

# Access to Oral Health Services in School Children in Camaçari- Bahia- Brazil

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Received:  February 01, 2022

Published:  February 15, 2022

## Abstract

**Objective:** To describe access to oral health services in public schools in the age group from 2 to 19 years old, in the city of Camaçari, Bahia.

**Methodology:** This is a cross-sectional study involving the participation of 1321 parents of schoolchildren aged between 2 and 19 years old enrolled in public schools in Camaçari, a municipality in the interior of the state of Bahia with approximately 300,000 inhabitants. The collection of data identified in the years 2017 to 2019 and consists of a previous survey with oral parents in the population's access to health services, as well as oral health habits. Participation was conditioned to the signing of an informed consent form by the parents/guardians.

**Results:** 19% of the study population were female. Most students (67.24%) are up to 10 years old, 32.76% were between 11 and 19 years old. Most 51.31% reported never having gone to the dentist. Almost all did not have dental plans (93.99%). There was significance in the chi-square test with the variables: sex (p-value= 0.00); having a dental plan (p-value= 0.00); and use of dental floss (p-value = 0.002).

**Conclusion:** The lack of access to the health service demonstrates a need to prioritize the age group in health actions in the PNSB and PSE. A socio-demographic and socio-environmental heterogeneity of the target audience should be considered when being in education for the same health, intervention measures and becoming effective and comprehensive mainly by enabling access to oral health.

**Keywords:** Access of services; epidemiology, school children

## Introduction

The need for health is self-perceived and leads individuals to seek health services. However, in addition to this factor, it also has the potential for social synthesis and political and ideological management [1]. It should, however, be understood that the term "access" refers to the use of health services so that the demands of each person are met. be remedied. It is noteworthy that the Brazilian Constitution, in turn, guarantees the right to access to health care as a relevant way to change the reality of the population [2]. Access, coverage and use of health services reflect not only the social structure, but also health inequities. Knowledge of these data provides, therefore, the articulation of measures aimed at structuring and implementing an effective health service, regardless of socioeconomic level or social class [3]. Although Brazil has the

Unified Health System (SUS), a unified and decentralized system that offers health services to the population, this model faces great challenges to fulfill its premises, since protective and risk factors affect the population differently. From this, a great heterogeneity is determined between social strata, mainly regarding health inequalities [4]. This is directly reflected in dental care, as people with reduced income have limited access to oral health services [5].

The SUS prioritizes health protection and promotion actions, disease prevention, diagnosis, treatment, rehabilitation, and health maintenance, giving primary care its gateway. From this, care networks are implemented in the most decentralized and hierarchical way in order to reach the largest number of people universally, without any barrier [6]. The Family Health Strategy

(ESF), National Primary Care Policy (PNAB) and the National Oral Health Policy (PNSB) were created in order to bring the SUS closer to its guiding principles in care not centered on the patient/ disease, but towards promoting health and acting in prevention. With regard to oral health, the PNSB was created to include oral health actions in the strategy planned by the health team, since oral health is included in the broad concept of health. From there, policies are implemented to ensure that health is offered and provided to all citizens. As an example, there is an incentive to fluoridate water, use fluoride toothpaste, access and availability of basic dental care, whose implementation was guided by the principle of universality of the SUS [4]. In addition, other measures that cover all aspects of health are encouraged. such as: encouraging healthy eating with reduced consumption of sugars, encouraging care with body and oral hygiene and quitting smoking [7,8]. It should be noted, however, that despite its implementation nature, water fluoridation is still unequal in the Brazilian territory, with greater progress in the South and Southeast regions. It is also observed that the public water supply system, despite being efficiently expanded, shows greater restrictions for the North and Northeast regions [4]. Thus, the effects on the individual's health occur in a directly proportional way to this factor.

In oral health, the way in which services are accessed and used are crucial for coping with dental problems, both in preventive and rehabilitative actions. Vieira, in 2018, observed that individuals with low education and family income are more likely to have never had a dental appointment. For residents of cities with a high human development index (HDI), there is a 70% lower chance of never having gone to a dental appointment [3]. In addition, more egalitarian cities showed better use of oral health care services in according to the needs of each individual [9]. Reda et al. in 2018, based on a meta-analysis and systematic review, show that the population residing in urban areas with a higher HDI is more likely to use the oral health care service. It emphasizes, therefore, the importance of the context in which the individual lives for the search for care and care [10]. According to the National Health Survey (PNS) carried out in 2019, 51.2% of the population aged 0-17 consulted the dentist in 2019. In addition, it was observed that the higher the level of education and household income, the greater the proportion of people who consulted the dentist [3,8,11,12]. Regarding the search for health care, only 6.3% sought care due to a dental problem, toothache or routine dental appointment. The SB BRASIL, an epidemiological survey carried out periodically to describe the progression of oral health in the Brazilian population, identified in 2010 that 18% of children aged 12 years and 13% of adolescents aged 15-19 years had never been to the dentist [13].

However, it shows a decreasing trend in the severity of dental caries in adolescents when compared to the survey carried out in 2003, in addition to showing a greater share of the population free from caries.13 Narvai, in 2006, attributes the downward trend to the extent of fluoridation of water for public supply, use of fluoride toothpaste and modification of the focus in public health dentistry

programs in Brazil [14]. However, Roncalli et al in 2015 highlight the limit of collective actions in the control of the disease and the need for interventions that cooperate for the reduction of socioeconomic inequalities so that advances can continue [15]. From the perspective of collective practices, a relevant example is the Health Program in Schools, which seeks to make health maintenance viable with preventive, promotion, attention and health education actions. (Law No. 6,286, of December 5, 2007, institutes the School Health Program - PSE, and gives other measures.) [16]. In this way, students develop means and knowledge to avoid oral health problems, in addition to being inserted in an environment that provides motivation and establishment of beneficial habits with the potential to be perpetuated during adulthood [2]. In this context, the interdisciplinary team in primary health care plays an essential role in promoting oral health for schoolchildren, mainly because they are responsible for identifying health demands and risk factors early [12].

In addition, the number of dentists associated with the public service in 2008 and the regions with the most intense hiring (North and Northeast) demonstrate greater efforts to overcome established inequalities in coverage. In other words, a redistribution based on the principle of equity was established [14]. The American Association of Pediatric Dentistry (AAOP) emphasizes the importance of oral care initiated in childhood for its continuation during adolescence and adulthood. The frequency is defined according to individual needs and risk factors to which the individual is exposed [17]. In turn, the prevention and early detection of oral diseases can improve the oral and general health of the student, as well as their well-being, being and school performance [18]. For access to health services, including dental care, factors such as income, education, age, sex and health needs are influenced. Thus, impacting on oral health care is obtained or not. However, in addition to good social indicators, equity in health services intrinsically depends on their supply with human and technological resources [12]. The form and frequency with which the health service is accessed reflects the design of equality or not of a society. For schoolchildren, it demonstrates the existence of barriers, the way parents and guardians convey the concept of health and the way they access dental health services. Thus, the objective of the present study is to describe the access to oral health services by public school students aged 2-19 years, in the city of Camaçari, Bahia, Brazil.

## Methodology

This is a cross-sectional study with the participation of 1321 parents of schoolchildren aged 2 to 19 years enrolled in public schools in Camaçari, a municipality in the interior of the state of Bahia, which has approximately 300,000 inhabitants. in an Oral Health Program to be implemented in the school. There was no sample draw, seeking information from the universe of the population to be served. Data collection took place from 2017 to 2019 and consisted of a previous survey with parents to identify

this population's access to oral health services, as well as oral health habits. Participation was conditioned to the signing of the free and informed consent form by the parents/guardians. Questionnaires were sent to parents/guardians with questions present in Table 1, but 12% of them did not return the document. Quantitative and qualitative variables were adopted, self-reported. The variables were dichotomized or grouped into categories, and divided into

the following groups: patient identification, anamnesis and oral health status (Table 1). A descriptive analysis of the variables of interest was performed, with observation for simple and relative frequencies and possible associations with the condition of use of the dental service in the last year: using the chi-square test, with a statistical significance of 5%.

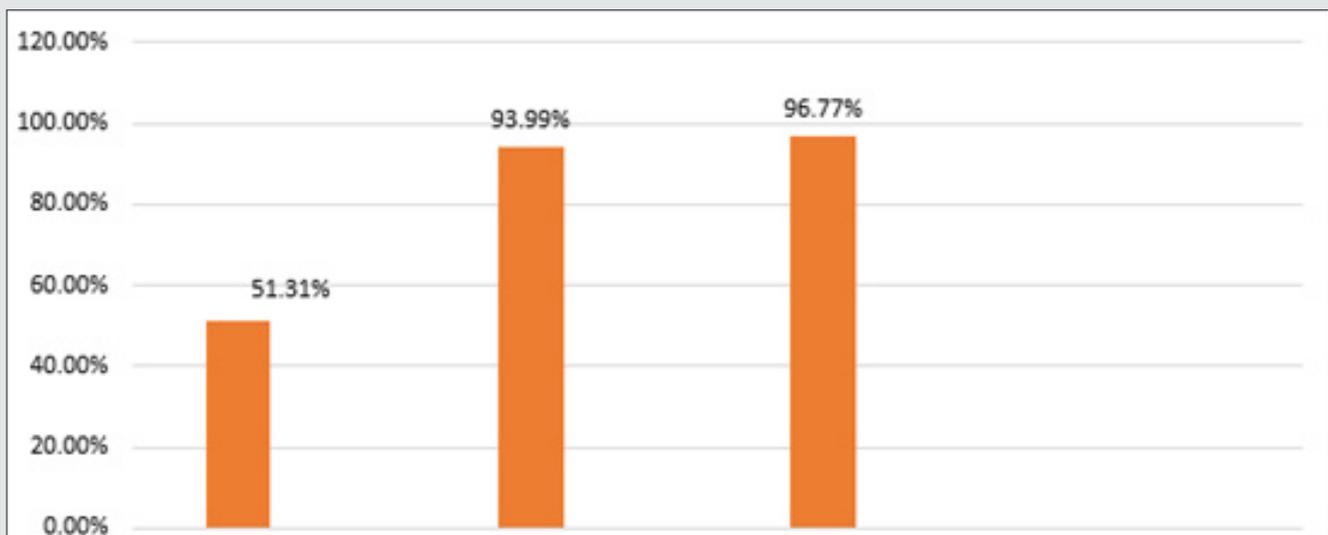
**Table 1:** Classes of variables in the study.

Variables	Categorization
Age	In years
Gender	0-male 1-female
Access to dentistry	01- yes 02- No
Oral health treatment	01- yes 02- No
Have a dental health insurance	
Brushing teeth? Use of dental floss?	01- yes 02- No
Frequency	More than once a day, Once a day,
	Eventually, Never

## Results

A total of 1321 schoolchildren aged 0-19 enrolled in public schools in Camaçari-Ba participated in the study. 50.19% of the study population was female. Most students (67.24%) are up to 10 years old, 32.76% are between 11-19 years old. Most 51.31% reported never having gone to the dentist. With regard to access to supplementary health, almost all did not have access to dental plans - 93.99%. Regarding ongoing dental treatments, a minority (3.23%) were undergoing treatment (Graphic 1). When evaluating oral hygiene habits, 30.35% of the study population reported

brushing their teeth 1x a day, 53.44% brushed more than 1x a day and 17.21% only brushed sometimes. As for the use of dental floss, 53.94% said they did not use it and 46.06% reported using it. Regarding the frequency, 86.62% use it more than 1x a day. Approximately 1.7%, 9.1% and 5.6% use "once a day", "sometimes" and "rarely", respectively (Table 2). Table 3 shows the distribution of variables according to attendance at the dentist, where a significant association is identified in the chi-square test with the variables: gender (p-value= 0.00); having a dental plan (p-value= 0.00); ongoing dental treatment (p-value = 0.00) and flossing (p-value = 0.002).



**Graphic 1:** Access of dental health services in school children of Camaçari-Ba, Brazil, 2017-2019.

**Table 2:** Oral health habits in schoolchildren of Camaçari-Ba, Brazil. 2017- 2019.

	n	%
<b>Frequency of brushing teeth</b>		
More than once a day	698	53.44
Once a day	404	30.35
Eventually	229	17.21
<b>Use of dental floss</b>		
yes	128	46.06
No	718	53.94
<b>Frequency of use- dental floss</b>		
More than once a day	1113	86.62
Once a day	23	1.73
Eventually	121	9.09
Never	74	5.56

**Table 3:** Association between access to oral health treatment and other variables in schoolchildren of Camaçari-Ba, Brazil, 2017- 2019.

	<b>Access to Oral Health</b>				<b>P-value</b>
	<b>Yes</b>		<b>No</b>		
	<b>n</b>	<b>%</b>	<b>n</b>	<b>%</b>	
<b>Gender</b>					
Male	404	60.48	264	39.52	0
Female	244	36.8	419	63.2	
<b>Age</b>					
≤ 10 years old	442	49.39	453	50.61	0.464
≥11-19 years- old	206	47.25	230	52.75	
<b>Have dental insurance</b>					
Yes	62	77.5	18	22.5	0
No	586	46.84	665	53.16	
<b>Frequency of brushing teeth</b>					
More than once a day	369	52.87	329	47.13	0.37
Once a day	205	50.74	199	49.26	
Eventually	109	47.6	120	52.4	
<b>Use of dental floss</b>					
Yes	326	53.18	287	46.82	0.002
No	322	44.85	396	55.15	

## Discussion

In the present study, only 51% of the population had already attended dental services and the variables “using dental floss”, “having a dental plan” and “being male” were significantly associated with higher frequency of visits to the dentist by schoolchildren in Camaçari-Ba. . They presented prevalence’s within the study population of 46.09%, 6.09%, respectively for “using dental floss”, “having a dental plan”. Regarding the variable “sex”, 50.19% belong to males and 49.81% to females. The prevalence of access to health in the study population of 51% highlights possible limits of the

health system that still do not provide access to a considerable portion of the population. Although there are policies that provide oral health care, such as PNSB and PSE, data such as those identified in the present study lead to questioning the limits that lead to these results. Assis (2012), Antunes (2010) and collaborators mention that the expansion of oral health care through the SUS faces concrete barriers such as the low availability of resources, limited service provision and sociodemographic and socioenvironmental heterogeneity in the population [19,4]. Thus, it is observed that availability is not a guarantee for access. The organization of services, such as the opening hours and shifts offered, can lead to

their non-use [20]. It should also be noted that, although the PSE exists, there is a need for awareness and continuous education in oral health so that all groups age groups can be covered [21]. It was also observed that Brazilian adults with low income and schooling demonstrate great demands and oral problems that mainly result in the loss of teeth [22].

From this, it is possible to identify a need to prioritize the school age group in the PSE, in order to encourage adherence and permanent apprehension of health education. In this way, individuals would be formed who are more aware of their own health demands, and consequently, with greater access to health. In this, access should be considered not only as the availability of the attention service, but also its use. It is noteworthy that in the literature on adults, in general, women are more adept to oral hygiene and prevention habits than men [23]. However, access to health services was higher among boys in this study. In a study with children aged 6-12 years, it was identified that male children who attended public schools are more likely to seek oral health care services than female children [24]. In a systematic review and meta-analysis, Reda et al. collaborators state that men, individuals of different ethnicities or immigrants, people with a lower educational level or socioeconomic status showed a lower rate of access to dental health services.10 Vieira and collaborators, in 2018, bring a lower probability of non-use of services by women, brown-skinned adults and in individuals with perceived dental demands [3]. When assessing age, Kramer et al. identified that children up to 5 years of age are more likely to use oral health care services [25]. In a cross-sectional study with secondary data on the 2nd and 3rd cycles of evaluation of the National Program for the Improvement of Access and Quality of Primary Care, it was observed that women aged 24-39 showed a lower chance of accessing oral health services [20]. An important aspect is that the perception of the need for treatment is a determining factor for the individual to seek health care.23 However, for children and adolescents, it is observed that the mother's perception and educational level can interfere and modulate the interest in prevention, factors not discussed in this study [26].

In relation to greater access in those with availability to supplementary health, it seems to be a condition explained by the literature and identified in previous studies [27,28]. Individuals with better socioeconomic conditions are holders of greater possibilities of adhering to a dental plan, as well as the still insufficiency of oral health care in the Brazilian public system, makes this a relevant variable [29]. Dental flossing was also associated with greater access to oral health services. The acquisition of dental floss, a means that enables the construction and maintenance of the habit, can be closely associated with socioeconomic status/family income. This can also be related to socioeconomic status, since the most socioeconomically disadvantaged groups have a higher prevalence of caries [30]. As they more frequently access means of prevention, this group shows less frequent oral demands, but also greater appreciation of maintaining a health condition.

satisfactory mouthpiece [24]. In addition, better oral habits are related to educational level. The health education offered interferes with the perpetuation and adoption of hygiene and eating habits that will enable the maintenance of oral health and the perception of the need for access to services of this kind [10]. In addition, Chiavegatto et al. poor does not necessarily constitute a barrier to accessing health services. Factors such as the availability of an adequate network of health services, educational level and social appreciation of oral health have a great influence on adherence to and access to health services [31]. The results concerning this work, despite the significant sample size, have the limit of self-response by parents and guardians, as well as the impossibility of exploring other social, conjunctural and organizational variables of the health services involved in this process. Thus, comparative studies with population surveys on the prevalence of access to oral health services and associated factors in the school age group are necessary in order to corroborate the results of the present study. The inequity in the distribution and availability not only of public health services but also of means of prevention and promotion of oral health is highlighted. Thus, it is of fundamental importance that they are available not only in cities with a larger population, but also in small and medium-sized ones, in order to control oral disease in this group.

## Conclusion

Most schoolchildren aged 0-19 in Camaçari-Ba have never been to the dentist (51.31%), do not have ongoing dental treatment (96.77%) and do not have a dental plan (94%). The variables "flossing", "having a dental plan" and "being male" were significantly associated with access to the dentist.

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DOI: [10.32474/IPDOAJ.2022.07.000262](https://doi.org/10.32474/IPDOAJ.2022.07.000262)



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