

Experiences of health service-related discrimination: Exploratory analysis in two Southern Brazilian State capitals*

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Abstract

Objective: to describe the prevalence of health service-related discrimination, as well as its motivations and associated factors. **Methods:** this is a cross-sectional analysis based on data from two population-based surveys carried out in Porto Alegre-RS with health service users and in Florianópolis-SC with a representative sample of university students, between 2010-2012. **Results:** the prevalence of health service-related discrimination was 13.6% (95%CI: 10.5;17.2) in Porto Alegre and 7.4% (95%CI: 5.8;9.1) in Florianópolis; the main reason for being discriminated against was being of low socioeconomic status; in both state capitals the highest prevalence of discrimination was observed among smokers, self-classified Black people, and individuals aged between 31 and 40. **Conclusion:** the results show a relatively low prevalence of discrimination; the study reinforces the need to investigate discrimination in health services in order to provide adequate care to the population.

Key words: Social Discrimination; Health Services; Unified Health System; Social Inequity; Cross-Sectional Studies.

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Introduction

Considered as real manifestation of prejudice,¹ the most common forms of discrimination correspond to unfair and unfavorable² treatments addressed to specific individuals or social groups, and which impacts are expressed in different dimensions of life, such as health, especially in the care provided to health services users. The means by which discrimination can be expressed in the context of health care range from delays, negligence or treatment refusal, to harassment,³ as well as provision of different or less conservative treatment options, depending on the patient.⁴

Discriminatory practices may be based on characteristics such as ethnical identification, sex, age, physical appearance, social class and others, socially attributed or acquired. These multiple types of discrimination can be frequently found in the individuals' reports and can be simultaneously associated, according to the context, the place and the historical period studied.⁵ The recognition and the study of the multiple forms of discrimination implies the adoption of a broader perspective, which takes into account multiple background factors and the complexity of discrimination, considering, in a more specific way, its effects on the population.⁶

The most common forms of discrimination correspond to unfair and unfavorable treatments addressed to specific individuals or social groups, and which impacts are expressed in different dimensions of life, such as health.

Strong and consistent associations between discriminatory experiences (mostly racially motivated) and adverse health conditions have been demonstrated in the literature, including worse mental health conditions,⁷⁻¹⁰ systemic arterial hypertension,^{8,9} use/abuse of alcohol and tobacco,⁹ on the other hand, there are still few studies that deal, more broadly, with the discriminatory phenomenon in the context of health services. Particularly in Brazil, a prior study, carried out on a national scale, when evaluating users satisfaction with the public health care system, pointed out that approximately 10.0% of them felt victims of some type of discrimination perpetrated by health professionals, especially motivated by sex, age and social class.¹¹

Despite these results, other research contexts must also be analyzed so that their particularities can be highlighted and, thus, provide improved consistency to what is documented in the country as a whole. The present study objective was to describe the prevalence of health service-related discrimination, its motivations and associated factors.

Methods

This is a cross-sectional analysis, carried out based on data from two epidemiological distinct population-based surveys. Individuals living in areas covered by the public primary health care services of Porto Alegre, Rio Grande do Sul State (RS), who had used this health service in the 24 months prior to the survey (the questionnaire, however, was not limited to the prior 24 months) were part of the first sample. The second sample comprised university students, regularly enrolled at the Federal University of Santa Catarina (UFSC), *Campus* João David Ferreira Lima, in Florianópolis, Santa Catarina State (SC). Data from both populations were collected between 2010 and 2012. The comparison between these two distinct groups is faced in this study as a positive aspect, because different contexts in the studied phenomenon can be assessed.

In Porto Alegre-RS (Sample 1), the sample was originated from a study whose primary objective was to evaluate the differences in the attributes of the primary health care provided by different types of services. Fifteen (15) Primary Health Care units were selected, from which six units belong to the Conceição Hospital Group Community Health Services (GHC), five are common basic health units (UBS) and four, Family Health Units (USF). The inclusion criteria for the units in the study were as follows: to have an Oral Health team with a dental surgeon and a dental health care assistant or technician; and to have a dental surgeon working in the unit for at least two years.

In the coverage area of each unit, census tracts were randomly selected. In each one of these census tracts, the first 40 households (or enough number to complete the minimum sample of 30 interviews) were randomly selected. In each census tract, the blocks of houses were randomly numbered and the field coordinator went to the corner of the first block, walking on the left until he or she identified the first house. At that moment, he or she would throw a coin and decided whether that house (heads) or the second house of the sequence

(tails) would be chosen. From there on, they would follow skipping a house in order to address the odd (heads) or the even (tails) houses until completing the minimum sample. In each household a public health service user who met the following inclusion criteria was interviewed: being between 18 and 59 years old; and having used the health unit for examination or dental treatment in the prior 24 months. In the households with more than one eligible adult, only one was included, by random selection. The selected users were interviewed by previously trained field workers, using structured questionnaires. The eligibility was determined by applying an initial questionnaire with questions about the household residents, including name and age of all the residents, relationship between them, full address and telephone number.

For not having, initially, data that allowed performing the sample calculation, 30 interviews were conducted in each unit. The information gathered from these interviews was the base for the sample size calculus used in the study, estimating the average values of the Primary Care Assessment Tool scale for the three health unit models under study: GHC, UBS and USF. The data collected in the pilot study were also included in the final sample. The database of the Porto Alegre-RS population was built by scanning the questionnaires, using the software Teleform. Thereafter, the data were submitted to an editing process to correct inconsistencies and possible reading problems from both the program and the scanner device.

In Florianópolis-SC (Sample 2), participants were selected within a population of 19,963 students, regularly enrolled in the first semester of 2012 at the Federal University of Santa Catarina, Campus João David Ferreira Lima, considering information on the association between discriminatory experiences and self-assessment of general health. The sampling procedure was complex, two-staged, and the sample size calculation used data (prevalence of self-reported health 'very bad / bad / regular' between discriminated and not discriminated) of a similar population. In the first stage, which determined the primary sampling units, undergraduate courses were selected, proportionally to their size. Then, the students were selected according to previously defined categories, which were: first phase students; enrolled in the semester; and last phase students. Undergraduate students enrolled in 12 of the 70 undergraduate courses selected in the sampling process were considered eligible for the study.

A pre-test with 17 students outside the study target population was conducted, followed by a pilot study with 43 undergraduate students, that subsidized the development of an instruction booklet in order to standardize the fieldwork. The self-administered questionnaires were applied in classrooms; the data were typed twice, with subsequent review to verify possible failures in filling, including automatic checks for consistency and amplitude by the program EpiData Entry version 3.1.

The sociodemographic characteristics were raised from questions on:

a) Skin color/Ethnicity

Through self-classification of skin color: dark (for Porto Alegre-RS study) / black (for Florianópolis-SC study); white; brown; yellow or indigenous (indigenous and yellow were included in a single category, for analysis purposes).

b) Age

In complete years, later categorized as 17-30, 31-40 and over 40 years old.

c) Sex - male and female.

d) Brazilian Economic Classification Criteria (CCEB)

It is defined based on the goods in the household and the educational level of the householder. The social classes defined by the CCEB are A1, A2, B1, B2, C, D and E. The closer to A1, the higher is the household purchasing power.

e) Tobacco

In Porto Alegre-RS, the question was: '*Do you currently smoke cigarettes or used to smoke?*', with the answer options 'yes, I currently smoke', 'I quit smoking' and 'No, I have never smoked'. In Florianópolis-SC, the question was '*Are you a smoker? It is considered a smoker the individual who smoke more than one cigarette a day for at least a month.*', with the answer options 'smoker', 'occasional smoker', 'never tried' and 'former smoker'.

To evaluate the health service-related discrimination experiences, three questions were applied. They were taken from an instrument to investigate the effects of discriminatory experiences on health conditions and behaviors.¹²

The first question was '*When attending health units, hospitals, emergency rooms and other health services, have you been treated differently compared to the others present there?*', with the following answer options:

i) 'I do not know';

ii) 'No, this has never happened to me';

- iii) 'Yes, a few times';
- iv) 'Yes, sometimes'; and
- v) 'Yes, many times.'

The first two answer options - i and ii - were considered as 'no', and the last three options - iii, iv and v -, as 'yes'.

The second question was '*When such thing happened, which may have been the reasons for you to have been treated that way?*', with the following answer options:

- i) 'I do not know';
- ii) 'Social or economic condition';
- iii) 'Skin color or ethnicity';
- iv) 'Physical disability';
- v) 'Disease';
- vi) 'My clothes';
- vii) 'Age';
- viii) 'Place of residence';
- ix) 'My sexual orientation';
- x) 'For being man or woman';
- xi) 'Political orientation';
- xii) 'Religion or faith';
- xiii) 'For being fat or thin';
- xiv) 'Accent or way of speaking'; and
- xv) 'Other reason'.

The third question was '*On those occasions, have you felt discriminated?*', with the answer options being 'no' and 'yes'.

The individuals who reported different treatment in healthcare services and interpreted the situation as discriminatory, according to the corresponding items of the instrument were considered discriminated.

This study considered as 'non respondents' those who refused to participate in the study in both capitals or who were not regularly enrolled in the educational institution during the fieldwork period in Florianópolis-SC.

The first step of statistical analysis included the investigated samples analysis, according to their socio-economic and demographic characteristics. After that, we evaluated the association between the health service related-discrimination report and socioeconomic and demographic variables, using the chi-square test for heterogeneity in case of categorical variables or for linear trend in cases of ordinal variables (considering samples the complex outline, as well as the sample weights, in Florianópolis-SC case); or using the Fisher's exact test, when chi-square assumptions were violated (small sample). The global frequencies of discrimination

were also estimated by calculating their 95% confidence intervals based on binomial distribution. At last, the most frequent motivations reported for the health services-related discrimination were described, according to the same sociodemographic characteristics of participants in both studies. All analyses were carried out in Stata 11.2, considering values of two-tailed probability below 5% as statistically significant.

Both projects were approved by the respective ethics committees in research, under the numbers 10-120 (Ethics Committee in Research of Hospital Group Conceição) and 459,965 (Ethics Committee in Research of the Federal University of Santa Catarina).

Results

A total of 1,943 individuals were contacted for interviews in Porto Alegre-RS; from which, 81 declined and 1,445 did not meet the inclusion criteria (mainly for not having consulted with the dentist of the analyzed services), ending up with 428 individuals who lived in the areas covered by the public primary health care services of Porto Alegre-RS. In Florianópolis-SC, 1,023 undergraduate students were interviewed (Table 1). The response rate in Porto Alegre-RS was 84.0%, and 81.0% in Florianópolis-SC.

Among the participants of the Porto Alegre-RS sample, most of them were women (79.0%), older than 51 years old (49.5%), self-declared white (58.9%), from the categories B2 to C2 according to the CCEB (85.4%), and who have never smoked (52.8%). The Florianópolis-SC sample consists, in its majority, of men (54.1%), aged between 21 and 30 years old (62.3%), self-declared white (81.1%), from the categories A2 to B2 according to the CCEB (77.3%), and who have never smoked (55.1%).

From the 428 individuals interviewed in Porto Alegre-RS, 13.6% (95%CI: 10.5;17.2) reported having been discriminated in health services, while among the university students, this proportion was lower, 7.4% (95%CI: 5.8;9.1) (tables 2 and 3). In Porto Alegre-RS, the categories with more reported discrimination were: individuals aged 31-40 years old (22.7%); with skin color/ethnicity black/dark (13.8%); men (16.5%); from the economic categories A1 to B2 according to the CCEB (16.0%); and smokers (17.6%). In Florianópolis-SC, the highest frequencies were: individuals aged 31-40 years old (17.5%); with skin color/ethnicity black/dark (20.0%); women (8.6%); from category C1 of the CCEB (13.9%); and smokers (16.1%).

Table 1 - Sociodemographic and behavioral characteristics of the samples with health care services users in the city of Porto Alegre-RS and with university students in Florianópolis-SC, 2010 to 2012

Characteristics	Porto Alegre-RS (2010-2012)		Florianópolis-SC (2012)		
	%	n	%	N	
Sex	Male	19.9	85	54.1	552
	Female	79.1	338	44.6	455
Age (years old)	17-20	3.5	15	30.1	307
	21-30	14.3	61	62.3	635
	31-40	15.4	66	3.9	40
	41-50	17.3	74	1.0	10
	51-60	20.8	89	0.4	4
	>60	28.7	123	2.4	24
Skin color/Ethnicity	Black/Dark	18.7	80	9.9	101
	Brown	15.7	67	4.9	50
	White	58.9	252	81.1	827
	Yellow/Indigenous	3.5	15	2.3	23
Brazilian Economic Classification Criteria - CCEB	A1	–	–	2.8	29
	A2	1.2	5	21.0	214
	B1	5.4	23	29.0	296
	B2	21.3	91	27.3	278
	C1	39.3	168	12.2	124
	C2	24.8	106	5.4	55
	D	7.7	33	1.3	13
Currently Smoker	Yes	25.2	108	6.1	62
	I quit	21.7	93	38.1	389
	I have never smoked	52.8	226	55.1	562
Total	100.0	428	100.0	1,023	

Note: due to some missing data, not all co-variables add up 100%.

Table 2 - Sample description of health service users and their reports on health service-related discrimination in the city of Porto Alegre, Rio Grande do Sul State, 2010 to 2012

Characteristics		Discriminated in health services				p-value ^a
		Yes		No		
		%	n	%	n	
Sex	Male	16.5	14	83.5	71	0.37
	Female	12.7	43	87.3	295	
Age (years old)	17-30	17.1	13	82.9	63	0.04
	31-40	22.7	15	77.3	51	
	>40	10.5	30	89.5	256	
Skin color/ethnicity	Black/Dark	13.8	11	86.3	69	0.88
	Brown	11.9	8	88.1	59	
	White	13.5	34	86.5	218	
	Yellow/Indigenous	6.7	3	93.3	12	
Brazilian Economic Classification Criteria -CCEB	A1-B2	16.0	19	84.0	100	0.37
	C1	13.1	22	86.9	146	
	C2-E	12.1	17	87.9	124	
Currently Smoker	Yes	17.6	19	82.4	89	0.33
	I quit	10.8	10	89.3	83	
	I have never smoked	12.8	29	87.2	197	
Total		13.6	58	86.5	370	

^a Chi-square test for heterogeneity and for linear trend (in ordinal variables)

Note: due to some missing data, not all co-variables add up 100%.

Table 3 - Sample description of university students and their reports on health service-related discrimination in the city of Florianópolis, Santa Catarina State, 2012

Characteristic		Discriminated in health services				p-value ^a
		Yes		No		
		%	n	%	n	
Sex	Male	6.2	34	93.84	518	0.14
	Female	8.6	39	91.43	416	
Age (years old)	17-30	6.6	62	93.4	880	0.01
	31-40	17.5	7	82.5	33	
	>40	15.8	6	84.2	32	
Skin color/Ethnicity	Black/Dark	20.0	10	80.0	40	0.01
	Brown	6.9	7	93.1	94	
	White	6.5	54	93.5	773	
	Yellow/Indigenous	4.4	1	95.7	22	
Brazilian Economic Classification Criteria - CCEB	A1-B2	6.0	49	94.0	768	0.01
	C1	13.9	11	86.1	68	
	C2-E	12.1	15	87.9	109	
Currently Smoker	Yes	16.1	10	83.87	52	0.02
	I quit	7.2	28	92.8	361	
	I have never smoked	6.6	37	93.42	525	
Total		7.4	75	92.7	945	

a) Chi-square test for heterogeneity and for linear trend (in ordinal variables)
 Note: due to some missing data, not all co-variables sum up 100%.

In Porto Alegre-RS, a statistically significant difference regarding age ($p = 0.04$) was noted, showing that individuals between 31-40 years old reported more discrimination. In Florianópolis-SC, on the other hand, the significant results in terms of difference in treatment noticed by respondents were also regarding age ($p = 0.01$), in addition to skin color/ethnicity ($p = 0.01$), economic classification ($p = 0.01$) and tobacco use ($p = 0.02$).

Among the reported motivations, the discrimination for social reason was the most cited, both in Porto Alegre-RS (34.5%, or 20 of 58 cases) and in Florianópolis-SC (26.7%, or 20 of 75 cases). In both samples, only the skin color/ethnicity variable was statistically associated with the type of discrimination reported (tables 4 and 5). In Porto Alegre-RS, no individuals with white or indigenous skin color reported discrimination for racial reason, while 36.0% (4 of 11 cases) of the individuals with black skin reported discrimination for this reason ($p=0,03$). In Florianópolis-SC, 30.0% (3 of 10 cases) of the individuals with black skin reported discrimination for racial reason, whilst individuals with white, brown or indigenous skin color did not report this ($p=0,02$). Socioeconomic position was not associated with the discrimination for social motivation in any of the two capitals ($p>0,05$). The young age was associated with

the discrimination for age ($p=0,03$) in the university students sample: 19.3% (12 of 62 cases) reported discrimination for this reason, while older ages did not report having suffered such discrimination.

Discussion

Prevalence of health service-related discrimination among the surveyed individuals was 13.6% in Porto Alegre-RS and 7.4% in Florianópolis-SC. These results are similar to outcomes found in a national study on discriminatory experiences in health services, with a 9% prevalence (11% among the National Health System - SUS - users),¹¹ and in studies conducted in the cities of Belo Horizonte, Minas Gerais State (MG)¹³ (2.3%) and São Paulo, São Paulo State (SP) (12.0%).¹⁴ A study carried out in an adult population of Rio de Janeiro State showed a global prevalence of discrimination of 34.7%;¹⁵ however, a population of university students reported a rate of approximately 77.6%.¹⁰ Some of these differences can be explained by the fact that each study used instruments with a distinct number of items to evaluate discrimination; moreover, there are regional differences between the states, in terms of sampling, as well as differences in the time frame measurement of discrimination (discrimination in the past year *versus*

Table 4 - Description of the reasons informed by the individuals who reported discrimination (12 individuals claimed more than one reason) in the city of Porto Alegre, Rio Grande do Sul State, 2010 to 2012

Characteristics		I do not know/ others	Social	Ethnicity	Age	Total	p-value (accurate test of Fisher)
		n	n	n	n	n	
Sex	Male	6	3	3	2	14	0.30
	Female	20	17	2	4	43	
Age (years old)	17-30	7	4	1	1	13	0.22
	31-40	5	6	4	–	15	
	>40	14	10	1	5	30	
Skin color/Ethnicity	Black/Dark	5	2	4	–	11	0.03
	Brown	4	3	1	–	8	
	White	15	13	–	6	34	
	Yellow/Indigenous	–	1	–	–	1	
Brazilian Economic Classification Criteria - CCEB	A1-B2	10	3	3	3	19	0.53
	C1	9	9	2	2	22	
	C2-E	7	8	1	1	17	
Currently Smoker	Yes	9	8	1	1	19	0.55
	I quit	6	4	–	–	10	
	I have never smoked	11	8	5	5	29	
Total		26	20	6	6	58	

Note: due to some missing data, not all co-variables add up 58 cases.

Table 5 - Description of the reasons informed by the individuals who reported discrimination (41 individuals claimed more than one reason) in the city of Florianópolis, Santa Catarina state, 2012

Characteristics		I do not know/ others	Social	Ethnicity	Age	Total	p-value (accurate test of Fisher)
		n	n	n	n	n	
Sex	Male	15	13	2	4	34	0.17
	Female	23	7	1	8	39	
Age (years old)	17-30	33	16	1	12	62	0.03
	31-40	2	4	1	–	7	
	>40	5	–	1	–	6	
Skin color/Ethnicity	Black/Dark	2	3	3	2	10	0.02
	Brown	4	2	–	1	7	
	White	31	14	–	9	54	
	Yellow/Indigenous	–	1	–	–	1	
Brazilian Economic Classification Criteria - CCEB	A1-B2	22	16	2	9	49	0.18
	C1	9	4	–	2	15	
	C2-E	9	–	1	1	11	
Currently Smoker	Yes	7	3	–	–	10	0.53
	I quit	17	5	1	5	28	
	I have never smoked	16	12	2	7	37	
Total		40	20	3	12	75	

Note: due to some missing data, not all co-variables add up 75 cases.

discrimination throughout life, for example) which may reduce the comparability between these frequencies.

The prevalence of reported discrimination on health services was not statistically associated with any variable in Porto Alegre-RS sample. However, in Florianópolis-SC, individuals aged over 30 years, economically poorer, with black skin color and smokers reported higher

prevalence of discrimination in health services. Similar results to Porto Alegre-RS were observed in Belo Horizonte-MG.¹⁵ It can be inferred that the absence of such association is explained by the fact that the Porto Alegre-RS sample is composed by users of the public health system,¹³ – possibly they are users exactly for not suffering or noticing discrimination experiences in

this area. Internationally, there are few reports on the prevalence of health services-related discrimination. In New Zealand, for example, it was found that the experience of racial discrimination committed by a health professional and noticed by the users varied from 1.2% to 7.1% among the different studied groups. The results of the New Zealander study pointed out that this discrimination can lead to underutilization of health services, besides altering the way medical advice is interpreted and practiced by users.¹⁶

With regard to discrimination reasons reported in the context of the investigated samples, although individuals claim to have lived discriminatory experience, a significant number of respondents (44.9% in Porto Alegre-RS and 53.3% in Florianópolis-SC) was unable to inform the reason for such discrimination and did not point out another reason for the fact. The identification of this reason would be important, as it would characterize if the experience was unfair and discriminatory or not.¹⁷

Thus, among the main results presented, the fact that in both capitals, most of the individuals were not able to identify the discrimination reason, corroborating with the previous study conducted in Rio de Janeiro,¹⁰ deserves attention. In the present study, the most reported reason for health services-related discrimination was the socioeconomic position (20 individuals in Porto Alegre-RS and 20 in Florianópolis-SC).¹¹ The highest prevalence of discrimination reports was observed among individuals with black/dark skin color, smokers and aged 31 to 40 years old.

When verifying the frequency of each discrimination reason, according to the specific sample groups, the fact that the individuals who self-declared as black/dark or brown identify discrimination in health services as being racially motivated is noteworthy. Another national study also found this association.¹⁸ Despite this, Brazilian studies (the study of Minas Gerais State¹³ and another study, representative of the whole country population¹⁹) did not find discrimination for racism in health services. The skin color, in Brazil as in other countries, is also related to the social class, educational level, income and geographic location,^{20,21} making it necessary to examine how these inequality axes act simultaneously, in the manifestation of the discriminatory phenomenon.

With regards to smoking, it must be considered that current smokers face discrimination of those who do not smoke, possibly resulting in a feeling of

exclusion motivated by the fact of being a smoker.²² The unfair treatment motivated by age is a discrimination form that is usually related to the younger or older age groups.²³ Other motivations reported in the discriminatory experiences also call the attention. The highest frequency among people in a higher socioeconomic position in Porto Alegre-RS suggests that this position can also constitute an important aspect for the established forms of treatment in health units. All these results reinforce the need to investigate other types of discrimination within the health services, and not just the types classically explored from the socio-anthropological point of view, such as the social class, ethnicity and sex discrimination.²⁴

The studied populations present different characteristics: the profile of the residents in the areas covered by the public health services of Porto Alegre-RS differs from the profile of the undergraduate students of the Federal University of Santa Catarina, in Florianópolis-SC. This difference made a broader evaluation of the phenomenon possible, comparing the results observed between the two groups.

Nevertheless, some limitations to the development of this study must be highlighted. The fact that both samples refer to specific social groups makes it difficult to extrapolate the results to the general population of both cities. Both groups are socially and internally homogeneous, which can reduce the magnitude of the associations, influencing the statistical significance of the results for each group.

Another aspect to consider refers to the discrimination reported, that is representative of the experience lived by the individuals, possible to be affected by minimization or surveillance biases.¹³ Thus, some discrimination cases may have been amplified or diminished, further or below of its real existence.²⁵

Among the users of Porto Alegre-RS public health services, those who used these services in the prior two years were selected, probably, presenting a lower estimate of discrimination by health services. The non-participants individuals, if they had been discriminated with significant intensity and frequency, would possibly not use the services in the considered period and, therefore, they would not be included in the research.

We expect that the results presented here can subsidize researchers, managers and professionals in the elaboration and implementation of public policies that aim at improving the care provided by health services,

seeking to mitigate social inequalities, reflected in them, and resulting injustices. We suggest that discussions on health service-related discrimination, even if they occur inside or outside the National Health System context, to be conducted by the approach of the multiple forms and different reasons - possibly combined or simultaneously experienced - of the discrimination that SUS users are victims.

Authors' Contributions

Baumgarten A contributed to the drafting of the manuscript, data analysis and interpretation and literature review.

Peron TB contributed to the data collection (Porto Alegre-RS) and drafting of the manuscript.

Bastos JL contributed to the design of the study and the data collection (Florianópolis-SC), interpretation of the results and drafting of the manuscript.

Toassi RFC contributed to the data analysis and interpretation, literature review and drafting of the manuscript.

Hilgert JB and Hugo FN contributed to the design of the study and data collection (Florianópolis-SC), interpretation of the results and drafting of the manuscript.

Celeste RK contributed to the design of the study (Porto Alegre-RS and Florianópolis-SC) and data collection, analysis and interpretation, literature review and drafting of the manuscript.

All the authors approved the manuscript final version and declared to be responsible for all the aspects of the work, assuring its accuracy and integrity.

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