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Determinants of oral self-care in the Brazilian adult population: a national cross-sectional study

Danielle BORDIN[a]
Cristina Berger FADEL[b]
Celso Bilynkievycz dos SANTOS[c]
Cléa Adas Saliba GARBIN[a]
Suzely Adas Saliba MOIMAZ[a]
Nemre Adas SALIBA[a]

[a]Universidade Estadual Paulista "Júlio de Mesquita Filho" – Unesp, Araçatuba School of Dentistry, Department of Pediatric and Social Dentistry, Araçatuba, SP, Brazil.

[b]Universidade Estadual de Ponta Grossa – UEPG, Department of Dentistry, Ponta Grossa, PR, Brazil.

[c]Universidade Tecnoógica Federal do Paraná – UTFPR, Ponta Grossa, PR, Brazil.

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Corresponding Author:
Danielle Bordin
E-mail: daniellebordin@hotmail.com

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Abstract: This study aims to investigate variables related to adherence to oral self-care in the Brazilian adult population. It is an exploratory study, using secondary data from a population-based survey on a representative sample of the adult population of the entire Brazilian territory (n=60202). The sample was selected using a multiple stage approach. The oral self-care indicator was defined by grouping the variables: periodicity of dentist appointments, use of dental floss, toothbrush and toothpaste, frequency of brushing and replacement of the toothbrush. The scores obtained from the indicator were categorized into adequate, partially adequate, and inadequate care. Statistical analysis consisted of dimensionality reduction, and oral self-care-related variables were submitted to logistic regression. The variables mostly related to inadequate or partially adequate oral self-care were: illiteracy (OR = 11.20, OR = 4.81), low educational level (OR = 3.50, OR = 1.96), negative oral health self-concept (OR=3.73, OR=1.74), absence of natural teeth (OR = 4.98, OR=2.60), edentulous lower arch (OR = 3.09; _____), number of missing upper teeth (OR=1.14, OR=1.05), absence of health insurance (OR=2.23, OR=2.07), sedentary lifestyle (OR=2.77, OR=1.51), and smoking (OR=2.18, OR=1.40). It was concluded that the individual's level of education is one of the main factors for adherence to adequate oral self-care, followed by level of oral health self-concept and tooth loss. Likewise, lifestyle also bears a significant influence.

Keywords: Self Care; Oral Health; Knowledge; Health Knowledge, Attitudes, Practice; Cross-Sectional Studies.

Introduction

The World Health Organization (WHO) defines self-care as the ability of individuals, families, and communities to promote quality of life, prevent disease and maintain health, and cope with disease and disability with or without the support of a healthcare practitioner.[1,2] Generally speaking, self-care can be defined simply as the practice of voluntary and intentional activities that individuals perform for their own benefit and for the purpose of preserving life, health, and wellbeing.[3]

Authors advocate that self-care should assume a central role in the field of social and preventive healthcare, since the current objective of

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health interventions is more related to the response given to life processes than to the disease itself.[4,5]

Self-care may be affected by basal factors such as age, sex, education, income, health condition and support network,[6] and by distal factors such as sociocultural orientation, family issues and environment, lifestyle, and adequacy and availability of public resources[6]. In the field of oral health, the recognition and analysis of the process of acquiring individual autonomy is under construction, and studies predominantly show an association between oral self-care and isolated factors.[7,8,9,10,11]

The literature points out that appropriate oral health depends on maintaining certain practices, including periodic dental visits,[12,13,14,15] tooth brushing frequency,[7,10,12,16,17] toothbrush replacement frequency,[17,18] dental flossing, and use of auxiliary techniques,[7,12,17,19] and that all these factors together represent oral self-care. However, the studies usually evaluate oral self-care in a segmented manner, relating it specifically to dental flossing, toothbrushing or regular visits to the dentist.[7,8, 10,16,17] Therefore, the factors that actually infer oral self-care cannot be predicted accurately.

The objective of this study was to investigate multiple variables related to adherence to oral self-care in the Brazilian adult population, using an indicator that encompasses several factors representing oral healthcare. Knowing these variables makes it possible to identify health standards and behaviors, which can influence the development of oral healthcare policies focusing on self-care determinants, and the introduction of supported strategies to strengthen oral self-care.

Methods

This was a cross-sectional, quantitative study carried out with data from the last National Health Survey (PNS), developed in 2013, and financed by the Brazilian Ministry of Health[20], with the approval of the National Human Research Ethics Committee, Resolution # 328.159/2013.

The National Health Survey was conducted by the Brazilian Institute of Geography and Statistics (IBGE), which is the main provider of data and information in the country, and which carefully followed all the statistical and methodological steps recommended for this type of research, in order to obtain concise and representative data on the entire Brazilian territory.[20]

The PNS was developed in households covering the entire Brazilian territory,[20] using a cluster sampling[20] to obtain estimated data of the proportion of people in the different categories of the indicators of interest. The data were collected from 64,348 homes, and interviews with 60,202 adults. Details on the sampling and deliberation process are available in the PNS report.[20]

Calibrated researchers performed the data collection, and the interviews were recorded on handheld computers. After explaining the objectives, procedures, and importance of participating in the research to the interviewees, the accepting participants were identified, that is, the individuals who answered the questionnaire and all the residents of the home, as well as the adults who were selected by drawing, and who answered the individual questionnaire, and also continued on to the other stages of the research.[20]

The survey was composed of three forms: the home form, referring to the characteristics of the home; the home resident form; and the individual form, answered by the residents who were selected by the drawing, and who were aged 18 years or older.[20] In this study, the individual and the home resident forms were used; however, only the answers provided by the interviewed participants were entered in the home resident form.

The forms were presented in thematic modules. Each module composed a set of variables that made it possible to characterize several topics of interest in greater detail.[21]

Processing of data

Variable outcome

The broad oral self-care indicator was considered a variable outcome, and was created by grouping together preexisting variables in the form.[21] The variables were selected to represent the oral self-care indicator as closely as possible, and comprised: the time since the last dental appointment (response pattern: in the last 12 months, over 1 and under 2 years, over 2 years, and never went to the dentist); brushing frequency (response pattern: twice a day or more, once a day, does not brush every day, never brushed); materials used for oral-health (toothbrush,

toothpaste and dental floss - yes and no for the response pattern), and toothbrush replacement frequency (response pattern: less than 3 months, between 3 and 6 months, between 6 months and 1 year, more than once a year, and never replaced).

In this stage in which the variable was created, each variable was dichotomized and evaluated as appropriate oral self-care (score 1), according to the conditions considered acceptable by the literature, namely: dental appointment made at least once a year,[12,16] tooth brushing twice a day or more,[18] use of toothbrush, toothpaste and floss, and replacement of toothbrush within less than 6 months;[22] or inadequate self-care (score 0), considered as consisting of the worst conditions.

In creating the oral self-care indicator, the variables were grouped together according to the sum of the scores obtained. When the sum was equal to 0 or 1, the oral self-care was considered entirely inadequate, 2 to 5 meant partially adequate, and equal to 6 meant entirely adequate (Figure 1).

The accuracy of the indicator was verified by applying a decision tree test, where the indicator was considered a variable outcome, and the training variables as explanatory variables. In so doing, we achieved an explanatory capacity (99.99%) of the variables under the broad indicator of oral self-care, with an error estimate of 0.0087%. In the model created, the variable with the greatest explanatory capacity was use of dental paste, followed by use of dental floss and toothbrush replacement frequency.

Independent variables

The following variables related to the thematic modules were selected: general characteristics of the residents, education, work, health insurance coverage, health services used, lifestyle, health perceptions, chronic diseases, and oral health,[21] totaling 66 variables of interest. After exploring these data, 40 variables were included in the study, all of which were treated according to the pertinent literature. The numerical variables were categorized, and some categorical variables were dichotomized or re-categorized. In the next step, the variables underwent descriptive analysis, as presented in the results section (Tables 1, 2, 3).

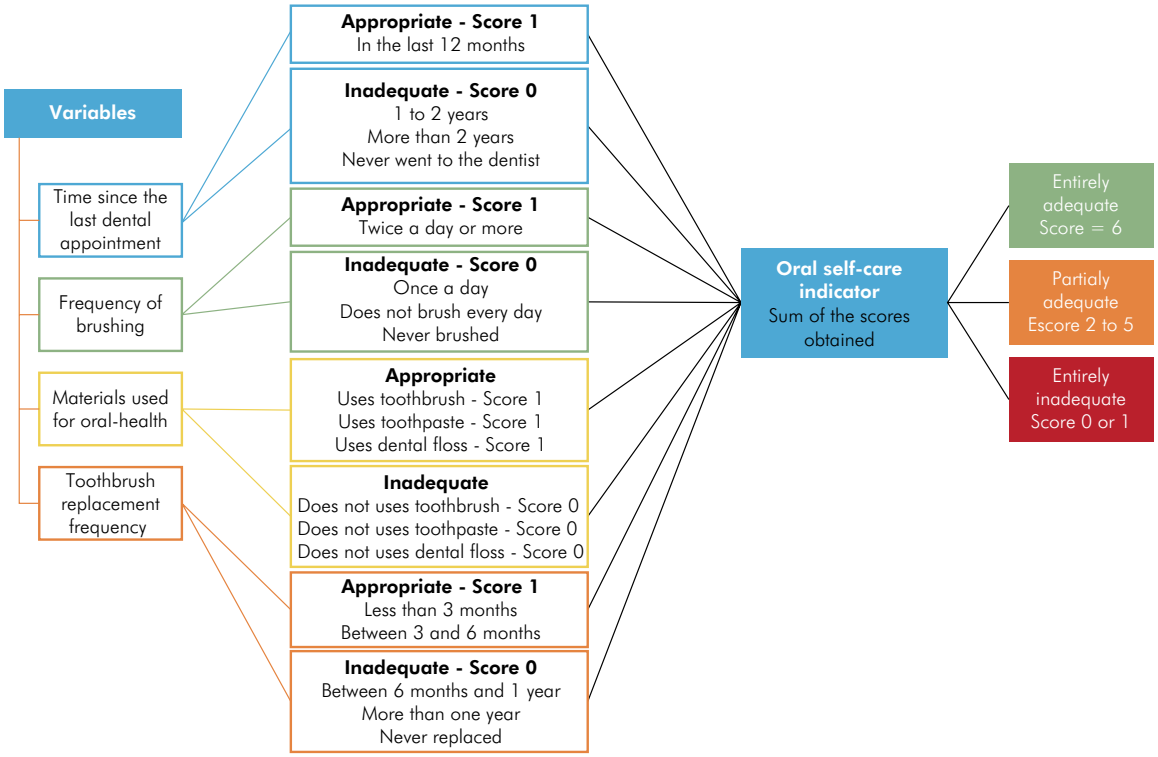

Figure 1. Process of forming the dependent variable of 'oral self-care'.

Table 1. Description of the sample, according to sociodemographic and work characteristics. Brazil. 2013. (n = 60202).

Variables		Total		Entirely inadequate		Partially adequate		Entirely adequate	
Dependent variable	Class	n	%	n	%	n	%	n	%
Oral self-care		60202	100	1392	2	36696	61	22114	37
Independent variables									
Sociodemographic characteristics									
Gender	Male	25920	43	667	48	17232	47	8021	36
	Female	34282	57	725	52	19464	53	14093	64
Age	18≤30	15750	26	16	1	8654	24	7080	32
	31≤40	14139	23	35	3	7666	21	6438	29
	41≤50	11160	19	73	5	6724	18	4363	20
	51≤60	10426	17	244	18	5945	16	4237	19
	> 60	8727	14	1024	74	7707	21	0	0
Ethnicity	White	24106	40	481	35	12913	35	10712	48
	Black	5631	9	159	11	3831	10	1641	7
	Asian	533	1	11	1	287	1	235	1
	Mixed-race	29512	49	735	53	19371	53	9406	43
	Indian	417	1	6	0	292	1	119	1
	Ignored	3	0	0	0	2	0	1	0
Living with spouse or partner	Yes	34522	57	556	40	20992	57	12974	59
	No	25680	43	836	60	15704	43	9140	41
Marital status	Married	23741	39	485	35	13882	38	9374	42
	Separated or Divorced	4727	8	106	8	2759	8	1862	8
	Widow (er)	4708	8	440	32	3413	9	855	4
	Single	27026	45	361	26	16642	45	10023	45
Literacy	Yes	54335	90	710	51	31795	87	21830	99
	No	5867	10	682	49	4901	13	284	1
Level of education	Literacy	7630	13	532	38	6259	17	839	4
	Primary School	15288	25	190	14	11382	31	3716	17
	Secondary School	18589	31	91	7	9927	27	8571	39
	Undergraduate	8109	13	13	1	2805	8	5291	24
	Graduate	487	1	0	0	117	0	370	2
	Not applicable	10099	17	566	41	6206	17	3327	15
Region of residence	North	12536	21	205	15	8266	23	4065	18
	Northeast	18305	30	614	44	12482	34	5209	24
	Southeast	14294	24	352	25	7741	21	6201	28
	South	7548	13	107	8	3973	11	3468	16
	Midwest	7519	12	114	8	4234	12	3171	14
Work characteristics									
Has a paid job	Yes	33990	56	241	17	19043	52	14706	67
	No	26212	44	1151	83	17653	48	7408	33
Occupation	Domestic Work	2784	5	30	2	1885	5	869	4
	Private sector employee	16267	27	67	5	8692	24	7508	34
	Public sector employee	5841	10	13	1	2364	6	3464	16
	Employer	1023	2	1	0	459	1	563	3
	Free-lancer	10092	17	155	11	6878	19	3059	14
	Unpaid worker	435	1	10	1	305	1	120	1
	Not answered	23760	39	1116	80	16113	44	6531	30
Number of jobs	One	34776	58	270	19	19843	54	14663	66
	Two or more	1666	3	6	0	740	2	920	4
	Not applicable	23760	39	1116	80	16113	44	6531	30
Income	≤ 216 dollars	11661	19	166	12	8276	23	3219	15
	216 > 421 dollars	12319	20	62	4	7096	19	5161	23
	420 > 841 dollars	6988	12	30	2	3330	9	3628	16
	> 840 dollars	5027	8	8	1	1566	4	3453	16
	Not applicable	24207	40	1126	81	16428	45	6653	30
Number of hours worked per week	≤ 20 hours	4264	7	63	5	2282	6	1919	9
	20 > 41 hours	16576	28	120	9	8323	23	8133	37
	> 40 hours	15602	26	93	7	8702	24	6807	31
	Not applicable	23760	39	1116	80	17389	47	5255	24
Works at night	Yes	5419	9	22	2	2834	8	2563	12
	No	31023	52	254	18	17749	48	13020	59
	Not applicable	23760	39	1116	80	16113	44	6531	30

Table 2. Description of the sample, according to overall health conditions. Brazil. 2013. (n = 60202).

Independent variable	Class	Total		Entirely inadequate		Partially adequate		Entirely adequate	
		n	%	n	%	n	%	n	%
Oral health condition									
Self-concept of oral health condition	Positive	39572	66	613	44	21712	59	17247	78
	Negative	20630	34	779	56	14984	41	4867	22
Difficulty eating	None	53336	89	984	71	34282	93	18070	82
	Some	6866	11	408	29	2414	7	4044	18
Upper arch dental loss	None	22387	37	30	2	11359	31	10998	50
	Some	26806	45	157	11	16528	45	10121	46
	All teeth missing	11009	18	1205	87	8809	24	995	4
Lower arch dental loss	None	21133	35	42	3	10944	30	10147	46
	Some	32121	53	186	13	20271	55	11664	53
	All teeth missing	6948	12	1164	84	5481	15	303	1
Number of natural teeth present	None	6606	11	1144	82	5226	14	236	1
	> 10	3413	6	100	7	2895	8	418	2
	≤10	50183	83	148	11	28575	78	21460	97
Use of dental prosthesis	No	24431	41	769	55	14731	40	8931	40
	Yes, but needs to replace some teeth	14932	25	129	9	9619	26	5184	23
	Yes, but needs to replace all teeth	5558	9	470	34	4733	13	355	2
	Not answered	15281	25	24	2	7613	21	7644	35
General health condition									
Self-concept of general health condition	Positive	39141	65	492	35	21541	59	17108	77
	Negative	21061	35	900	65	15155	41	5006	23
Limited mobility	Yes	1567	3	222	16	1101	3	244	1
	No	58635	97	1170	84	35595	97	21870	99
Difficulty seeing	Yes	23859	40	557	40	13961	38	9341	42
	No	36343	60	835	60	22735	62	12773	58
Alcohol consumption	Yes	23002	38	1146	82	23410	64	12644	57
	No	37200	62	246	18	13286	36	9470	43
Practice of physical activity	Yes	17896	30	101	7	8432	23	9363	42
	No	42306	70	1291	93	28264	77	12751	58
Tobacco use	Yes	8729	14	344	25	6340	17	2045	9
	No	51473	86	1048	75	30356	83	20069	91
Presence of chronic diseases	Yes	27250	45	470	34	19377	53	7403	33
	No	32952	55	922	66	17319	47	14711	67

Table 3. Description of the sample, according to use of oral health services. Brazil. 2013. (n = 60202).

Independent variable	Class	Total		Entirely inadequate		Partially adequate		Entirely adequate	
		n	%	n	%	n	%	n	%
Use of oral health services									
Reason for last dental appointment	Prevention or checkup	14048	23	21	2	4078	11	9949	45
	Treatment	11144	19	83	6	5018	14	6043	27
	Other reasons	464	1	1	0	188	1	275	1
	Not answered	34546	57	1287	92	27412	75	5847	26
Duration of dental appointment	≤30 minutes	17088	28	81	6	6690	18	10317	47
	30 < 61 minutes	7439	12	22	2	2220	6	5197	24
	> 60 minutes	1129	2	2	0	374	1	753	3
	Not applicable	34546	57	1287	92	27412	75	5847	26
Dental appointment by	Health insurance	4744	8	9	1	1149	3	3586	16
	Private	14042	23	43	3	4444	12	9555	43
	SUS	6451	11	53	4	3405	9	2993	14
	Didn't know/ not answered	34965	58	1287	92	27412	75	6266	28
Evaluation of the service received	Positive	23248	39	91	7	8116	22	15041	68
	Negative	2408	4	14	1	1168	3	1226	6
	Not answered	34546	57	1287	92	27412	75	5847	26
Individual health insurance	Yes	4744	8	5	1	1149	3	3590	16
	No	20912	35	100	7	8135	22	12677	57
	Not answered	34546	57	1287	92	27412	75	5847	26

The variables related to chronic diseases, such as diabetes, hypertension, high cholesterol, stroke, chronic spinal problems, arthritis, work-related osteomuscular disturbances, depression, chronic obstructive pulmonary disease, cancer and chronic renal failure were analyzed with the variable outcome, but presented no associations. Hence, a new variable was created, called the presence of chronic disease (s), which groups all diseases aiming at increasing the representativeness of the presence or absence of some chronic diseases. In the results section, only the variable presence of chronic disease (s) was addressed.

The variable of number of natural teeth in the mouth was also created. In constructing this variable, we considered the totality of natural teeth present in the individual's whole mouth (32), subtracted from the sum of upper and lower missing teeth. Then, the variable was dichotomized according to the parameters of a previous study[23], into more than 10 natural teeth and 10 or fewer natural teeth in the mouth.

After categorizing the results, an unbalance was observed in the classes of the outcome variable. To avoid bias of the results, the classes from the outcome variable were balanced for each independent variable, applying the Resample Weka Filter, using the supervised method.[24]

Data analysis

Once the database was delimited, the first statistical analysis was made, consisting of the dimensionality reduction test, performed using the Correlation-based Feature Selection (CFS) algorithm, according to the cross-validation method of 10-fold in the WEKA environment.[24] This algorithm prioritizes different sets of attributes (independent variables) that are closely related to the outcome variable and little related to each other. Thus, the close relationship of the dependent variables with the independent variables can be verified with much greater precision than with other tests commonly used in the literature, since the researcher wields no influence during the analysis.

Next, the variables related to 'oral self-care' were evaluated by logistic regression, so that the magnitudes of the associations from the odds ratios could be verified, also performed in the WEKA environment.[24] The confidence interval was set at 95%, and statistical significance, at $p>0.05$. The model had an explanatory capacity of 70.4%.

Results

Tables 1, 2 and 3 describe the sample, according to 'oral self-care' and sociodemographic and work characteristics, overall health conditions and use of dental services, respectively.

The majority of the Brazilian population have partially adequate oral self-care (61%), followed by totally adequate (37%). The descriptive data show that the majority of individuals who presented entirely adequate oral self-care are young, white and mixed-race adults, married and single, with good schooling and good work conditions (Table 01). However, they are individuals who have positive conditions and self-perceptions of oral and general health, without experiencing pain and tooth loss, and without diseases and limitations, who practice regular physical activity and do not smoke (Table 02). In addition, individuals with fully satisfactory self-care usually seek more oral health services for prevention or checkup, with quick consultations, have an individual health insurance plan, and evaluate the service received positively (Table 3).

In the results of the attribute selection analysis, the variables most strongly related to oral self-care were literacy, level of education, self-concept of oral health, number of natural teeth, lower arch dental loss, number of missing upper teeth, use of health insurance, physical activity and smoking status. The reasons for the individual presenting inadequate or partially adequate oral self-care, according to the variables listed above, can be observed in Table 4.

Table 4. Reasons for entirely inadequate and partially adequate oral self-care according to independent variables.

Variable	Entirely Inadequate (OR)	Partially Adequate (OR)
Literacy		
Yes	1.00	1.00
No	11.20	4.81
Level of Education		
Literacy	3.50	1.96
Primary School	1.68	1.42
Secondary School	1.36	----
Graduate School	1.00	1.00
Self-concept of oral health condition		
Positive	1.00	1.00
Negative	3.73	1.74
Number of Natural Teeth		
All natural teeth	1.00	1.00
No natural teeth	4.98	2.60
Lower Arch Dental Loss		
No missing teeth	1.00	1.00
All missing teeth	3.09	----
Number of missing upper teeth	1.14*	1.05*
Use of health insurance		
Yes	1.00	1.00
No	2.23	2.07
Practice of Physical Activity		
Yes	1.00	1.00
No	2.77	1.51
Tobacco use		
Yes	1.00	1.00
No	2.18	1.40

*Refers to each missing tooth

Discussion

The present study is the first to address the oral self-care of the Brazilian adult population using a broad approach and data from a national survey, with a representative sample of the entire Brazilian territory. Survey results showed that there is a strong relationship between oral self-care and educational attainment, self-perception of oral health, number of natural teeth, lower arch dental loss, number of missing upper teeth, health insurance coverage, habit of practicing physical activity and tobacco use.

Some of the relevant aspects of this approach are the sample size, the instrument quality, and the information variability, represented by a significant number of validated questions about individual, sociodemographic, behavioral and lifestyle factors, as well objective and subjective factors related to oral health.

In addition, the creation of a variable that represents all the elements considered as characterizing oral self-care by the literature[7,8,10,12,17] is what makes this study so very distinct. As observed in the methodological

description, the grouping of factors shows a high explanatory capacity, and the variable created can be used in other studies and in health planning involving more concrete strategies for self-care.

In contrast to this unprecedented broad indicator, oral self-care was found in the literature only in a segmented manner. Studies have shown that the higher frequency of tooth brushing was more commonly related to the female sex,[7,12,19,16] better economic conditions,[10,19] better educational level,[16] absence of drinking alcohol[10,16] and smoking,[10,16] practicing physical activities regularly,[8,10] and the type of health service used, whether public or private.[7]

One of the variables with greater explanatory capacity of oral self-care characterization was the use of dental floss. In this regard, people of high socioeconomic status reported using dental floss more than people of lower socioeconomic status.[12,19] This finding may be related to the high cost of the product in Brazilian stores, and to the more limited knowledge about flossing among the lower classes[12,19]. Individuals who attend private dental offices also tend to use dental floss more often than those who do not use this type of service,[7] a finding whose explanation lies in the greater probability that an individual receives oral hygiene instructions in the dental office. In addition, an individual with the purchasing power to go to a private dentist can also afford to buy dental floss and use it regularly.[7] Notably, women tend to floss more than men.[11,25]

The type of health service used is considered an important element in the study of health habits, since it is related to treatment and self-care.[7] Regarding the periodicity of visits to the dentist, low socioeconomic status,[7,10,12] low level of education,[13] men,[13] self-perception of oral health,[7,13] bad oral health condition,[13,15] risky behavior,[10] reduced physical activity[10,12] and eating behavior[10,12] were associated with large intervals between dental appointments, represented here by the last time the individual went to the dentist.

In relation to toothbrush replacement, which is another variable with a high explanatory capacity for characterizing the oral self-care variable, no patterns were found for a specific replacement time.[17] Studies with university students have shown that residents in countries with better socioeconomic conditions replace their toothbrush more frequently[26] than in countries with lower conditions.[17] This finding could reflect the influential role played by recommendations from dentists, toothbrush manufacturers, and sellers.[17]

As mentioned above, females were found to take greater care than males in relation to practically all the variables forming the oral self-care indicator. Among the explanations for this finding is that preventive habits are more common among women, mainly due to aesthetic or social patterns.[7,10,12] Although these variables are part of the characterization of the oral self-care indicator, no relation with gender was found in the present study, denoting that oral healthcare, in its broadest sense, is not influenced by gender. In addition, it has been suggested that a change in health patterns is taking place in the men's group, where there is increasing recognition of the importance of healthcare.

Greater recognition of the role of oral health was also observed among individuals with a better socioeconomic status. Although the literature points to socioeconomic status as one of the most important social determinants of oral health,[7,10,12;13,19] based on the purchasing power needed to purchase oral hygiene instruments[12,19] and on regular dental visits,[10,13] this association was not ascertained in the present study. The present study found that the level of education of the individual bears greater influence than purchasing power, inasmuch as educational level may reflect having knowledge about the importance and maintenance of healthy oral habits.

This assumption is reinforced by the results found in the present study. The individual's level of education was the variable most strongly associated with self-care. Illiterate, primary school and secondary school individuals were 11.20, 3.50, and 1.68 times, respectively, more likely to present inadequate oral health than individuals with higher educational levels.

The level of education plays an important role in oral self-care, because it provides greater access to information that supports the understanding of the health disease process, and the importance of using mechanisms to prevent oral problems and of regular dental services.[7,10,13] In addition, education enhances the individual's ability to use such information efficiently, which is the basis for health empowerment.[14]

Bearing this in mind, it is important to invest in actions and services that offer and expand access to information, and in supporting health promoters, focused on improving individual experiences and overcoming health barriers.[14,27,28] The development of personal skills and attitudes needs to be conducive to the acquisition of technical knowledge, which is the guiding axis for pursuing greater oral health equality.[14,27,28,29]

Self-perception of oral health is considered a multidimensional measure that reflects the individual's experience and the oral health condition in functional, social, and cultural terms.[30] As investigated here, self-perception was also considered an important explanatory factor for oral self-care. This finding can be attributed to the fact that individuals with a positive self-perception of oral health are more predisposed to using health services regularly[15,30] and to practicing adequate oral hygiene.[31]

In addition, tooth loss and the number of natural teeth in the mouth were also strongly associated with oral self-care. Individuals with large dental losses presented higher odds of inappropriate health habits.[7,14,32] This situation seems to produce a cascade effect, where the more inadequate the oral care, the greater the chances of tooth loss.[7,14,32] As shown, dental loss triggers a certain carelessness about health, leading to reduced self-esteem and feelings of rejection and isolation, thus interfering with personal relationships and the desire to seek care.[7,31]

Dental loss is considered a marker of health inequalities, since it affects more individuals with a lower educational level and income, who have less access to dental and health promotion services.[31,33,34] In this sense, broad-ranging strategies should be taken to minimize inequality in oral healthcare and offer the population a better quality of life.

Individuals with supplementary healthcare are more likely to have adequate oral self-care. The literature shows that people with dental insurance tend to use dental services more frequently,[35] present better oral health conditions,[36] and use more preventive methods than individuals without health insurance.[7] Therefore, having health insurance may be related to greater access to dental services, and, consequently, to oral health information, resulting in healthier behaviors.

This indicates that strategies for public health services should be reviewed not only to increase access to dental care, but also to put forth health-promoting strategies that allow users to have full and assisted oral healthcare.

In addition, the absence of regular physical activity and the smoking habit increase the chances of the individual presenting inadequate oral care by 2.77 and 2.18, respectively. Studies have shown that a sedentary lifestyle[8,12,16] and tobacco use[12] have been considered indicators of unhealthy habits. It is evident that lifestyle is directly related to oral habits, which must be taken into consideration in developing oral health promotion programs.

The findings of the present study should be used to guide the planning of preventive oral programs, aiming to enhance oral self-care in the Brazilian population. However, in addition to health promotion actions that focus on risk factors and self-care, public policies committed to improving socioeconomic conditions should be developed, especially regarding schooling, guaranteeing access to oral health services and the continuous qualification thereof. These measures are indispensable to bringing about changes in the oral health situation of the Brazilian population.[7]

Limitations

The results of the present study should be interpreted taking into account the type of research design, since cross-sectional studies allow hypotheses only about the associations found and not the cause-and-effect relationship.

In addition, the dependent variable was measured by self-report, a condition that can overestimate the positive results, since individuals may report what they believe to be ideal and not what they actually practice. However, this limitation is likely to occur in any survey in which information is obtained by self-report.[13]

Conclusion

It was concluded that the level of education of the individual is one of the main factors for adherence to adequate oral self-care, followed by certain oral conditions, such as tooth loss. In addition, lifestyle seems to bear a significant influence.

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