Racial inequalities in access to women's health care in southern Brazil

Desigualdades raciais no acesso à saúde da mulher no Sul do Brasil

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Abstract

The aim of this population-based cross-sectional study was to investigate access by 20 to 60 year-old women – both black and white – to early detection (pap-smear) exams for breast and cervical cancer in two towns – São Leopoldo and Pelotas – in Rio Grande do Sul State, southern Brazil. Estimates of the association between race/color and access to pap-smear and breast exams were adjusted for income, education, economic class and age. Of the 2,030 women interviewed, 16.1% were black and 83.9%, white. Black women were significantly less likely to have had a pap-smear and/or breast exam than white women. Racial inequalities in access to cancer early detection exams persisted after controlling for age and other socioeconomic factors. Racial differentials in access to early detection (pap-smear) exams for breast and cervical cancers might result from racial and socioeconomic inequalities experienced by black women in access to reproductive health care services and programs.

Women's Health; Health Services Accessibility; Early Detection of Cancer

Introduction

Concern with racial inequalities and inequities in health has increased in recent years. Health inequities are expressed by differentials in the risk of disease and death that originate from heterogeneous conditions of life and of access to goods and services. Differences are considered inequitable if they occur because, as a result of injustices, people suffer from limited choices, restricted access to health resources, and exposure to harmful factors [1,2]. A number of studies [3,4,5,6] have documented disparities in the health of different racial groups in terms of morbi-mortality and access to health services for prevention, diagnosis and treatment. A recent review study of the literature published from 1995 to 2005 in the United States and in Brazil revealed that the worst health indicators relate to the black population [7].

In Brazil, in spite of claims and complaints by organizations of the black movement, discussion of racial differences in health is still incipient. The need to show evidence of the impact of racism on the process of health-disease-care and death led the authors of this study to seek the contribution of the social sciences. In that way, through the category "race", expressed by way of the variable " race/color", it is possible to identify at least part of the inequality and social injustice caused by racism, which studies centered only on socioeconomic determinants are unable to highlight [6,8].

Race/color is an important category for defining populations, because the phenotypical differences that do in fact exist between them can give rise to differential distribution of rights [9,10]. Krieger [11] regards the term "race/color" as a social category, more than a biological one, referring to groups with a common cultural heritage. Accordingly, skin color can be considered a biological expression of race or the racialized expression of biology when exposed to racism [11,12]. At present, "race/color" also relates to the use of phenotypical differences as symbols of social disparities, which can indicate class, group or political power status [13]. Common to most authors is that racial categories and the meanings given to them are constructed in social terms, not biological ones.

In the health field there is evidence that black women are jeopardized by vulnerabilities expressed as differentials in morbidities, and access to services and health care. In relation to black women, authors have shown a smaller percentage receiving analgesia during childbirth [10], fewer antenatal appointments [12] and early detection examinations [3,14,15], longer examination waiting times [14,15], late diagnosis of pathologies including malignant neoplasms [13,14], and differences in access to, and the quality of, gynecological and obstetric care [3,16].

Preventive conduct, such as clinical breast and pap-smear examinations, besides being simple and inexpensive, can reduce mortality from breast and cervical cancer when performed early [16]. Coefficients of mortality from these types of cancer continue high in Brazil, probably because the disease is diagnosed at an advanced stage. Studies have shown that diagnosis is made later in black women than in white women [14,15].

This study, conducted in view of the need for research into the health of the black population, investigated racial differences in access to early detection examinations for breast and cervical cancer in women resident in the towns of Pelotas and São Leopoldo, Rio Grande do Sul State, Brazil. Access was evaluated by way of traditional indicators of coverage for early detection and diagnosis of treatable diseases, such as breast and cervical cancer screening.

Materials and methods

This cross-sectional population-based study used information drawn from the samples of two studies of adult women in the municipalities of Pelotas (from December 1999 to April 2000) and São Leopoldo (from March to December 2003). The two studies were conducted using the same methodological procedures, and were approved by the ethics committee of Pelotas Federal University.

São Leopoldo is a municipality with a population of 206,942 in the Porto Alegre metropolitan region, while Pelotas is in the southeast of the state, and has a population of 338,544. Figures from the official statistics agency (Instituto Brasileiro de Geografia e Estatística. Censo Demográfico 2000 – http://www.ibge.gov.br), indicate that the black population represented 9% and 16% of total population in São Leopoldo and Pelotas, respectively.

The sample for this study was taken in clusters, corresponding to census tracts selected by #random draw, 36 in São Leopoldo and 40 in Pelotas. It comprised 2,030 adult women (1,026 from São Leopoldo and 1,004 from Pelotas), all 20 to 60 years old. The size of each sample was established according to criteria that would make it possible to identify a ratio 2.0 for social class, a 95% level of confidence, and a statistical power of 80%. The ratio of exposure to non-exposure was 1.3 in São Leopoldo and 1.6 in Pelotas. Sample size was increased by 10% for possible losses and refusals, and 15% to control for confounders.

The same standardized, pre-coded questionnaires were applied in the two surveys.

In both studies, race/color was classified by hetero-attribution (where the interviewer classifies the interviewee). This classification takes into consideration basically external phenotypical traits, such as skin color. Interviewees were first grouped into four categories: white, black, brown and mixed (indigenous and oriental). For statistical analysis, women categorized as black or brown were classified as black, and women classified as white or mixed were classified as white (the category mixed represented only 0.5% of the sample).

The explanatory variables investigated were: age; marital status; economic class according to the classification of the Brazilian Population Studies (Associação Brasileira de Empresas de Pesquisa – ABEP), which emphasizes estimated purchasing power, abandoning any intention to classify the population in terms of "social classes"; *per capita* family income in minimum wages; and schooling as reported by interviewees in years of study. The outcomes investigated were: clinical breast examination performed in the past year, and pap-smear examination performed in the past three years.

Data quality control and dual input to reduce consistency errors were performed using Epi Info 6.0 (Centers of Disease Control and Prevention, Atlanta, USA), and the univariate and bivariate frequencies, using the Statistical Package

for the Social Sciences 13.0 (SPSS Inc., Chicago, USA). The analysis were stratified by socio-demographic variables (age, income, schooling and economic class) in order to observe the effect of black race/color on having breast and pap-smear examinations in each stratum. Prevalence ratios and 95% confidence intervals (95%CI) were calculated for each category of the explanatory variables, considering black women as exposed.

Results

Of the 2,030 women studied, 327 (16.1%) were black and 1,703 (83.9%) white. Women from 40 to 49 years old were observed to predominate, while there was no statistically significant difference in age between the black and white women. Most of the women were married. When compared by "race/color", higher percentages of black women were widowed or single. In terms of socio-economic characteristics, the black women displayed disadvantages, with the majority having less than eight years of schooling, 45% belonging to the classes D and E (the lowest economic classes in the ABEP classification), and 88.9% living with *per capita* family incomes of three minimum wages or less (Table 1).

Clinical breast examinations had been performed on 53.4% of the women in the past year, but the differences in the percentages of black women not examined (56.6%) were statistically significant (Table 2).

The prevalences of black women who had never undergone a pap-smear examination were higher (Table 2).

Stratified analysis of clinical breast examinations performed showed that, independently of age and schooling, the black women underwent the examination less. The analysis also revealed that black women in economic classes A, B and C also underwent clinical breast examination less (Table 3).

The stratified analysis returned statistically significant differences in the women from 40 to 60 years old, with high risk of black women never having undergone a pap-smear test (prevalence ratio – PR = 3.63; 95%CI; 2.09-5.39). Similarly, black women with little schooling, belonging to economic classes D and E, and with less income continued to show high risk of never having had a pap smear (Table 4).

Discussion

Although discussion of race/color has been intense in the last 10 years, it is only recently that the racial approach has been applied to studies and research in the health field [3,6]. In Brazil, there are still few studies addressing racial inequalities in health, and most of them do not consider representative population-based samples [12,17].

This study presents representative epidemiological data for two medium-sized towns in Rio Grande do Sul State in order to describe women's health care by race/color. The study population was shown to be representative by age distribution and skin color in both towns. Distribution differences between black and white women in Rio Grande do Sul State, and between the towns, can be attributed to migration and to issues relating to the origin and formation of the slave-based economy [18].

Race/color was defined on the criterion of hetero-attribution, which shows how individuals are seen by society. Although this classification has its limitations, i.e., it excludes the interviewees' self-perception, and also shows a tendency to whitening [19], it was possible to show racial inequalities in service access among the women sampled [20,21].

As regards social indicators, in the present study, the black women were at a disadvantage and in a socially precarious situation. The socioeconomic data reinforced the findings of several studies that have identified the vulnerability of black women in Brazil [12,17,22,23]. These women were concentrated in the segment with lowest per capita income and fewest years of schooling; in addition, there were about four times more black women in economic class E. As other authors have observed [24], there was a high percentage of widowed black women, from which can be inferred higher male mortality, leaving these women as heads of family.

Health inequalities, in terms of morbi-mortality and health service access, affecting black populations have been documented frequently in Brazil and the United States [14,15,18,25,26,27]. These studies have shown evidence of inequities in health service access by the black population, observed in terms of smaller numbers of appointments and early detection examinations, longer examination waiting times, and late diagnosis of pathologies, entailing diminished life expectancy [14,15].

In the towns studied in southern Brazil, black women showed a higher risk of not having undergone early detection examination for breast cancer in the past year. In addition, the number of black women who had never undergone a pap-smear examination was twice that of white women. Willians [26] has shown that white women have high prevalences of breast cancer and low mortality, while black women have shorter survi-

Table 1

Distribution of socioeconomic and demographic characteristics by race/color in a sample of adult women in São Leopoldo and Pelotas, Rio Grande do Sul State, Brazil (n = 2,030).

Variable	Total		Black		White		p-value
	n	%	n	%	n	%	
Age (years)							0.102
20-29	517	25.5	87	26.6	430	25.2	
30-39	525	25.9	99	30.3	426	25.0	
40-49	564	27.8	76	23.2	488	28.7	
50-60	424	20.9	65	19.9	359	21.1	
		100.0		100.0		100.0	
Marital status							0.002
Married/Union	1,248	61.5	176	53.8	1,072	62.9	
Widow	113	5.6	29	8.9	84	4.9	
Separated/Divorced	218	10.7	35	10.7	183	10.7	
Single	451	22.2	87	26.6	364	21.4	
		100.0		100.0		100.0	
Schooling (years of study)							< 0.001
14-23	281	14.0	24	7.4	257	15.2	
11-13	490	24.3	58	18.0	432	25.6	
8-10	362	18.0	59	18.3	303	17.9	
5-7	456	22.7	91	28.2	365	21.6	
0-4	424	21.1	91	28.2	333	19.7	
		100.0		100.0		100.0	
Economic class *,**							< 0.001
A	137	6.8	10	3.1	127	7.5	
B	525	26.0	42	13.0	483	28.5	
C	772	38.3	124	38.5	648	38.2	
D	528	26.2	121	37.6	407	24.0	
E	56	2.8	25	7.8	31	1.8	
		100.0		100.0		100.0	
Per capita income (minimum wages) *,***							< 0.001
6.01 or +	192	9.5	09	2.8	183	10.8	
3.01-6.00	285	14.2	27	8.3	258	15.3	
1.01-3.00	836	41.6	108	33.2	728	43.2	
0.00-1.00	699	34.7	181	55.7	518	30.7	
		100.0		100.0		100.0	

* Missing: schooling (17), economic class (12), per capita income in minimum wages (18);

** Classification according to Brazilian Population Studies (*Associação Brasileira de Empresas de Pesquisa)*, emphasizes people's purchasing power without classifying them into social classes. Economic class A comprises people with the highest purchasing power, and economic class D, those with least purchasing power;

*** Total family income divided by number of people residing in the domicile.

val times, due to racial differences in the staging of the disease. In a multivariate analysis, Madison et al. [25] showed evidence that the significance of race/color persists even after controlling for social economic status, and that black women's excess mortality from cervical cancer was 84% as compared with the white women.

Some researchers assert that the inequalities in black populations' health and access to health services can be attributed to a socioeconomic status rather than to race. In the population sampled in the two Brazilian towns, most of the associations between race/color and undergoing early detection examinations persisted after stratification of the data by economic and demographic variables, indicating inequality in health care for black women, which is accentuated at more advanced age. Accordingly, older black women

Table 2

Prevalences of clinical breast and pap smear examinations, by race/color, in a sample of adult women in São Leopoldo and Pelotas, Rio Grande do Sul State, Brazil (n = 2,030).

Variable	Total		Black		White		PR	95%CI	p-value
	n	%	n	%	n	%			
Breast examination in past year *									< 0.001
Yes	1.083	53.4	142	43.4	941	55.3	1.00	-	
No	945	46.6	185	56.6	760	44.7	1.27	1.14-1.41	
		100.0		100.0		100.0			
Pap-smear examination up to date *									< 0.001
Yes	1.556	77.0	223	68.6	1.333	78.6	1.00	-	
No **	245	12.1	46	14.2	199	11.7	1.38	0.97-1.96	
Never	220	10.9	56	17.2	164	9.7	2.04	1.46-2.85	
		100.0		100.0		100.0			

PR: prevalence ratio; 95%CI: 95% confidence interval.

* Missing: breast examination (2) and categorized pap smear (9);

** Including all cases of women who underwent this examination more than 3 years earlier.

become even more socially vulnerable. Black women over 40 years old were observed to be more likely not to have undergone a pap-smear examination or to be late in doing so, which agrees with other studies showing older women's difficulty in getting a gynecological appointment [28].

The variable race/color can be considered a demographic marker of inequality, in that black women are in a situation of greater vulnerability economically, socially, and as regards health care. In Belo Horizonte [29], the localities with the worst socioeconomic conditions were the ones where there was the largest presence of black women who had never been to a gynecologist nor undergone a pap-smear examination. The black women who have never undergone a pap-smear examination were the oldest, with least schooling, and in the lowest class and income groups.

The data of this present study show no differentials, as regards the likelihood of having undergone a pap-smear examination, between the black women with most schooling, and in the highest social and income groups, and white women. However, the inequality in access to breast examination persisted among black women in the best social situation, showing that – contrary to what is claimed by critics of the variable race/color – health inequities do persist even after socio-economic stratification. Therefore, despite the limitations entailed by the small number of black women belonging to the higher socioeconomic strata, this study confirmed the initial hypothesis that inequalities in undergoing preventive examinations for cancer – chiefly breast cancer – among black women persist even after stratification for schooling and social class. Pelotas and São Leopoldo have substantial primary health care systems. As a result, population-based cross-sectional studies have not shown an association between outpatient service use and skin color in these two municipalities [30,31]. Population-based studies in Pelotas have indicated that coverage by pap-smear examinations performed [28] is higher than for clinical breast examinations [32]. Accordingly, these coverage differences detected between white and black women can perhaps be explained by level of coverage [33]. In this way, as coverage by a given preventive examination increases, the differences between socioeconomic levels have been observed to decrease.

Considering that early detection and diagnosis examinations, such as breast examination and cervical cancer prevention examinations, are positive factors for women's quality of life, knowing the profiles of the public health system users can contribute to public policy evaluation, particularly in the field of women's health. In addition, the results of studies such as this one inform implementation of health policies focused on racial and socioeconomic inequality, and promote improved access to health services, with quality and equity, for the most vulnerable segments of the population.

Table 3

Clinical breast examination performed in past year, adjusted for age, schooling, economic class, per capita income in minimum wages, by race/color, in a sample of adult women in São Leopoldo and Pelotas, Rio Grande do Sul State, Brazil (n = 2,030).

Variable	Black		White		PR	95%CI	p-value
	n	%	n	%			
Age (years)							
20-39							0.056
Yes	82	44.1	443	51.8	1.00	-	
No	104	55.9	412	48.2	1.16	1.00-1.34	
		100.0		100.0			
40-60							< 0.001
Yes	60	42.6	498	58.9	1.00	-	
No	81	57.4	348	41.1	1.40	1.19-1.64	
		100.0		100.0			
Schooling (years of study)							
8 or more							0.034
Yes	72	51.1	599	60.4	1.00	-	
No	69	48.9	392	39.6	1.24	1.03-1.49	
		100.0		100.0			
0-7							0.019
Yes	70	38.5	336	48.2	1.00	-	
No	112	61.5	361	51.8	1.19	1.04-1.36	
		100.0		100.0			
Economic class							
Classes A, B and C							0.036
Yes	92	52.3	761	60.5	1.00	-	
No	84	47.7	496	39.5	1.21	1.02-1.43	
		100.0		100.0			
Classes D and E							0.136
Yes	49	33.6	177	40.5	1.00	-	
No	97	66.4	260	59.5	1.12	0.97-1.28	
		100.0		100.0			
Per capita income (minimum wages)							
3.01 or more							0.710
Yes	25	69.4	319	72.3	1.00	-	
No	11	30.6	122	27.7	1.10	0.66-1.85	
		100.0		100.0			
0.00-3.00							0.006
Yes	117	40.5	616	49.5	1.00		
No	172	59.5	628	50.5	1.18	1.06-1.32	
		100.0		100.0			

PR: prevalence ratio; 95%CI: 95% confidence interval.

Table 4

Pap smear examination performed, adjusted for age, schooling, economic class, per capita income in minimum wages, by race/color, in a sample of adult women in São Leopoldo and Pelotas, Rio Grande do Sul State, Brazil (n = 2,030)

Variable	Black		White		PR	95%CI	p-value
	n	%	n	%			
Age (years)							
20-39							0.356
Yes	135	72.6	654	76.5	1.00	-	
No *	17	9.1	80	9.4	1.03	0.63-1.68	
Never	34	18.3	121	14.1	1.29	0.92-1.81	
		100.0		100.0			
40-60							< 0.001
Yes	88	63.3	679	80.7	1.00	-	
No *	29	20.9	119	14.1	1.66	1.16-2.37	
Never	22	5.8	43	5.1	3.63	2.09-5.39	
		100.0		100.0			
Schooling (years of study)							
8 or more							0.635
Yes	109	77.3	799	80.7	1.00	-	
No *	14	9.9	85	8.6	1.18	0.69-2.02	
Never	18	12.8	106	10.7	1.21	0.76-1.92	
		100.0		100.0			
0-7							< 0.001
Yes	112	62.2	525	75.8	1.00	-	
No *	31	17.2	113	16.3	1.22	0.86-1.74	
Never	37	20.6	55	7.9	2.62	1.80-3.81	
		100.0		100.0			
Economic class							
Classes A, B and C							
Yes	137	78.3	1.037	82.6	1.00	-	0.212
No *	18	10.3	122	9.7	1.10	0.69-1.76	
Never	20	11.4	96	7.6	1.50	0.96-2.36	
		100.0		100.0			
Classes D and E							
Yes	83	57.2	292	67.3	1.00	-	0.039
No *	27	18.6	75	17.3	1.20	0.82-1.76	
Never	35	24.1	67	15.4	1.59	1.12-2.26	
		100.0		100.0			
Per capita income (minimum wages)							
3.01 or more							0.415
Yes	34	94.4	382	86.8	1.00	-	
No *	1	2.8	30	6.8	0.39	0.06-2.79	
Never	1	2.8	28	6.4	0.42	0.06-2.98	
		100.0		100.0			
0.00-3.00							< 0.001
Yes	189	65.9	941	75.8	1.00	-	
No *	145	15.7	166	13.4	2.90	2.40-3.49	
Never	53	18.5	134	10.8	1.76	1.32-2.34	
		100.0		100.0			

PR: prevalence ratio; 95%CI: 95% confidence interval.

* Including all cases of women who underwent this examination more than 3 years earlier.

Resumo

O objetivo da pesquisa foi investigar o acesso de mulheres negras e brancas aos exames de detecção precoce de câncer de mama e colo de útero (citopatológico), em duas cidades no Sul do Brasil. Foi realizado um estudo transversal de base populacional realizado com mulheres de 20-60 anos, residentes em São Leopoldo e Pelotas, Rio Grande do Sul, Brasil. As análises foram ajustadas por renda, escolaridade, classe econômica e idade para verificar a associação entre raça/cor e acesso aos exames. Foram entrevistadas 2.030 mulheres, sendo que 16,1% eram negras e 83,9% brancas. A probabilidade das mulheres não realizarem os exames citopatológico e de mama foi significantemente maior nas negras. A desigualdade racial no acesso aos exames de detecção precoce de câncer persistiu após controle para idade e variáveis socioeconômicas. O diferencial na realização dos exames de detecção precoce pode ser um reflexo das desigualdades raciais e socioeconômicas vividas por mulheres negras no acesso aos serviços e ações de atenção à saúde reprodutiva.

Saúde da Mulher; Acesso aos Serviços de Saúde; Detecção Precoce de Câncer

Contributors

F. S. Bairros, S. N. Meneghel, J. S. Dias-da-Costa and M. T. A. Olinto participated in the data collection, literature review, analysis, and in discussion of the article. D. G. Bassani, A. M. B. Menezes and D. P. Gigante collaborated in the analysis and in discussion of the article.

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