

# ETHNICITY AND HEALTH IN COLOMBIA: WHAT DO SELF-PERCEIVED HEALTH INDICATORS TELL US?

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**Objective:** To compare self-perceived health indicators between ethnic groups in Colombia.

**Methods:** Cross-sectional study with data from the 2007 National Public Health Survey (ENSP-2007). Data from 57,617 people  $\geq 18$  years were used. Variables included: belonging to an ethnic group (exposure); self-rated health; mental health problems, injuries for accidents/violence (outcomes); sex, age, education level and occupation (explicative/control). A descriptive study was carried out of the explicative variables, and the prevalence of the outcomes was calculated according to ethnicity, education level and occupation. The association between the exposure variable and the outcomes was estimated by means of adjusted odds ratios (OR) with 95% CI using logistic regression. Analyses were conducted separately for men and women.

**Results:** The prevalence of outcomes was higher in people reporting to belong to an ethnic group and differences were found by sex, ethnic groups and health outcomes. Women from the Palenquero group were more likely to report poor self-rated health (aOR 7.04; 95%CI 2.50-19.88) and injuries from accidents/violence (aOR 7.99; 95%CI 2.89-22.07). Indigenous men were more likely to report mental health problems (aOR 1.75; 95%CI 1.41-2.17). Gradients according to ethnicity, education, occupation and sex were found.

**Conclusions:** Minority ethnic groups are vulnerable to reporting poor health outcomes. Political actions are required to diminish health inequalities in these groups. *Ethn Dis.* 2016;26(2):147-156; doi:10.18865/ed.26.2.147

**Keywords:** Ethnic Groups; Health Surveys; Health Disparities

## INTRODUCTION

Ethnicity plays a role as a health determinant and differences in morbidity and mortality across ethnic groups have been documented in scientific literature.<sup>1-5</sup> It is important to discuss the meaning of health inequalities while considering the socio-economic position and political factors that contribute to health services accessibility and cultural elements that influence the social representation of the health-disease process.<sup>6-8</sup> The ethnic composition of industrialized nations differs from developing countries and the analysis of health inequalities requires consideration of the sociopolitical context of the countries; in some cases, changes in ethnic classification captures the emer-

gence or redefines marginal groups.<sup>8</sup>

Colombia is a multi-ethnic and multi-lingual country. The National Census (2005) estimates that approximately six million people (14% of the Colombian population) belong to minority ethnic groups. Four ethnic groups have been differentiated from the majority of the population: Indigenous (3.4%), Raizal (0.08%), Afro-Colombian (10.6%) and Romani (0.01%). Currently, it is known that Colombia has of a varied miscegenation interacting with culture and traditions of the country's American, European and African ancestry.<sup>9</sup>

Research focused on ethnicity and health in Colombia is not deeply explored. Some possible reasons lie in the lack of published information of epidemiological profiles and of accurate systems for monitoring and surveilling health profiles that include ethnic variables.<sup>10</sup> Notwithstanding, the 2007 National Public Health Survey of Colombia (ENSP-2007) provides an opportunity to observe the magnitude and severity of different health indicators, and variables related to ethnic background, which allows researchers to study associations between sex, social class, education and ethnicity.<sup>11</sup>

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Our study aimed to compare self-perceived indicators according to ethnic groups in Colombia.

## METHODS

Our cross-sectional study used the ENSP-2007 data, which were collected through face-to-face interviews at home (2007-2008); multiple-stage stratified sampling was used.<sup>12</sup> For our analysis, data from 57,617 people ≥18 years were considered.

The group variable was ethnic origin, which was gathered from the household survey by asking

the question: *Which of the following ethnic groups do you belong to?* (With five answer choices: Indig-

*Our study aimed to compare self-perceived indicators according to ethnic groups in Colombia.*

enous, Romani, Raizal, Palenquero, Afro-Colombian). For those who did not respond to this

question, the research team created another category, “any ethnic group, rest of the population.”

To evaluate health status, several perceived outcomes were used: 1) self-rated health (*How would you rate your current health status?*), which was categorized as good (good/very good) or poor (fair/poor/very poor); 2) mental health problems (*In the last 30 days, have you had any mental, emotional or nervous problem?*); 3) injuries from accidents/violence (*In the last 30 days, did you have injuries caused by accident or violence?*).

Sex, age, education level and occupation were included in the analysis

**Table 1. Sociodemographic characteristics of the study population, Colombia, 2007<sup>a</sup>**

Sociodemographic characteristics	Ethnicity				Ethnic group			p <sup>b</sup>
	No n=48,655	Yes n=8,962	Indigenous n=3,226	Romani n=73	Raizal n=80	Palenquero n=67	Afro-Colombians n=5,515	
Sex								
Male	45.3	51.7	53.4	67.8	46.2	51.0	50.6	<.001
Female	54.7	48.3	46.6	32.2	53.8	49.0	49.4	
Age, years								
<24	20.4	19.7	16.5	40.3	23.7	13.3	21.3	<.001
25-34	23.7	24.2	23.7	10.6	20.4	27.9	24.7	
35-44	21.5	22.0	22.7	13.4	24.7	20.4	21.7	
45-54	17.9	19.2	19.9	14.4	20.0	25.9	18.7	
≥55	16.5	14.9	17.3	21.4	11.3	12.5	13.6	
Educational Level								
≤Primary	40.3	45.3	52.5	27.4	16.8	67.6	41.3	<.001
Secondary	50.0	46.1	40.3	65.7	59.0	32.1	49.4	
University	9.7	8.6	7.2	7.0	24.3	.3	9.2	
Occupation <sup>a</sup>	n=29,546	n=5,924	n=2,147	n=38	n=56	n=57	n=3,627	
Employers	.9	.6	.7	0	0	4.1	.6	<.001
Worker or employee for the government	5.1	6.3	5.8	3.9	8.7	0	6.7	
Worker or employee of companies	38.9	29.9	23.6	31.2	52.9	15.9	33.5	
Self-employed professionals	2.6	1.5	1.5	0	1.4	0	1.6	
Other self-employed workers	37.7	40.5	43.6	60.9	30.6	57.8	38.4	
Semi-skilled/unskilled manual workers	12.8	18.4	20.9	4.0	5.3	21.2	17.2	
Unpaid workers	2.2	2.7	3.8	0.0	1.0	0.9	2.1	

a. Values are weighted.

b. Chi square for the distribution of the frequencies on each variable.

**Table 2. Prevalence and (95% CI) for health outcomes by ethnicity and sex, Colombia, 2007<sup>a,b</sup>**

Outcome/Sex	Prevalence (95% CI)						
	Ethnicity		Ethnic group				
	No	Yes	Indigenous	Romani	Raizal	Palenquero	Afro-Colombians
Male							
Self-rated health, poor	22.9 (22.4-23.5)	28.9 (28.4-31.1) <sup>c</sup>	33.2 (31.0-35.5) <sup>c</sup>	14.0 (3.4-24.6)	8.1 (1.7-21.9)	34.3 (17.1-51.4)	28.1 (26.4-29.8) <sup>c</sup>
Mental health problems, yes	5.1 (4.8- 5.4)	6.4 (5.7- 7.1) <sup>c</sup>	7.6 (6.3- 8.9) <sup>c</sup>	0	8.1 (1.7- 21.9)	2.9 (.1- 15.3)	5.8 (4.9-6.7)
Injuries from accidents and violence, yes	4.0 (3.7-4.3)	4.7 (4.1-5.3) <sup>d</sup>	4.6 (3.6-5.6)	2.0 (.1-10.9)	5.4 (.7-18.2)	5.9 (.2-19.7)	4.8 (4.0-5.6) <sup>d</sup>
Female							
Self-rated health, poor	35.4 (34.8-35.9)	43.2 (41.7-44.7) <sup>c</sup>	46.0 (43.5-48.6) <sup>c</sup>	25.0 (9.8-46.7)	29.5 (14.9-44.2)	72.7 (56.0-89.4) <sup>c</sup>	41.6 (39.8-43.5) <sup>c</sup>
Mental health problems, yes	9.6 (9.3-10.0)	10.7 (9.8-11.6) <sup>d</sup>	12.9 (11.2-14.6) <sup>c</sup>	8.3 (1.0- 27.0)	2.3 (.1- 12.0)	6.1 (.7- 20.2)	9.7 (8.6-10.8)
Injuries from accidents and violence, yes	2.4 (2.2-2.6)	2.3 (1.8-2.7)	2.9 (2.0-3.7)	0	2.4 (.1- 12.6)	15.2 (5.1- 31.9) <sup>c</sup>	1.8 (1.3- 2.4)

a. Values are weighted.

b. Chi square for difference in proportions. The reference group is the number of people answering ethnicity no.

c. P<.001.

d. P<.05.

as explicative and control variables.

Weights derived from the complex sample design were included. Analyses were done separately for men and women. A descriptive

study of the sociodemographic variables was carried out. Prevalence and 95% CI of health outcomes were calculated for each ethnic group and conjointly. Sub-

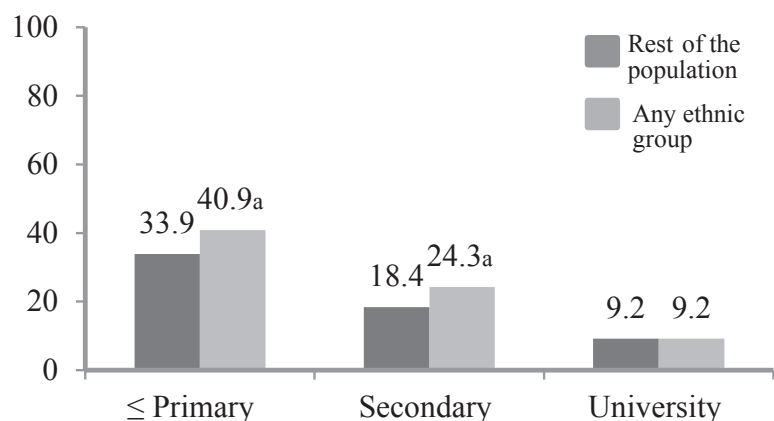
sequently, prevalence of health outcomes was measured for education and occupation according to ethnicity. Chi square tests were used in order to observe statisti-

**Table 3. Association of ethnic origin with selected health outcomes, Colombia, 2007<sup>a</sup>**

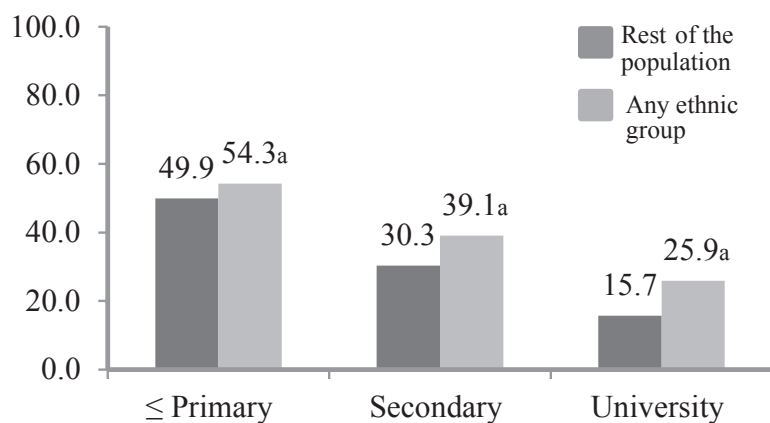
Ethnicity	Self-rated health, poor	Mental health problems	Injuries from accidents and violence
	aOR (95%CI)	aOR (95%CI)	aOR (95%CI)
Males			
Ethnicity, no	1.00	1.00	1.00
Ethnicity, yes	1.46 (1.34-1.58)	1.33 (1.14-1.56)	1.19 (.99-1.42)
Indigenous	1.59 (1.40-1.80)	1.75 (1.41-2.17)	1.28 (.97-1.68)
Romani	1.21 (.47-3.14)	NC	0.88 (.09-8.84)
Raizal	.58 (.16-2.06)	3.01 (.86-10.58)	1.70 (.31-9.42)
Palenquero	1.76 (.83-3.73)	.48 (.05-4.97)	2.11 (.57-7.78)
Afro-Colombians	1.39 (1.25-1.54)	1.09 (.88-1.35)	1.11 (.89-1.40)
Females			
Ethnicity, no	1.00	1.00	1.00
Ethnicity, yes	1.42 (1.28-1.57)	1.28 (1.10-1.50)	.85 (.62-1.16)
Indigenous	1.42 (1.20-1.67)	1.68 (1.34-2.09)	.82 (.49-1.36)
Romani	.41 (.09-1.90)	NC	NC
Raizal	.82 (.32-2.11)	.21 (.01-3.96)	.66 (.04-11.38)
Palenquero	7.04 (2.50-19.88)	.67 (.14-3.12)	7.99 (2.89-22.07)
Afro-Colombians	1.40 (1.24-1.59)	1.10 (.90-1.35)	.76 (.51-1.14)

a. Values are weighted.

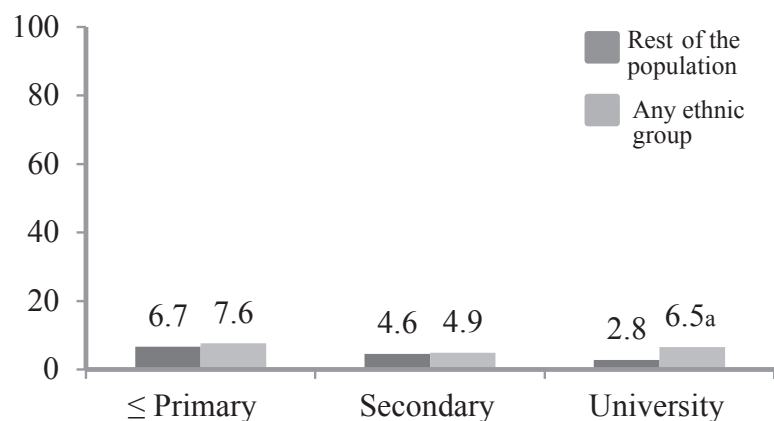
aOR, adjusted OR for age, education and occupation; NC, no calculated.



**Figure 1. Self-rated health poor, males, by education, Colombia, 2007**  
 Values are weighted. Chi square for difference in proportions (The reference group is the number of people answering ethnicity no): a.  $P < .001$ ; b.  $P < .05$



**Figure 2. Self-rated health poor, females, by education, Colombia, 2007**  
 Values are weighted. Chi square for difference in proportions (The reference group is the number of people answering ethnicity no): a.  $P < .001$ ; b.  $P < .05$



**Figure 3. Mental health problems yes, males, by education, Colombia, 2007**  
 Values are weighted. Chi square for difference in proportions (The reference group is the number of people answering ethnicity no): a.  $P < .001$ ; b.  $P < .05$

cally significant differences. Logistical regression was used to estimate the relationship between ethnic origins, first in a crude analysis and then adjusted for age, education and occupation. The adjusted models were shown as odds ratios (OR) with 95%CI. All calculations were computed using EPIDAT 3.1 and SPSS 22.0.

Our research was based on secondary data and the survey complied with ethical requirements for research on human beings according to the international standards. Ethical approval proceeded from the Ministry of Health and Social Protection of Colombia (Institution in charge of the ENSP-2007).

## RESULTS

Table 1 shows the sociodemographic characteristics of the study population. Of the 57,617 study participants, 15.5% belonged to a minority ethnic group. Compared with men, a higher percentage of women belonged to Raizal, yet more men than women belonged to the Indigenous group. Nearly half of all in each ethnic group were aged <34 years, with the Romani group having the highest percentage of those aged <34 years. The Palenquero and Indigenous groups had the highest percentage of people with low education levels while the highest percentage of those with university-level education was Raizal. The largest percentage of ethnic individuals were employed by private sector employers (particularly Raizal) or were self-employed work-

ers (particularly Romani groups). Nearly one in five Palenquero and Indigenous individuals were semi-skilled/unskilled manual workers.

Prevalence and 95%CI of selected outcomes by ethnic groups and sex are shown in Table 2. In comparison with the rest of the population, higher prevalence for the three health outcomes (self-related health, mental health problems, injuries from accidents and violence) was found among most ethnic groups, with the exception of prevalence of injuries for accidents and violence among combined ethnic women. Palenquero women and Indigenous people had higher

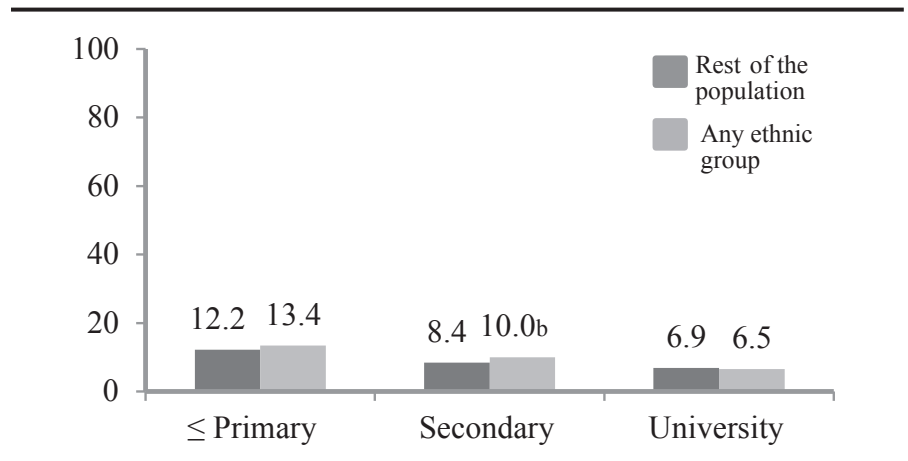
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*Our main findings provide evidence that the prevalence of poor health outcomes was higher in people reporting to belong to an ethnic group*

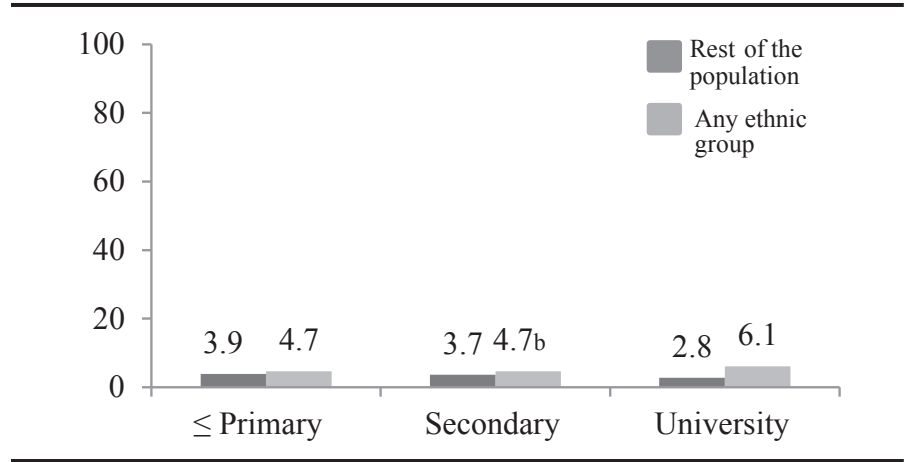
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prevalence of poor self-rated health compared with other ethnic groups. Of all the groups, the Indigenous more frequently reported mental health problems. Prevalence of injuries for accidents and violence was highest among Palenquero women. Statistically significant differences were found for these variables.

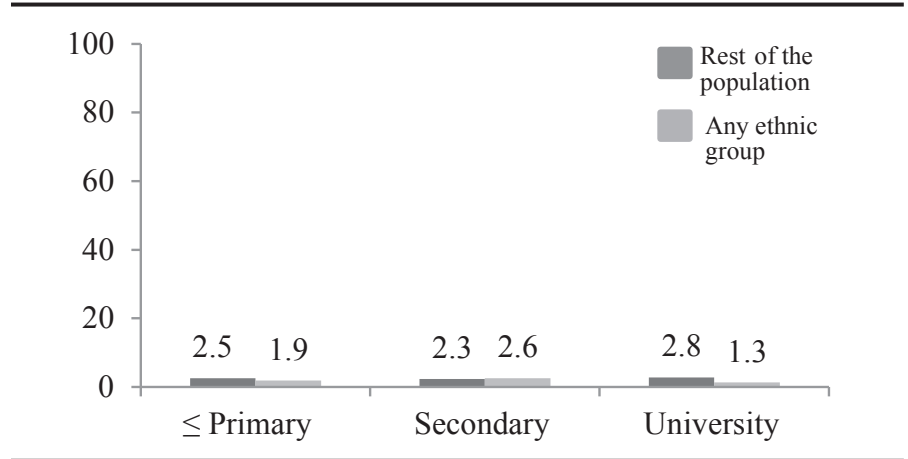
The associations of health outcomes with ethnic origin are shown in Table 3. After stratifying by sex



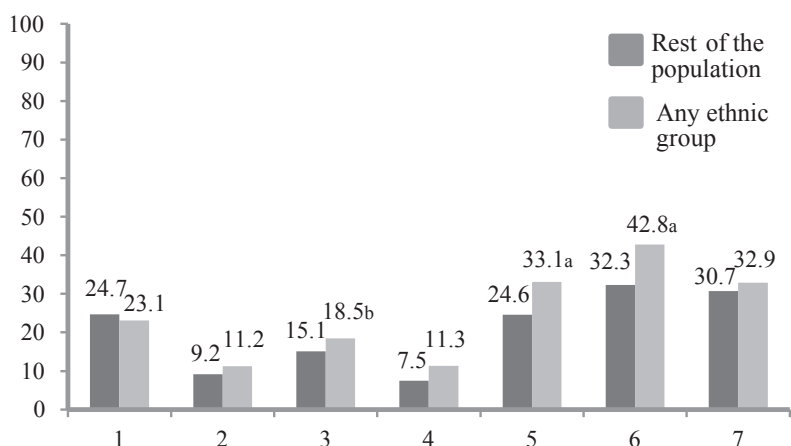
**Figure 4. Mental health problems yes, females, by education, Colombia, 2007**  
 Values are weighted. Chi square for difference in proportions (The reference group is the number of people answering ethnicity no): a. P<.001; b. P<.05



**Figure 5. Injuries for accident and violence yes, males, by education, Colombia, 2007**  
 Values are weighted. Chi square for difference in proportions (The reference group is the number of people answering ethnicity no): a. P<.001; b. P<.05



**Figure 6. Injuries for accident and violence yes, females, by education, Colombia, 2007**  
 Values are weighted. Chi square for difference in proportions (The reference group is the number of people answering ethnicity no): a. P<.001; b. P<.05



**Figure 7. Self-rated health poor, males, by employment group, Colombia, 2007**  
 Values are weighted. Chi square for difference in proportions (The reference group is the number of people answering ethnicity no): a.  $P < .001$ ; b.  $P < .05$ . Employment group: 1, employers; 2, worker or employee for the government; 3, worker or employee of companies; 4, self-employed professionals; 5, other self-employed workers; 6, semi-skilled/unskilled manual workers; 7, unpaid workers

and adjusting for possible confounders, people who belonged to an ethnic group were more likely to report poor health outcomes; however, statistically significant differences were not observed for injuries from accidents and violence in both men and women. Analysis comparing the different groups showed

that men from Indigenous groups and women from Palenquero were more likely to report poor self-rated health and women from Palenquero groups were more likely to report injuries for accidents and violence.

The specific analyses of ethnicity, education and sex showed social gradients (Figures 1-6). Poor

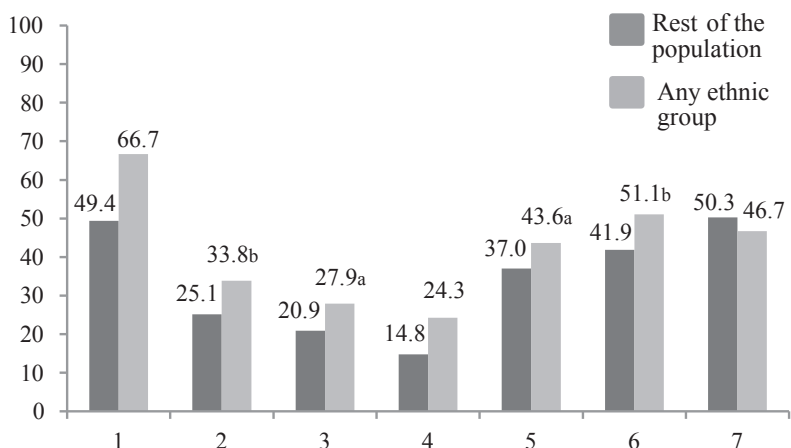
health outcomes were higher among those with low educational levels and better health outcomes were observed in people with university-level education. Statistically significant differences were found in some cases. People from ethnic groups showed poorer indicators when compared with the rest of the population except in case of women with university-level education.

Finally, stratified analyses according to ethnicity, occupation and sex (Figures 7-12) were carried out. Gradients were observed in poor health outcomes while occupations with less qualification had higher prevalences in the three self-perceived indicators. Similar to Figures 1-6 people from ethnic groups showed poorer indicators when compared with the rest of the population.

## DISCUSSION

This study compared different self-perceived indicators between people reporting to belong to an ethnic group and the rest of the population, as well as differences among ethnic groups. Our main findings provide evidence that the prevalence of poor health outcomes was higher in people reporting to belong to an ethnic group with variations in magnitude and statistical significance by ethnic group and health outcome. Possible interactions among occupation, education level and sex were observed in stratified and multivariate analysis.

Minority ethnic groups could be exposed to situations of social vulnerability, marginalization and

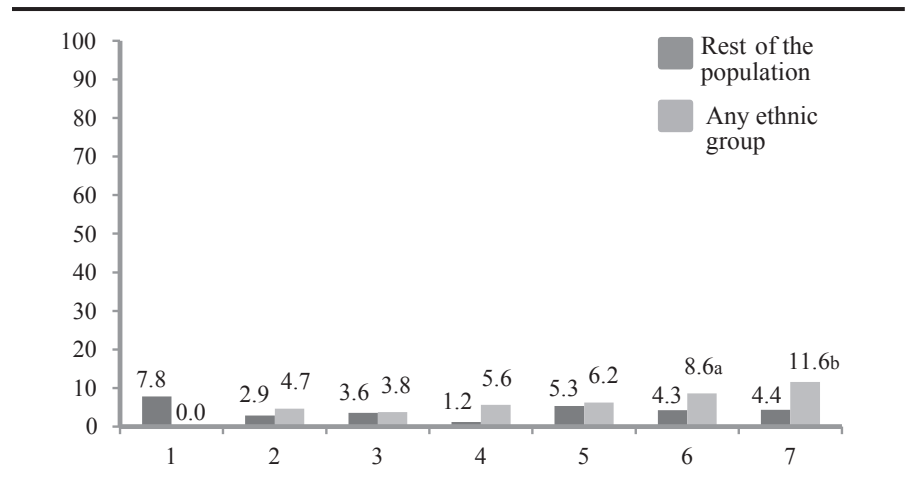


**Figure 8. Self-rated health poor, females, by employment group, Colombia, 2007**  
 Values are weighted. Chi square for difference in proportions (The reference group is the number of people answering ethnicity no): a.  $P < .001$ ; b.  $P < .05$ . Employment group: 1, employers; 2, worker or employee for the government; 3, worker or employee of companies; 4, self-employed professionals; 5, other self-employed workers; 6, semi-skilled/unskilled manual workers; 7, unpaid workers

geographical segregation, which are grounding causes of ethnic health disparities.<sup>3,8</sup> Longitudinal analyses have emphasized that restrictions on human and civil rights typical of an intercultural imbalance are detrimental to some minority groups as they limit their opportunities to develop satisfactory living conditions.<sup>6</sup> From an ecosocial perspective,<sup>13</sup> historical, biological and social inequalities have been embodied in the structure of societies.<sup>14,15</sup> In Colombia, the historical accumulation of inequalities has had an impact on the health of the ethnic communities.

Social vulnerability of minority groups should be analyzed within the political context of violence and forced displacement of Colombia's internally displaced people (IDP). Since most people from large rural areas are forced to migrate to urban areas, IDP exacerbates social inequalities generally by moving to neighborhoods where individuals are exposed to precarious employment, poor sanitation and difficulties in living conditions.<sup>16</sup> Minority ethnic groups are over-represented in the total IDP population.<sup>17</sup>

It is important to analyze these inequalities in close relationship with the Social Security System in Colombia.<sup>18</sup> The health system provides two insurance plans that aim to cover the entire population: the contributory regime (RC), which serves people with payment capacity (formal workers) and the subsidized regime (RS) for people in a state of social vulnerability. In most cases, minority ethnic groups belong to RS. Despite the political reforms

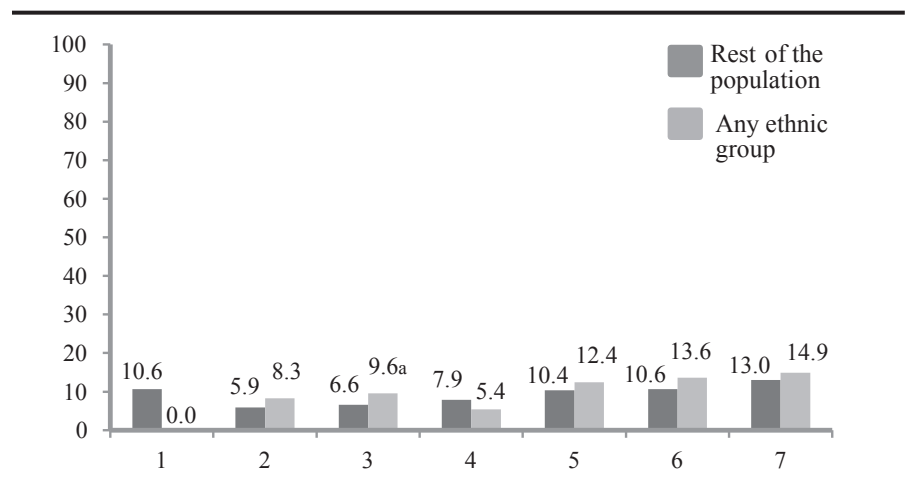


**Figure 9. Mental health problems, males, by employment group, Colombia, 2007**  
 Values are weighted. Chi square for difference in proportions (The reference group is the number of people answering ethnicity no): a. P<.001; b. P<.05. Employment group: 1, employers; 2, worker or employee for the government; 3, worker or employee of companies; 4, self-employed professionals; 5, other self-employed workers; 6, semi-skilled/unskilled manual workers; 7, unpaid workers

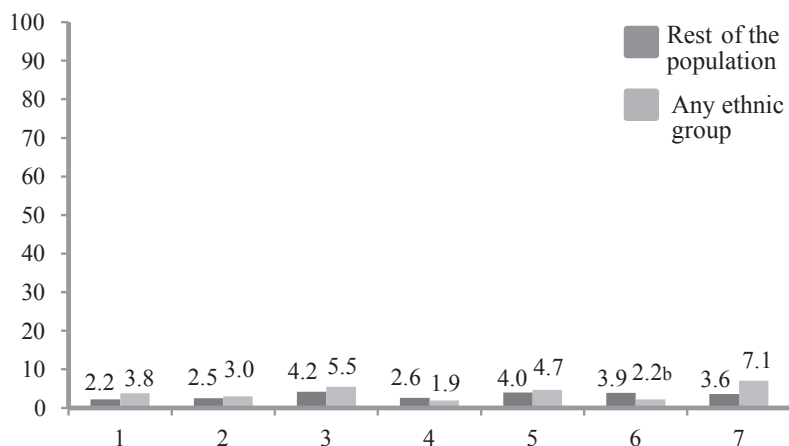
introduced in the 90s, which increased the number of insured people in the system, minority ethnic groups continuously face accessibility barriers and bureaucratic processes that slow down the provision of primary/specialized services.<sup>19</sup>

The multiple forms of discrimination (sexism, racism and clas-

sism) are based on power struggles between different structures in society.<sup>20-22</sup> The lack of opportunities offered in social, education and labor market spheres to ethnic groups (similar to other vulnerable groups) could create a context to be interpreted as discrimination.<sup>23,24</sup> A Colombian qualitative study found



**Figure 10. Mental health problems, females, by employment group, Colombia, 2007**  
 Values are weighted. Chi square for difference in proportions (The reference group is the number of people answering ethnicity no): a. P<.001; b. P<.05. Employment group: 1, employers; 2, worker or employee for the government; 3, worker or employee of companies; 4, self-employed professionals; 5, other self-employed workers; 6, semi-skilled/unskilled manual workers; 7, unpaid workers



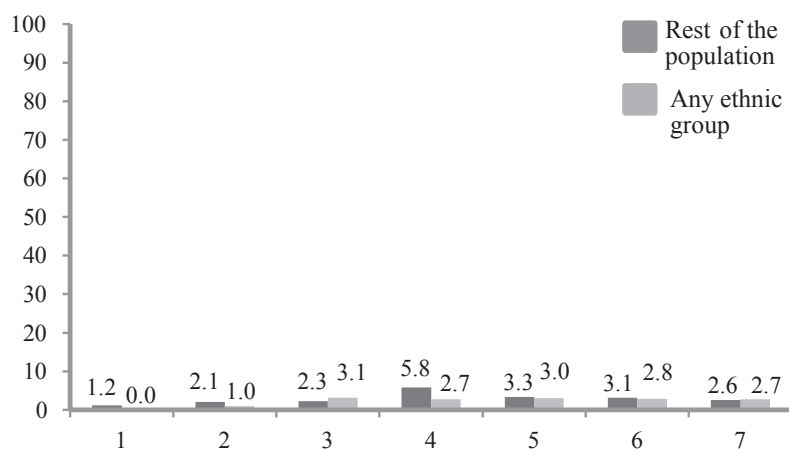
**Figure 11. Injuries for accidents and violence, males, by employment group, Colombia, 2007**

Values are weighted. Chi square for difference in proportions (The reference group is the number of people answering ethnicity no): a.  $P < .001$ ; b.  $P < .05$ . Employment group: 1, employers; 2, worker or employee for the government; 3, worker or employee of companies; 4, self-employed professionals; 5, other self-employed workers; 6, semi-skilled/unskilled manual workers; 7, unpaid workers

inequities related to ethnic and racial discrimination, differences in social, economic and political status and violation of rights, interactions between immigration, acculturation and differential exposure.<sup>25</sup>

Our findings are consistent with

other international studies conducted in minority groups.<sup>3</sup> In a systematic review of studies focused on self-rated health as a predictor or as an outcome, results highlighted that minority groups had poorer health than majority populations.<sup>26</sup>



**Figure 12. Injuries for accidents and violence, females, by employment group, Colombia, 2007**

Values are weighted. Chi square for difference in proportions (The reference group is the number of people answering ethnicity no): a.  $P < .001$ ; b.  $P < .05$ . Employment group: 1, employers; 2, worker or employee for the government; 3, worker or employee of companies; 4, self-employed professionals; 5, other self-employed workers; 6, semi-skilled/unskilled manual workers; 7, unpaid workers

Also, these groups may experience stress and language tensions that affect mental health and produce adverse chronic conditions.<sup>26</sup> As an example, Palenquero women were at risk to report injuries from accidents and violence; they could be exposed to adverse working conditions and injuries especially in informal jobs and in fact, they were invisible to official statistical data.<sup>27</sup>

Several approaches have been conducted to contribute the ongoing discussions about sex as an analytic category expanding the named sex as a dichotomous variable. We found differences between men and women in some ethnic groups that could be attributed to cultural aspects regarding the sex roles in the society, the social representation of the health-disease process related to ancestral history, the self-concept of body image, viewpoint on life and values.<sup>27,28</sup> Further research should include other sex-related variables, such as the role played in the family and the workplace, knowledge, attitudes and practices in health. These variables could contribute to knowledge about the intersectionality of ethnicity, sex and health.

The main strength of our study was the size of the sample which represented the country as a whole. Nevertheless, there are also limitations. First, due to the cross-sectional nature of the survey, the causal relationships could not be examined. Second, ethnicity data were gathered by asking the respondent. It should be considered that 86% of the Colombian population do not recognize themselves to be of an ethnic origin and probably



consider themselves to be of other groups such as mestizo and White. This situation may have resulted in underestimation of the true extent of health outcomes since other particularities in the rest of the population could not be observed.

Accepting the above limitations, this study adds to the literature by means of understanding the relationship between ethnicity and health in Colombia. It introduces new analyses through self-perceived indicators from a social epidemiology perspective. Primary data could be useful to obtain a greater understanding of specific factors affecting ethnic groups mainly because the interaction of social categories of sex, race/ethnicity and class in subordinate ways is complex.<sup>28</sup>

Reducing health gaps between groups will contribute to improve life conditions and decrease the process of historical deprivation. Policy and strategies should help increase social trust and recognize the right of access to health services by social participation and construct ethnic identity. Global policies suggest, among others, to implement a plan of action to include: addressing racism, strengthening the capacity of this population with policies seeking to defend their rights; and creating national registries that include ethnic variables resulting in an inclusive health system.

#### ACKNOWLEDGMENTS

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#### CONFLICTS OF INTEREST

None declared.

#### AUTHOR CONTRIBUTIONS

Research concept and design: Agudelo-Suárez, Martínez-Herrera, Posada-López. Acquisition of data: Agudelo-Suárez, Martínez-Herrera, Rocha-Buelvas. Data analysis and interpretation: Agudelo-Suárez, Martínez-Herrera, Posada-López. Manuscript draft: Agudelo-Suárez, Martínez-Herrera, Posada-López, Rocha-Buelvas. Statistical expertise: Agudelo-Suárez, Martínez-Herrera, Posada-López. Supervision: Agudelo-Suárez, Martínez-Herrera, Posada-López, Rocha-Buelvas.

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