factors associated with this process, which determine the level of satisfaction, is important to direct the planning of improvements in user service conditions¹. Health service assessment based on user satisfaction is a reliable and easily measurable method to guarantee the quality of the service provided².

According to Donabedian, the assessment of health services must be based on two dimensions: the technical performance and relationship with the patient, aiming to reduce the risks and maximize the benefits to users³.

Studies focusing on quality control have increasingly valued user satisfaction level as a defining parameter¹. Since the 1970s, these studies have gained recognition, especially in developed countries, due to increased consumption and consumer demand for quality⁴.

Some studies have searched for the relationship between user satisfaction and the variables that determine it; however, there have been few results of the nature and number of such factors^{4,5}.

Health service assessment provides resources for health managers to make decisions and take actions. Epidemiological studies in the area of health, especially population-based ones, provide the data required for health system planning, although there are still few population studies that assess user satisfaction with the quality of the service provided⁶.

The actual purpose of obtaining the level of user satisfaction is mainly that of transforming this information into measures that will enable the improvement of services. User satisfaction is a goal to be achieved by services and, in this way, should be researched, aiming to improve user service⁴.

The present study aimed to determine the level of satisfaction of adults living in a

low-income community in Southern Brazil with the quality of the booking process and medical consultation performed, and to identify the factors that contribute to this satisfaction.

Methods

A cross-sectional population-based study was performed between July and December 2009. The target population was comprised of individuals aged 20 years or more who lived in the Restinga and Extremo Sul health districts of the city of Porto Alegre, RS, Southern Brazil. This region had approximately 100,000 inhabitants when the interviews were conducted and a network of health services that included seven Family Health Strategy teams, two Primary Health Units and a 24-hour Emergency Service that cared for 300 individuals per day on average. The data analyzed are part of a large epidemiological survey that will serve to provide resources for the planning and implementation of a network of services to be offered to the local community. As data from the *Instituto Brasileiro de Geografia e Estatística* (IBGE – Brazilian Institute of Geography and Statistics)⁷ may not have been updated since 2000, the first step of the study was to identify the number of homes present in the 121 census tracts of the region. In all, 32,067 homes were identified, of which 29,929 were inhabited. Aiming to calculate the sample, a prevalence of overall satisfaction of 60%⁸, confidence interval of 95%, and acceptable error of 3% were used. An additional 10% was included for losses and refusals, as well as 15% for possible confounding factors, resulting in an estimated sample of 1,295 individuals. Due to the multiple objectives of the major research project of which this study is a part, the final sample size was estimated to be 1,750 homes, including approximately 3,500 adults. Only institutionalized individuals were excluded from this sample. Sampling was performed systematically, with a probability proportional to the census tract size.

Data were collected by trained interviewers, using structured questionnaires

applied to individuals in their homes. The local population was informed about the survey through presentation letters, local newspapers and posters and by radio. For quality control, 10% of the sample was interviewed again by telephone, responding to a simplified questionnaire. Losses and refusals were defined when the interview could not be performed after at least three visits made on different days and at different times.

The following question was used to assess the outcome – overall satisfaction with the health service: “Thinking about the consultation as a whole – its booking, reception in the waiting room, duration, medical tests and the manner in which you were treated – how satisfied were you with this consultation?”. The interviewer showed the following choices of responses: 1) very satisfied, 2) satisfied, 3) indifferent, 4) dissatisfied, and 5) very dissatisfied. Aiming to facilitate the analysis, individuals who gave responses 1 and 2 were considered to be satisfied and those who gave responses 3, 4 and 5 were dissatisfied.

Before inquiring about the overall satisfaction with the medical consultation, the following questions were asked: Was it easy to set up a consultation? Did you wait for a long time to be attended? Were you well received by the receptionist? Were you treated well by the doctor? Did the consultation last as long as expected?. These variables were used as proximal determinants of outcome (Figure 1).

In addition to the independent variables of satisfaction, other possible determinants of satisfaction were analyzed: sex; age (in complete years); ethnicity (self-reported); social class, categorized into A, B, C, D and E, according to the norms from the *Associação Brasileira das Empresas de Pesquisa* (ABEP – Brazilian Association of Market Research Companies)⁹; and level of education (in completed years of schooling). The “reason for the previous consultation” variable was categorized into: preventive, acute, chronic or administrative reasons. The “location of previous consultation” variable was

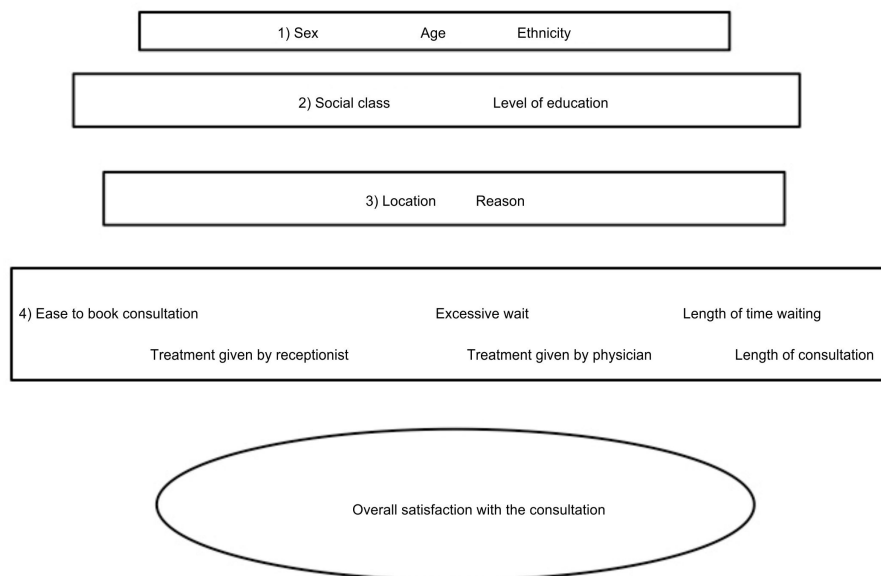


Figure 1 - Hierarchical analysis model.
Figura 1 - Modelo hierárquico de análise.

categorized according to type of funding: public location or private/health plan-affiliated location.

The assessment of satisfaction with health services considered the use of medical services in the three months prior to the interview, aiming to avoid possible memory bias.

A questionnaire suitable for optical scanning was developed and data were subsequently digitalized using the Remark Office software (Gravic Inc, Philadelphia, USA) and processed in the Stata software, version 9.0.

The general sample characteristics were shown through the distribution of prevalences and their respective 95% confidence intervals (95%CI). The following steps were adopted to identify the factors associated with individual satisfaction:

- 1) Crude analysis: the presence of association between each independent variable and the outcome was verified using Poisson regression with robust variance, and the results were expressed as prevalence ratios¹⁰, considering a p-value < 20% for the selection of variables probably associated with the outcome.
- 2) In the multiple analysis, data were analyzed hierarchically: on the first level,

sex, age and ethnicity were included; on the second, social class and level of education; on the third: location and reason for consultation; and on the fourth, the ease to book the consultation, excessive wait, length of time waiting, treatment given by the receptionist, treatment given by the doctor, and length of consultation (Figure 1).

In the hierarchical model, each group of variables of a certain level, comprised of those that had a p-value < 0.20 in the crude analysis, was included in the regression. Variables that had a p-value < 0.05 in the verisimilitude ratio test in their group remained in the model.

The variables selected one level below continued in the subsequent models and were considered as factors associated with satisfaction, even if they lost their significance with the inclusion of hierarchically lower variables.

The present study was approved by the Moinhos de Vento Hospital Research Ethics Committee, under protocol number 2009/28, and funded by the Brazilian Ministry of Health. All participants signed an informed consent form and authors declared no conflicts of interest.

Results

Of all 3,700 eligible individuals, 3,391 (91.6%) agreed to participate in this study. Of these, 76.2% (2,562) and 64.8% (1,677) had consultations in the previous year and in the three months prior to the interview, respectively. The mean of consultations in the period of three months was 1.38 (SD \pm 1.8) consultations per individual and the median was 1.

Considering the “overall satisfaction with the consultation” outcome, 63.7% of participants were satisfied; 23.2% (389 individuals) were very satisfied; 6.6% were dissatisfied; 4.4% were indifferent about the previous consultation; and 2.1% were very dissatisfied. With regard to the characteristics of the individuals assessed, the majority were females, white, and aged more than 40

years, and had at least nine years of schooling and an average to low socioeconomic level (C and D/E) (Table 1). In terms of the reasons for the previous consultation, 654 participants sought a consultation due to acute causes, totaling 39.1%. A significant number of individuals (31.5%) reported chronic reasons for access to health services and the majority of medical consultations occurred in the public health system (64%) (Table 2).

Table 2 also shows the “overall satisfaction with the previous consultation” variables. Among the data found, it is noteworthy that 78.2% had easy access to services, 94% were treated well by the receptionist and 97% were treated well by the doctor.

Table 3 shows the crude and adjusted analyses for the “satisfaction with the previous consultation” outcome. There were no

Table 1 - Sample distribution according to socio-demographic variables and satisfaction of outpatient service users. Restinga, Brazil, 2009

Tabela 1 - Distribuição da amostra segundo satisfação e variáveis sociodemográficas de pacientes adultos ambulatoriais. Restinga, 2009.

Variable	N	%	% Satisfaction with the medical consultation
Sex			
Male	603	36.0	87.6
Female	1074	64.0	86.5
Age (complete years)			
20-39	630	37.6	81.3
40-59	643	38.3	89.0
\geq 60	404	24.1	92.3
Ethnicity (self-reported)			
White	1259	75.1	87.1
Non-white	418	24.9	86.4
Level of education (completed years of schooling)*			
0-4	294	18.8	85.7
5-9	669	42.8	83.5
10-12	466	29.8	88.0
\geq 12	136	8.6	91.2
Social class (ABEP)			
A/B	597	36.0	91.3
C	919	55.4	84.9
D/E	143	8.6	81.1

* Variável com maior número de informações ignoradas: n = 112.

* Variable with the highest amount of information ignored: n = 112.

Table 2 - Sample distribution according to satisfaction and service, location and reason for consultations among outpatient service users. Restinga, Brazil, 2009.

Tabela 2 - Distribuição da amostra segundo satisfação e atendimento, local e motivo da consulta de pacientes adultos ambulatoriais. Restinga, 2009.

Variable	N	%	% Satisfaction with the medical consultation
Reason for consultation			
Prevention	448	26.7	91.3
Acute	654	39.1	82.7
Chronic	529	31.5	88.1
Administrative	46	2.7	89.1
Location of previous consultation (according to type of funding)			
Public	1073	64.0	82.4
Private	604	36.0	94.9
Was it easy to set up a consultation?			
No	365	21.8	66.0
Yes	1312	78.2	92.7
Was there a long wait to be attended?			
No	978	58.3	93.9
Yes	699	41.7	77.1
Length of time waiting (in minutes)*			
Up to 5	267	16.0	94.4
6-10	299	17.9	95.7
11-20	304	18.2	94.1
21-30	221	13.2	89.6
31-60	220	13.2	81.4
>60	360	21.5	69.7
Were you treated well by the receptionist?			
No	100	6.0	57.0
Yes	1575	94.0	88.8
Were you treated well by the doctor?			
No	50	3.0	10.0
Yes	1627	97.0	89.2
Did the consultation last as long as expected?			
No, it took more time	80	4.8	57.5
No, it took less time	165	9.8	44.3
Yes	1432	85.4	93.4

* Variable with the highest amount of information ignored: n = 6.

* Variável com maior número de informações ignoradas: n = 6.

differences in satisfaction between males and females. In the crude analysis, satisfaction was significantly higher among older individuals (p-value < 0.001) and those who were white (p-value = 0.02) and belonged to higher social classes (p-value < 0.001). Of these, the only variable that lost significance after adjustment was ethnicity (p-value =

0.89) (Table 3). Individuals who had their consultation in private and health plan-affiliated locations were 1.15 times more likely to be satisfied with this consultation than those who went to public locations, both in the crude and adjusted analyses (p-value < 0.001) (Table 3).

The majority of variables of the proximal

Table 3 - Crude and adjusted analysis of satisfaction with the previous consultation and study variables of outpatient service users. Restinga, Brazil, 2009.

Tabela 3 - Análises bruta e ajustada entre satisfação na última consulta e variáveis do estudo de pacientes adultos ambulatoriais. Restinga, 2009.

Variable	Crude analysis		Adjusted analysis	
	PR (95%CI)	p-value	PR (95%CI)	p-value
Sex		0.54		0.49
Male	1		1	
Female	0.99 (0.95; 1.03)		0.99 (0.95; 1.03)	
Age (in complete years)		<0.001*		<0.001
20-29	1		1	
30-39	1.02 (0.95; 1.10)		1.02 (0.95; 1.10)	
40-49	1.09 (1.02; 1.17)		1.09 (1.02; 1.17)	
50-59	1.12 (1.05; 1.19)		1.12 (1.05; 1.19)	
≥ 60	1.15 (1.08; 1.22)		1.15 (1.08; 1.22)	
Ethnicity (self-reported)		0.02		0.89
White	1		1	
Non-white	0.84 (0.73; 0.97)		1.00 (0.95; 1.04)	
Level of education (in completed years of schooling)		0.02*		0.02
0-4	1		1	
5-8	0.97 (0.92; 1.03)		1.00 (0.94; 1.06)	
9-11	1.04 (0.98; 1.10)		1.07 (1.01; 1.14)	
≥ 12	1.06 (0.99; 1.14)		1.08 (1.00; 1.16)	
Social class (ABEP)		<0.001*		<0.01
A/B	1		1	
C	0.93 (0.90; 0.96)		0.94 (0.90; 0.98)	
D/E	0.89 (0.82; 0.97)		0.89 (0.80; 0.98)	
Location of previous consultation		<0.001		<0.001
Public	1		1	
Private/Health plan-affiliated	1.15 (1.11; 1.19)		1.15 (1.11; 1.19)	
Reason for previous consultation		<0.001		<0.01
Prevention	1		1	
Acute	0.91 (0.87; 0.95)		0.92 (0.88; 0.96)	
Chronic	0.96 (0.92; 1.01)		0.94 (0.90; 0.99)	
Administrative	0.98 (0.88; 1.08)		0.96 (0.84; 1.09)	
Was it easy to set up a consultation?		<0.001		<0.001
No	1		1	
Yes	1.40 (1.30; 1.51)		1.21 (1.13; 1.30)	
Did you wait for a long time to be attended?		<0.001		<0.01
No	1		1	
Yes	0.82 (0.79; 0.86)		0.94 (0.91; 0.98)	
Length of time waiting (minutes)		<0.001*		0.29
Up to 5	1		1	
6 – 10	1.01 (0.98; 1.05)		1.00 (0.97; 1.04)	
11 – 20	1.00 (0.96; 1.04)		1.02 (0.98; 1.06)	
21 – 30	0.95 (0.90; 1.00)		1.01 (0.96; 1.06)	
31 – 60	0.86 (0.80; 0.92)		1.00 (0.93; 1.07)	
> 60	0.73 (0.69; 0.80)		0.93 (0.87; 1.00)	
Were you well treated by the receptionist?		<0.001		0.02
No	1		1	
Yes	1.56 (1.31; 1.85)		1.19 (1.03; 1.37)	

*Teste de tendência linear / *Linear trend test

Tabela 3 - Análises bruta e ajustada entre satisfação na última consulta e variáveis do estudo de pacientes adultos ambulatoriais. Restinga, 2009. (continuação)

Table 3 - Crude and adjusted analysis of satisfaction in the last consultation and the studied variables of outpatients adults. Restinga, 2009. (continuation)

Variable	Crude analysis		Adjusted analysis	
	PR (95%CI)	p-value	PR (95%CI)	p-value
Were you well treated by the doctor?		<0.001		<0.001
No	1		1	
Yes	8.92 (3.88; 20.5)		5.16 (2.30; 11.58)	
Did the consultation last as long as expected?		<0.001		<0.001
No, it took more time	1		1	
No, it took less time	0.77 (0.60; 0.99)		0.82 (0.65; 1.04)	
Yes	1.62 (1.35; 1.96)		1.43 (1.21; 1.69)	

*Teste de tendência linear / *Linear trend test

level of analysis related to satisfaction had a significant association in the crude and adjusted analyses. The ease to set up a consultation and the fact of having been treated well by the receptionist and physician were directly associated with greater satisfaction. Individuals who reported having been treated well by the physician were five times more satisfied with the consultation than those who had not been treated well by the physician ($p < 0.001$). The length of time waiting to be attended was inversely associated with satisfaction in the crude analysis, although this association lost its effect in the adjusted analysis ($p = 0.29$).

Discussion

Health service assessment based on user satisfaction is an easily measurable and extremely important method to develop corrective measures². Satisfied individuals contribute to the improvement of the final results of health actions, such as adherence to preventive policies and treatment.

Studies that assess the satisfaction of hospitalized patients have been recently published^{11,12}, although the literature on satisfaction with outpatient consultations is still scarce.

In this context, the present study aimed to assess the satisfaction of users of health medical services with the quality of the booking and consultation process and to

identify the factors that contribute to the outcome, in an area of the city of Porto Alegre, Southern Brazil. One of the advantages of the present study is the fact that data collection was performed in the participants' homes, because assessing satisfaction with the medical consultations in the health services may cause embarrassment, leading to biased results. In addition, systematic sampling with probability proportional to the size of each census tract should also be emphasized as a positive point.

On the other hand, as this was a population-based cross-sectional study, the data collected and some of the associations observed are subject to reverse causality and should be analyzed with caution. Additionally, it should be pointed out that the reasons for no consultations of individuals who had not been attended in the period of three months prior to interview are not known. These individuals may have not had consultations due to the difficulty in booking one, which could result in selection bias. This hypothesis is minimized by the fact that the high prevalence of consultations in the three months prior to the interview of 64.8% was corroborated by another recently published study⁸.

According to Brazilian authors, women have more consultations than men^{6,13,14}. Despite the difference in the prevalence of use of services by sex, Esperidião et al. did not find differences in the overall

satisfaction with consultations between men and women. However, these authors suggest that women are more capable of criticizing health services because they have consultations more frequently⁴. The present study did not find a difference in satisfaction with medical consultations between men and women.

With regard to age groups, this same author found an association between individuals aged more than 50 years and satisfaction and reported that this may be related to more charisma and lower expectation in this parcel of the population⁴. A study conducted in Cuba to assess the resolvability of health services observed a higher level of satisfaction in the 20-29, 30-39 and 40-49 year age groups, when compared to those aged more than 49 years¹⁵. Contrary to the Cuban authors, this study found greater satisfaction among individuals aged 50-59 years and more than 60 years, which corroborates the hypothesis that the older one is, the higher the number of satisfied individuals⁴.

With regard to the association between the independent variable of level of education and satisfaction, this study observed that it had a borderline significance, both in the crude and adjusted analyses. When the prevalence of satisfaction was assessed in the different social classes, wealthier individuals were found to be more satisfied with the medical consultation and its booking process. A study conducted in European Union countries observed that the higher the level of education, the lower the satisfaction of clients¹⁶. This difference in findings can be attributed to the diversities between Brazil and European countries, especially due to the better income distribution and well-structured health systems found in the latter. Additionally, complementary analyses evidenced that higher-income individuals sought private health services more often, in which greater satisfaction was found. The greater prevalence of consultations in public locations (64.0%) reflects the dependence that the majority of individuals have on governmental or philanthropic funding. This fact can be

associated with the relevant portion of the sample (55.4%) belonging to social class C. These individuals use services affiliated with the Unified Health System, which has a lower level of satisfaction, as observed in philanthropic services.

With regard to the length of time waiting, this could vary according to the type of funding, i.e. university hospitals and outpatient clinics usually require longer service time, as professors need to supervise medical students and residents¹⁷. Individuals who were interviewed reported an interval from at least five minutes to more than one hour of waiting, although this information was not negatively associated with satisfaction in the present study. Consequently, if patients are treated well during booking and the quality of care provided in the medical consultation is adequate, according to them, this does not change their satisfaction as a result of waiting for a shorter or longer time in the waiting room. This hypothesis is corroborated by Anderson et al., who assessed user satisfaction with medical consultations in Primary Care and concluded that the duration of a consultation with a physician is a stronger predictor of patient satisfaction than the length of time spent in the waiting room¹⁸.

Well-structured health services with organized reception rooms and an effective and fast consultation booking system raise positive expectations about the service to be provided¹⁶. Another important aspect, which also raises positive expectations, is an adequate treatment given by receptionists and head physicians¹⁹. In a recent comment on what patients really expect from a health service, published on the Journal of the American Medical Association (JAMA), the authors report that patients want to be treated with politeness, empathy and respect for their privacy²⁰.

The concept of being treated well was defined by the World Health Organization (WHO): to be treated with respect and consideration, to be welcomed in the health units, to be treated respectfully under any circumstances, to be examined and treated

while one's privacy and right to anonymity of information about one's disease is maintained²¹. As an example, although this is a quantitative study, researchers found that being treated well by the receptionist and by the physician represented a 1.19 and 5 times higher probability of being satisfied, respectively.

In the present study, individuals who could easily book consultations reported they were more satisfied. These data do not make a distinction between public and private services, because, despite each group of users having different expectations, there is a small probability of patients feeling satisfied when they are not treated politely, regardless of the location and type of funding for the consultation.

The ideal length of consultation represents greater resolvability and, consequently, contributes to the overall satisfaction with consultations. Different studies have observed that a longer consultation time is associated with better quality of service,

such as better anamnesis, a better explanation about the patient's problem and diagnostic and therapeutic procedures, and the doctor's checking the patient's understanding and participation in the consultation^{22,23}.

In this way, the results found in the present study reveal that several factors associated with the consultation booking process led to greater user satisfaction with health services. Additionally, it should be emphasized that adults who had consultations in private or health plan-affiliated locations were more satisfied than those who used the public health system.

These findings can contribute to managers' investing in the development of service-oriented skills. Finally, it should be emphasized that new studies need to be conducted to assess the influence of patient expectations about consultations and quality of care on the overall satisfaction with these consultations.

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Received: 27/08/11
Final version: 12/01/12
Approved: 16/02/12