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ARTICLE

Factors associated with perceived discrimination in health services of Brazil: Results of the Brazilian National Health Survey, 2013

Cristiano Siqueira Boccolini [1]
Patricia de Moraes Mello Boccolini [1]
Giseli Nogueira Damacena [1]
Arthur Pate de Souza Ferreira [1]
Célia Landmann Szwarcwald [1]

Abstract *The objective of this study was to evaluate factors associated with perceived discrimination in the health services of Brazil. It is a population-based epidemiological study using data from the 2013 National Health Survey, which had a complex sample design in three phases. For each domicile sampled, one individual aged 18 or over was selected (resulting in n = 62,202). The outcome analyzed was: Perception of discrimination by doctors or health professionals, suffered in the health services. A logistic regression model was estimated, adjusted for confounding factors. Discrimination was reported by 10.5% of the Brazilian population. The factors most frequently indicated were: lack of money (5.7%); and social class (5.6%). The adjusted model showed that the groups with the highest chance of feeling discriminated against were: women; individuals without complete primary education; non-whites; and those without a health insurance plan. The fact that one-tenth of the Brazilian population reported feeling discriminated against in the health services shows the need for regulation and wide debate in relation to the Brazilian laws that guarantee universal and equal access to the public and private health services.*

Key words *Social discrimination, Health services, Health inequalities, Epidemiology*

[1] Instituto de Comunicação e Informação Científica e Tecnológica em Saúde, Fundação Oswaldo Cruz. Av. Brasil 4365, Manguinhos. 21045-900 Rio de Janeiro RJ Brasil. cristiano.boccolini@icict.fiocruz.br

Introduction

Brazil's Unified Health System (*Sistema Único de Saúde* – SUS) is based on the principles of universality, equity and full coverage of healthcare[1]. Equity is related to the organization of the health systems, aiming to reduce barriers of access for the population in its totality[2]. In 2007 the 'Health Users' Rights Charter' (*Carta dos Direitos dos Usuários da Saúde*) was published, guaranteeing, among other things, healthcare free of discrimination to every Brazilian citizen[3].

However, a population-based Brazilian study made in 2003 identified that situations of discrimination in care provided by health services took place, principally due to lack of money (8.7%) and social class (7.8%), as well as cases being reported of discrimination by gender (1.4%), age (1.8%), skin color (1.2%) and type of illness (1.7%). The prevalence of discrimination was higher in patients of the SUS than in patients that are not users of the SUS[4].

The perception of discrimination can be considered to be a problem of public health, since it has been associated with negative effects on the population's mental and physical health, since it can cause psychological and physiological stress, as well as inappropriate health behaviors[5]. Discrimination can also lead to inappropriate care for certain groups of the population[6], and low obedience to the recommendations of the health professional[7].

Finally, discriminatory practices, in general, can vary according to individual characteristics, such as race, gender, age and social class[8]. In spite of the consistent association between discriminatory experiences and health outcomes[5], studies on discrimination taking place in the health services have been scarce[4], and it is important to identify which groups of the population are most exposed to these practices. The objective of this study was to describe the main types of discrimination in the health services by doctors or other health professionals, and to identify associated factors.

Methods

Study design and sampling

This is a cross-sectional study using data from the 2013 Brazilian National Health Survey (*Pesquisa Nacional de Saúde* – PNS), a survey representative of the Brazilian population. Cluster sampling was adopted, in three stages: The primary unit was by sectors of the census; the secondary unit was the household; the third unit was random choice of a resident over the age of 18, from each household, who responded to the individual part of the questionnaire applied by the PNS. Households and residents were selected by simple random sampling. The minimum size decided for the sample was 1,800 households per Brazilian state. Initially, 81,167 households were selected. Of these, 64,348 households were interviewed, and 60,202 responded to the individual questionnaire (the rate of non-responses was 8.1%). The interviews were carried out over the period August 2013 to February 2014. Other details on the process of sampling and weighting are available in prior publication[9].

Outcome and associated variables

Discrimination by doctors or health professionals in the health services was tested by 10 sequential questions, in which the interviewee responded to the question: "Have you ever felt discriminated against, or given less good treatment than others, in the health service, by any doctor or health professional?" The reasons were then asked for, among the following: "Lack of money; social class; race/color; type of occupation; type of illness; sexual preference; religion/belief; gender; age; or for another reason?"

Statistical analysis

Initially a description of the prevalence of each item of self-related discrimination was carried out, with confidence interval 95%. Then a table of correlation was constructed between all the 10 items that were the subject of the questions on discrimination, using the Spearman correlation and a significance level of 5%.

Then the types of discrimination "lack of money" and "social class" were grouped, obtaining a binary response: "Did not suffer discrimination" and "Suffered discrimination for lack of money and/or social class". This grouping was carried out because as well as being the most frequent types of discrimination related in the study (each having prevalence above 5%), they had a strong correlation ($\rho = 0.709$, $p < 0.001$).

After this stage, the prevalence of self-related discrimination for lack of money, social class and both was estimated by the following categories as variables: region of residence, gender, level of schooling (no schooling or primary incomplete;

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primary complete and secondary incomplete; and secondary complete or higher); by age (in 10-year age groups); by race/color (divided into white and non-white); and by use of a health plan (did or did not have a health plan).

Adopting "discrimination for lack of money and/or social class" as outcome, and "did not suffer discrimination" as the reference category, the odds ratio (OR) of each variable was estimated, with 95% confidence interval. Finally, a logistic regression model was used, with 95% confidence interval, having the same reference category of outcome (did not suffer discrimination for lack of money and/or social class), and adjusting for region of residence, gender, level of schooling, age, race/color and use of a health plan.

The National Health Survey was approved by the National Research Ethics Committee, and obeyed National Health Council Resolution 466/12, guaranteeing to the subjects that their participation was voluntary and anonymous, and that they could desist from the survey at any moment, this guarantee being given through the Informed Consent Form.

Results

Approximately one in every 10 of those interviewed reported having felt discriminated against in the health services by some doctor or other health professional. The most frequently reported event was discrimination for lack of money, or due to social class; and the least frequently reported were discrimination by gender or sexual preference (Table 1). There was statistical correlation between all the variables, but discrimination perceived for lack of money and due to social class had a strong correlation (Table 2).

Considering the region of residence, a higher, and statistically significant, level of perceived discrimination due to lack of money and/or social class was observed in the Northern and Center-West regions, and the lowest level in the Southeastern Region. For the other social-demographic characteristics a higher, and statistically significant, level of discrimination was observed

Table 1. Levels of self-reported discrimination, or inferior treatment to others, by type, in health services, by a doctor or health professional. Brazilian National Health Survey, 2013. Brazilian National Health Survey, 2013.

Type of discrimination	Estimate (%)	Confidence interval 95%[a]
Lack of money	5.7	5.4 - 6.1
Social class	5.6	5.2 - 5.9
Type of occupation	1.6	1.5 - 1.8
Type of illness	1.6	1.4 - 1.8
Race/color	1.4	1.3 - 1.6
Age	1.3	1.1 - 1.4
Religious belief	0.9	0.7 - 1.0
Gender	0.4	0.3 - 0.5
Sexual preference	0.2	0.1 - 0.2
Any type of discrimination[b]	10.6	10.1 - 11.1

[a] Prevalence and 95% confidence interval taking into account the complex design of the sample; b - Report of one or more types of discrimination, or treatment worse than that given by other people in the health service, by any doctor or health professional.

Table 2. Correlation between types of self-reported discrimination, or inferior treatment to others, in health services, by a doctor or health professional. Brazilian National Health Survey, 2013.

Type of discrimination	Lack of money	Social class	Race/ color	Type of occupation	Type of illness	Sexual preference	Religious belief	Gender	Age	Other reason
Lack of money	1.000	0.709	0.310	0.362	0.218	0.080	0.175	0.134	0.213	0.029
Social class	-	1.000	0.367	0.404	0.236	0.090	0.172	0.133	0.225	0.049
Race/color	-	-	1.000	0.325	0.187	0.129	0.178	0.179	0.188	0.015
Type of occupation	-	-	-	1.000	0.231	0.151	0.211	0.187	0.210	0.031
Type of illness	-	-	-	-	1.000	0.138	0.138	0.131	0.197	0.044
Sexual preference	-	-	-	-	-	1.000	0.191	0.352	0.132	0.016
Religious belief	-	-	-	-	-	-	1.000	0.208	0.189	0.017
Gender	-	-	-	-	-	-	-	1.000	0.257	0.025
Age	-	-	-	-	-	-	-	-	1.000	0.038
Other reason	-	-	-	-	-	-	-	-	-	1.000

[a] Spearman correlation – all the correlations were statistically significant ($p < 0.001$).

for lack of money and social class among: women; among those who stated themselves not to have any education or to have only incomplete primary education; those that stated their race/color to be non-white; and those that did not have a private health plan. As to age groups, a lower level of perceived discrimination for lack of money and/or social class was found among individuals over the age of 70 (Table 3).

After mutual adjustments of the factors in the multivariate model, it was observed that the residence of the Northern and Center-West Regions, the Federal District, and the Northeastern Region, had a higher, and statistically significant, chance of reporting discrimination for lack of money and/or social class than those of the Southeastern Region (Table 4). Further considering the multivariate model, those that had a higher, and statistically significant, chance of discrimination for lack of money were: women; individuals without education or with incomplete primary education; people in the 30–59 age group (compared with those aged 70 or more); those of non-white race/color; and those without health plans (Table 4).

Discussion

Just over one in every ten adult Brazilians reported having suffered discrimination in the health services by doctors or other health professionals – the most frequent discrimination being due to lack of money and/or social class. Access to the SUS can be understood as the possibility of using the health services when necessary, and expresses the offer of this service, which should be guaranteed by the basic principles of the SUS[2].

These findings are similar to those of the World Health Survey (WHS) carried out in Bra-

Table 3. Perception of discrimination, or inferior treatment to others, in health services, by a doctor or health professional due to lack of money or social class, by social-demographic characteristics. Brazilian National Health Survey, 2013.

Variables / Characteristics	Lack of money (%)[a]	Social class (%)[a]	Both (%)[a,b]	p-value (%)[c]
Region				<0.001
North	8.2	7.9	10.2	
Northeast	5.3	5.8	7.1	
Southeast	4.9	4.7	6.2	
South	6.4	5.5	7.8	
Center-West and Federal District	8.0	7.2	9.6	
Gender				<0.001
Female	5.9	6.1	7.7	
Male	5.5	5.0	6.7	
Level of education[d]				<0.001
No education, or primary incomplete	7.0	6.7	8.6	
Primary complete and secondary incomplete	5.8	6.0	7.4	
Secondary complete, and above	5.2	5.2	6.8	
Age (years)				<0.001
18-29	4.6	4.7	6.1	
30-39	6.4	6.4	8.0	
40-49	7.0	6.9	8.9	
50-59	6.9	6.1	8.6	
60-69	4.6	4.4	5.6	
70 and over	3.4	3.4	4.1	
Race/color				<0.001
White	5.0	4.5	6.2	
Non-white	6.4	6.5	8.2	
Private health plan				<0.001
No	6.5	6.4	8.2	
Yes	3.9	3.5	4.9	

[a] Estimates taking into account the complex design of the sample; [b] Perception of discrimination for lack of money and/or social class, aggregated; [c] Chi-squared test, taking into account the complex design of the sample; [d] According to classification by the Brazilian Geography and Statistics Institute (IBGE), 2010.

Table 4. Factors associated with perception of discrimination, or inferior treatment to others, in health services, by a doctor or health professional due to lack of money or social classa. Brazilian National Health Survey, 2013.

Variables / Characteristics	Univariate OR (CI 95%) [b]	Multivariate OR (CI 95%) [c]
Region		
North	1.60 (1.33-1.90)	1.40 (1.17-1.68)
Northeast	1.07 (0.91-1.26)	0.95 (0.81-1.11)
Southeast	1.00	1.00
South	1.26 (1.04-1.53)	1.29 (1.06-1.57)
Center-West and Federal District	1.54 (1.30-1.83)	1.46 (1.23-1.72)
Gender		
Female	1.00	1.00
Male	1.19 (1.08-1.32)	1.22 (1.10-1.35)
Level of education[d]		
No education, or primary incomplete	1.28 (1.14-1.44)	1,26 (1,10-1,45)
Primary complete and secondary incomplete	1.09 (0.92-1.27)	1.04 (0.89-1.22)
Secondary complete, and above	1.00	1.00
Age (years)		
18-29	1.00	1.00
30-39	1.42 (1.22-1.65)	1.379 (1.180-1.610)
40-49	1.52 (1.29-1.79)	1.436 (1.209-1.704)
50-59	1.51 (1.28-1.79)	1.42 (1.18-1.71)
60-69	0.93 (0.76-1.15)	0.84 (0.67-1.06)
70 and over	0.65 (0.49-0.86)	0.59 (0.44-0.79)
Race/color[d]		
White	1.00	1.00
Non-white	1.25 (1.11-1.41)	1.19 (1.05-1.35)
Private health plan		
No	1.47 (1.27-1.70)	1.33 (1.14-1.56)
Yes	1.00	1.00

[a] Perception of discrimination for lack of money and/or social class, aggregated; [b] Odds Ratio (OR), with confidence interval 95%, for reporting of discrimination, or treatment worse than that given by other people in the health service, by any doctor or health professional attributed to lack of money and/or social class, taking into account the complex design of the sample; [c] Odds Ratio (OR), with confidence interval 95%, for reporting of discrimination, or treatment worse than that given by other people in the health service, by any doctor or health professional attributed to lack of money and/or social class, estimated by logistic regression model adjusted for age, gender, schooling, age, race/color, and possession of a private health plan, taking into account the complex design of the sample. [d] According to classification by the Brazilian Geography and Statistics Institute (IBGE), 2010. e - Skin color (self-reported), according to classification used by the Brazilian Geography Statistics Institute (IBGE), 2010, with the categories 'black' and 'mixed-race' grouped, and excluding the categories 'yellow' and 'indigenous'.

zil in 2003, in which the principal forms of discrimination indicated by respondents were for lack of money and/or social class[4]. In this study, the authors investigated discrimination according to the type of care (outpatient care or hospitalization) and form of payment (SUS and non-SUS), and the percentages of individuals who felt themselves to be worse treated for reasons related to social exclusion were always greater for the users of the SUS, in a behavior contrasting with the principles that govern the Brazilian health system[4].

However, the results of the PNS indicate that the level of discrimination for these reasons has diminished in these 10 years. Discrimination due to lack of money has declined from 8.7% in the World Health Survey of 2003, to 5.7% in the PNS of 2013; and discrimination due to social class declined from 7.8% in the 2003 WHS, to 5.6% in the 2013 PNS. This reduction may be a result

of the National Humanization Policy put in place in the SUS since 2004, the central thrust of which is improvement of practices, dialog and relations between health professionals and their patients and their family members[10].

Different approaches suggest that access to the health services could represent how the relationship between the health services and the user will develop. The literature points to three factors that are determinant for this access: Availability, financial accessibility and acceptability[11], in spite of the question of financial accessibility not being a relevant issue for patients of the SUS. The high levels of discrimination due to lack of money and due to social class found in this present survey indicate the dimension of financial accessibility to health services as perceived in our country. Financial accessibility refers to the direct and indirect costs of care in relation to the client's capacity to pay and, according to Assis & Jesus[12], Brazil in fact experiences selective accesses, that exclude and are focused, relating to the user's purchasing power, and they cause deterioration of the quality of care provided in the public services.

In relation to the factors associated with discrimination due to lack of money and/or social class, the residents of the Southeastern Region reported this type of discrimination less frequently than those of the Northern Region. Those with the highest chance of reporting discrimination in the health services due to lack of money and/or social class were: women; individuals with a lower level of schooling; adults in the more intermediary age groups; those of non-white race or color; and those not benefited by health plans.

The most frequent associations of perceived discrimination reported in the international literature on the health services are with race[13,14], and gender[15], which makes comparison with the present study difficult, since the perceived levels of discrimination due to race/color, and gender, were relatively low compared to the others (1.4% and 0.4%, respectively).

An important aspect to be highlighted is related to the possible effects of the discrimination on human health. A meta-analysis of 134 studies concluded that perceived discrimination can affect mental health – with effects including emotional stress and depressive symptoms – as well as affecting individuals' physical health; and that the mechanisms involved could be related either to increased levels of stress, and consequently higher level of cortisol, or to the adoption of unhealthy habits[5].

The choice of unhealthy habits can serve as an attenuating factor, in the short term, for the stress arising from the perception of discrimination, increasing the risks of chronic diseases in the long term[5] such as arterial hypertension[16]. Another possible effect of discrimination may be related to under-use of the health services among individuals who feel discriminated against[13].

An important aspect that needs to be considered, which could have an influence on reports of experiences of discrimination perceived in large surveys, is that often the situation experienced in the health service by the individual participating in the study may have been ambiguous, and as a result he may not have felt secure to answer questions related to that experience. In these cases the circumstances of those discriminating situations may be either underestimated or overestimated, in what we may perhaps call a bias of vigilance or minimization[8,17,18]. Another limitation is related to the structure of the question, because it was not specified when nor where the discrimination happened, nor the intensity or frequency of how it took place. The discrimination may be related to more objective and measurable factors, such as access to the services (time from making of appointments to the appointment itself), and the form of treatment received (little time spent on the consultation, compared to the other patients), but it can also be something subjective and hard to measure, such as factors related to self-esteem.

Conclusions

Although the Brazilian constitution guarantees universal right to the health services; although the principle of the SUS is equity in care given; and in spite of the legal guarantee that every Brazilian will be treated without discrimination in the services – the population still reports suffering from discrimination by doctors and health professionals, principally women and the more vulnerable populations. There is a need for the subject of discrimination within and relating to the health services to be debated openly; and there is a need to identify the main reasons why the population so frequently reports having been discriminated against. And there is a need for the groups that are most vulnerable to these practices to be proactively protected.

Collaborations

CS Boccolini carried out the statistical analysis, and wrote and revised the text; PMM Boccolini, GN Damacena and A Pate participated in the analysis of the results, and in writing and revision of the text; DC Malta and CL Szwarcwald took part in the delineation and conception of the survey, and writing and revision of the final text.

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