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Original Article

Use of dental services in areas covered by the Family Health Strategy in Olinda, Brazil

Utilização dos serviços odontológicos em áreas adstritas pela Estratégia Saúde da Família em Olinda, Pernambuco, Brasil

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Abstract

Objective: The aim of the present study was to analyze factors associated with the use of dental services in areas covered by the Family Health Strategy in the city of Olinda, northeastern Brazil. Methods: A quantitative, analytical, cross-sectional study was conducted involving individuals over 18 years of age (n=492) registered at Family Health Units. Data analysis was performed with SPSS program (version 11.0) and involved 2 test and logistic regression analysis. Results: The number of individuals who sought dentists at public services (58.6%) was greater than that who sought dentists in the private sector (37.4%). Among those who used public services in the previous 12 months, only 18.9% had access to a dentist from a Family Health Unit. Multiple logistic regression analysis showed that the use of services was associated with toothaches in the previous six months and living in a rented home ($p<0.05$). Conclusion: The results show that access to dental services was highly limited, even in areas covered by an Oral Health Team. Moreover, access was potentiated by indicators of oral health needs and socioeconomic status.

Keywords: quality of health care; health services accessibility; oral health.

Resumo

Objetivo: O objetivo do presente estudo foi analisar os fatores associados à utilização dos serviços odontológicos em áreas adstritas da Estratégia Saúde da Família, no município de Olinda, Pernambuco. Métodos: Trata-se de um estudo quantitativo, analítico, do tipo transversal, com amostra composta por indivíduos acima de 18 anos (n=492) cadastrados na Unidade de Saúde da Família (USF). A análise dos dados foi realizada por meio do SPSS versão 11.0, envolvendo a utilização do teste do χ^2 e a análise de regressão logística. Resultados: O número de indivíduos que procuraram dentistas do serviço público (58,6%) foi maior do que os que procuraram dentistas do setor privado (37,4%). Daqueles que utilizaram o serviço público nos últimos 12 meses, apenas 18,9% tiveram acesso ao dentista da USF. A análise de regressão logística múltipla demonstrou que a utilização dos serviços permaneceu associada a dor de dente nos últimos 6 meses e possuir casa emprestada ($p<0,05$). Conclusão: Os resultados demonstraram que o acesso aos serviços de saúde bucal foi expressivamente limitado, mesmo em áreas cobertas pela Equipe de Saúde Bucal. Esse acesso foi potencializado pela presença de indicadores de necessidades de saúde bucal e condição socioeconômica.

Palavras-chave: qualidade da assistência à saúde; acesso aos serviços de saúde; saúde bucal.

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INTRODUCTION

Access to health-care services is a complex issue related to a number of factors involving perceived health needs and the use of health services, the aim of which is to resolve a given health problem[1]. In the quest for a perfect definition of the concept of access (which has proven difficult), factors that facilitate or hamper health service use should be taken into consideration[2,3]. The use of health services is considered a form of operationalizing this concept based on characteristics on both the individual level and the environment in which an individual lives, works and socializes. Moreover, the characteristics of the health services themselves, such as location and internal work processes, should also be considered. Thus, the results of studies on the use of health services vary depending on the organizational and structural aspects of the services and health-care system to which these services belong (public or private, local or regional, clinic or hospital)[4,5].

Travassos and Martins[6] succinctly describe the following factors related to the use of health services: health needs; demographic, geographic, socioeconomic and cultural characteristics of the clientele; demographic and psychical characteristics, specialty, experience and form of payment of those who offer these services; organization of the service in terms of available resources, characteristics of the service, payment method, geographic and social access; and political aspects, such as the type of health-care system, funding, type of health insurance, amount, type and distribution of resources, and legislation and regulation of both health professionals and the system itself.

With the establishment of the 1988 Constitution, Brazil created its public health-care system and adopted a hierarchical health-care strategy with a focus on primary care through the Family Health Program, which should currently be considered the Family Health Strategy (FHS) for the reorientation of the health-care model with regard to conventional practices[7].

An analysis of the implantation of the FHS in large urban centers reveals a considerable increase in the coverage of the population through the expansion in the offer of different health services[8]. However, difficulties persist regarding the use of health services, such as the numerous obstacles linked to urban development, problems related to shantytowns, which are intrinsically linked to social inequality, and the insufficient, precarious funding of the health sector[8].

In a study on advances and difficulties regarding the use of oral health services in Brazil, Pinheiro and Torres[8] compared data from the two separate National Household Surveys and found a 15% reduction in the number of individuals who had never been to the dentist between 1998 (18.7%) and 2003 (15.9%). It should be stressed, however, that this reduction occurred in an unequal manner among the different macroregions of the country, thereby evidencing disparities in access to health services. In the southern region, the reduction in the states of Santa Catarina (30.7%) and Paraná (28.4%) was greater than the national average. In the northern region, the reduction in the states of Tocantins and Pará was 21.2% and 14.2%, respectively. In contrast, an increase in the prevalence was found in some states of the northern and northeastern regions: Rondônia (12.7%), Amapá (7.5%), Amazonas (5.8%), Alagoas (3.8%) and Pernambuco (0.5%)[8].

According to the Brazilian Constitution of 1988, the term "universality" means access on the part of all Brazilian citizens to health services without obstacles, that is, health care for everyone. However, ensuring effective access in accordance with this principle is still far from being achieved. The continuous, effective mobilization of all segments of society is needed to change aspects that often point to a lack of efficacy in the quality of the services and the non-guaranty of universal access, reducing health care to a set of programs aimed at the poorest portion of the population.

Although oral diseases are not directly life-threatening, such conditions constitute a public health problem, considering the high prevalence rates and the impact on the lives of affected individuals and society alike in terms of pain, discomfort, limitations and both functional and social disabilities as well as the high demand for health services[9]. Some studies carried out in Brazil have collected data for the assessment of the use of health services, whereas others have used specific population groups, such as schoolchildren, adolescents, elderly individuals and pregnant women, analyzing barriers that hinder access[8,10-15]. Two articles have evaluated the access in areas covered by the FHS in comparison to those not covered, which shows the role of individual socioeconomic factors in the search for oral health services in the private sector[16,17].

Considering the scarcity of studies that use primary data on the use of oral health services, the aim of this study was to analyze factors associated with the use of dental services in areas covered by the FHS in the city of Olinda, northeastern Brazil.

METHODOLOGY

A quantitative, analytical, cross-sectional study was carried out in 2008 involving a sample of randomly selected individuals over 18 years of age, residents of areas covered by the FHS and registered with Family Health Units in the city of Olinda (located in the metropolitan region of Recife, state of Pernambuco, Brazil). In 2008, the municipal health service network was made up of 36 Family Health Teams and 21 Oral Health Teams distributed among 25 Family Health Units located in 16 neighborhoods, with coverage of approximately 40% of the population.

The city has been mapped with regard to the risk of disease per census sector according to socioeconomic variables, denominated the Social Need Indicator, which classifies areas as having low, medium or high degrees of risk. The Family Health Units selected for this study were located in areas classified as having medium to high risk[18].

For the calculation of the sample size, the two-proportion comparison formula was used, with an 80% power to detect differences when producing an Odds Ratio (OR) of 1.5. The prevalence value of access reported in the study by Pinheiro and Torres[8] was used for the calculation. A minimum of 420 individuals were selected for the sample, to which 20% were added to compensate for possible losses and potentiate the effect of the study, leading to a sample of 504 individuals.

The sample was selected following the selection of the census sector, street and residence. For such, the Family Health Units were classified and selected based on previously established criteria: implantation time (less than 5 years and more than 5 years) and proportion of Oral Health Teams to Family Health Teams (1:1 or 1:2). The health units were visited to obtain the names of all streets covered. The streets and residences were then selected randomly by lots. All individuals over the age of 18 years with no physical disability or mental illness present in the home at the time of the identification of the participants for the sample were interviewed.

The data used in this study were obtained using previously validated forms[19] (use of general health and oral health services) and a measure used by Góes et al.[20] (toothache and degree of severity), using the direct, intensive observation method. During the interview, aspects related to the independent variables were addressed (age, gender, income, marital status, schooling, type of housing, time elapsed since Family Health Unit implantation, proportion of Oral Health to Family Health Teams, administration district of the interviewee's residence, reports of toothaches in life and previous six months, and self-perception of oral health status). The dependent variable was the use of dental services at a Family Health Unit in the previous 12 months. Time elapsed since the implantation of the health unit and the proportion of the different teams were used as characteristics of the Family Health Units. The interviews were carried out by four researchers, who had undergone a 20-hour training program and performed a pilot study. The individuals interviewed in the pilot study did not participate in the main study.

Data analysis was performed using Statistical Package for the Social Sciences, version 11.0 (SPSS Inc.) and involved descriptive and analytical statistics. In the descriptive phase, frequency distributions were determined for the quantitative variables, with the calculation of central tendency, dispersion and proportion measures, when appropriate. In the analytical phase, Pearson's 2 test was used to test the associations. Unadjusted ORs were calculated from logistic regression analyses to determine the effect of the independent variables on the outcome, and adjusted ORs were calculated to assess the effect of one variable on another. The level of significance was set at 5% for all analyses.

All individuals who agreed to participate in the study signed a statement of informed consent in compliance with Resolution 196/96 of the Brazilian National Health Council. This study received approval from the Human Research Ethics Committee of the Universidade de Pernambuco (Brazil) under process number 048/07.

RESULTS

The final sample was made up of 492 residents of areas covered by the FHS, corresponding to a loss of approximately 3%. The majority were women (76.7%), mean age was 37 years (standard deviation: 17.4) and more than half of the sample (57.7%) was either married or in a stable union. The socioeconomic data showed that 66.1% had a household income of up to the minimum salary and 58.9% had less than eight years of schooling (incomplete elementary school education). The majority (69.5%) reported being homeowners. The majority (89.8%) reported experiencing a toothache at some time in life and 19.5% of these individuals reported a toothache in the previous six months. The degree of severity of this pain ranged from mild (11.6%) to severe (52.3%).

Regarding the demand for general health services in the public and private sectors, 75.2% individuals sought the same place or health service. Among these individuals, 66.2% generally sought a public health unit and 22.8% sought services in the previous two weeks. Regarding dental services, 35.4% participants reported not visiting the dentist for three or more years. The percentage of individuals who sought dental services in the public sector (58.6%) was greater than that who sought dentists in the private sector or through health plans (37.4%). Among those who used public dental services in the previous 12 months, only 18.9% used the services provided by the Oral Health Team at a Family Health Unit.

The use of dental services at Family Health Units was associated with individuals under 37 years of age, a report of toothache in the previous six months, residing in Administration District II, type of housing, time elapsed since the implantation of the Family Health Unit and Oral Health Team to Family Health Team proportion (Table 1).

Individual characteristics of the sample with a significant association in the bivariate analysis ($p<0.05$) were selected for the multiple regression model. Although not achieving statistical

significance in the bivariate analysis, we included gender in the model because this variable is considered essential to the constitution of an individual and is predominant in studies on access to health care. In the multiple regression analysis, the association between age and use of dental services (unadjusted OR: 2.2; 95% confidence interval – 95%CI: 1.7–2.7) lost its significance when adjusted for toothache in the previous six months and type of housing. The final model demonstrated that the use of oral health services was associated with toothache in the previous six months and living in a rented home (p<0.05) (Table 2).

Table 1. Frequency, percentage and p-value of the independent variables associated with the use of dental services in the previous 12 months in FHS, Olinda, Pernambuco, 2008

Variables/Categories	Use of dental services				Total		χ^2
	Yes		No				
	n	%	n	%	n	%	p-value
Gender							0.811
Male	17	15.9	90	84.1	107	100	0.368
Female	76	19.7	309	80.3	385	100	
Age*							6.410
≤37 years old	59	23.2	195	76.8	254	100	<0.011
>37 years old	34	14.4	204	85.7	238	100	
Type of housing							15.32
Rented	12	17.9	55	82.1	67	100	
Loaned	6	50.0	6	50.0	12	100	
Yielded	7	33.3	14	66.7	21	100	0.004
Stolen	14	28.0	36	72.0	50	100	
Bought/financed	54	15.8	288	84.2	342	100	
Administration district							4.598
Administration district I	37	15.1	208	84.9	245	100	0.032
Administration district II	56	22.7	191	77.3	247	100	
Toothache in previous 6 months							13.86
Yes	29	33.7	57	66.7	86	100	<0.001
No	57	16.0	299	84.0	356	100	
Time since implantation of FHS							7.084
<5 years	49	16.0	258	84.0	307	100	0.008
>5 years	44	23.8	141	76.2	185	100	
Oral Health Team to Family Health Team proportion							5.376
1 OHT/1 FHT	56	23.0	187	77.0	243	100	0.020
1 OHT/2 FHT	37	14.9	212	85.1	249	100	

*Age categorized by median.
FHS: Family Health Strategy; OHT: Oral Health Team; FHT: Family Health Team.

Table 2. Multiple regression analysis of use the of dental services in the previous 12 months in Family Health Strategy, Olinda, Pernambuco, Brazil, 2008

Variables	Non-adjusted		Adjusted	
	OR (95%CI)	p-value	OR (95%CI)	p-value
Gender				
Male	1.3 (0.73–2.3)	0.369	1.25 (0.67–2.23)	0.471
Female	1		1	
Age				
≤37 years old	2.2 (1.7–2.7)	0.001	0.68 (0.41–1.13)	0.140
>37 years old	1		1	
Toothache in the previous 6 months				
Yes	0.375 (0.22–0.63)	0.001	0.431 (0.24–0.75)	0.003
No	1		1	
Type of housing		0.008		0.044
Rent	0.86 (0.43–1.71)	0.667	0.94 (0.44–1.97)	0.871
Loaned	0.18 (0.05–0.60)	0.005	0.21 (0.63–0.71)	0.012
Yielded	0.37 (0.14–0.97)	0.044	0.57 (0.18–1.78)	0.336
Stolen	0.48 (0.24–0.95)	0.036	0.48 (0.23–1.00)	0.050
Bought/financed	1		1	

DISCUSSION

The results of this study show a low degree of use of the dental services offered through the FHS, even within the context of the expansion of areas covered by this policy. Moreover, less than 20% of the individuals who sought this service were treated by the Oral Health Team of a Family Health Team. This reveals a contradiction between what the legislation establishes and the implantation policy of the municipal administrations of the program. According to Bahia[21], the obstacles are related to economics (severe fiscal restrictions), the management of a local unit and the work customs of health professionals, which lead to severe restrictions to the implantation of a universal health system.

In a previous study, Rocha and Góes[16] found no significant association between the use of oral health services in areas covered by the FHS and those not covered by it. However, this phenomenon was associated with sociodemographic factors and toothaches.

A large percentage of the interviewees in this study were women. Although this variable was not significantly associated with the use of oral health services, the finding is in agreement with that reported in previous studies on the use of dental services[8,16,22-27]. According to Travassos et al.[28], this tendency may be because women who do not work outside the home have more time available in their schedules to visit health services. The use of health services shows universal patterns that reflect biological and behavioral differences between genders. Women tend to report more health problems than men, which may indicate differences in the perception of illness and use of health services[28].

Age has been associated with access to health services in a number of studies[16,22,23,27], which lends support to the theory that there is a reduction in access to these services with the advance in age. According to Barros and Bertoldi[25], this finding may be explained by differences in financing, as younger individuals in more privileged groups can better afford health services, whereas access to health services among poorer groups is more limited to the public system with the advance in age. Thus, this variable constitutes an important confounding factor regarding the association between access to dental services and income. In this study, however, age lost its significance when adjusted for other factors in the multivariate regression model. This shows that the main reason for favoring the use of dental service among younger individuals disappears in more homogeneous populations.

The multivariate analysis showed that a report of toothache and type of housing were significantly associated with the use of dental services. The association with toothache in the previous six months shows that individuals who probably have an accumulation of oral health needs seek dental services more[16,23]. The association with the socioeconomic factor (residing in a rented home) shows that small differences in socioeconomic status may lead to differences in the use of health services in homogeneous populations[29].

In this study, private services corresponded to a considerable portion of the use of oral health services, which is in agreement with findings in other studies of population-based inquiries[19,23,25]. Rocha and Góes[16] report that income of the respondent and household income are associated with access to health services, which has also been reported in other studies[16,23,25,30]. Thus, inequality regarding access to and the use of services is found even in apparently homogeneous areas.

There appears to be a distancing from health system models considered ideal in the Weberian sense. With exceptions, systems that mix public and private elements are observed. In 1988, Brazil sought to establish a health-care system with universal, integral access. However, there was a robust private sector that still has nothing less than 45.9 million clients[29]. The private health-care system represents a guaranty of services, especially through private health plans, that are beyond the reach of the majority of the Brazilian population[31].

The results of this study show an association between residing in Administration District II and being treated at a Family Health Unit at a proportion of one Oral Health Team to one Family Health Team. While reflecting organizational aspects that may indicate a better health-care model in one territory over another, these associations were not examined in depth in the multiple logistical regression model because they are contextual characteristics and are not on the sample level as individual characteristics. Such an in-depth analysis was beyond the scope of this study.

CONCLUSION

It is indisputable that the implantation of the National Oral Health Policy has considerable meaning and social relevance for thousands of Brazilians who have since come to have the possibility of using oral health services, which have historically been denied until the beginning of the 21st century. However, a number of studies assessing access to health care and the day-to-day operations of public health services (including oral health services) show the gap between the basic premise of universality and the services that are actually offered. The results of the present study show that access to dental services is largely restricted even in areas covered by the FHS and Oral Health Teams. This access is potentiated by the accumulation of dental needs, as represented by toothaches in the previous six months. Thus, greater public investments are needed in health care, along with public policies that promote the universality of access to general health and oral health services, as established in the constitution.

Collaborators

PSA Góes designed the study and performed the data analysis and a critical reading of the manuscript. RACP Rocha participated in the study design, contributed to the discussion of the results and participated in the final critical reading of the manuscript. GS Gaspar collected the data and performed the data analysis together with PSA Góes. RS Oliveira and BG Magalhães collected and analyzed the data and were the main writers of the manuscript.

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