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# Impact of socioeconomic status on Brazilian elderly health

## Impacto do status socioeconômico na saúde de idosos brasileiros

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### ABSTRACT

**OBJECTIVE:** To investigate the impact of socioeconomic status on elderly health.

**METHODS:** The study was based on cross-sectional data from Survey on Health, Well-Being, and Aging in Latin America and the Caribbean. The sample comprised 2,143 non-institutionalized elderly aged 60 years and older living in the urban area of São Paulo, southeastern Brazil. Linear regression models estimated the effect of socioeconomic status indicators (years of schooling completed, occupation and purchasing power) on each one of the following health indicators: depression, self-rated health, morbidity and memory capacity. A 5% significance level was set.

**RESULTS:** There was a significant effect of years of education and purchasing power on self-rated health and memory capacity when controlled for the variables number of diseases during childhood, bed rest for at least a month due to health problems during childhood, self-rated health during childhood, living arrangements, sex, age, marital status, category of health insurance, intake of medicines. Only purchasing power had an effect on depression. Despite the bivariate association between socioeconomic status indicators and number of diseases (morbidity), this effect was no longer seen after including the controls in the model.

**CONCLUSIONS:** The study results confirm the association between socioeconomic status indicators and health among Brazilian elderly, but only for some dimensions of socioeconomic status and certain health outcomes.

**KEY WORDS:** Elderly health. Social conditions. Socioeconomic factors. Cross-sectional studies. SABE. Brazil.

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## RESUMO

**OBJETIVO:** Investigar o impacto do status socioeconômico na saúde de idosos.

**MÉTODOS:** Utilizou-se a base de dados transversal Inquérito sobre a Saúde, o Bem estar o Envelhecimento na América Latina e Caribe. Analisaram-se 2.143 idosos (60 anos ou mais) residentes em domicílios, na área urbana de São Paulo, no ano de 2000. Modelos de regressões lineares estimaram o efeito dos indicadores de status socioeconômico (anos de estudo completos, ocupação e poder de compra) nos indicadores de saúde: depressão, auto-avaliação da saúde, morbidade e capacidade de memória. O nível de significância adotado foi de 5%.

**RESULTADOS:** Observou-se efeito significativo dos anos de estudo e do poder de compra na auto-avaliação da saúde e na capacidade da memória, quando controlado pelas variáveis: número de doenças antes dos 15 anos de idade, ter ficado na cama ao menos por um mês por problema de saúde antes dos 15 anos, auto-avaliação da saúde na infância, arranjos de vida, sexo, idade, estado civil, tipo de seguro de saúde, ingestão de remédios. Somente a capacidade de compra apresentou efeito na depressão. Apesar das análises bivariadas indicarem uma associação entre status socioeconômico e o número de doenças (morbidade), este efeito desapareceu quando os controles entraram no modelo.

**CONCLUSÕES:** Os resultados confirmam a associação entre indicadores socioeconômicos e a saúde dos idosos brasileiros, mas somente entre alguns indicadores e certos aspectos da saúde.

**DESCRITORES:** Saúde do idoso. Condições sociais. Fatores socioeconômicos. Estudos transversais. SABE. Brasil.

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## INTRODUCTION

The impact of socioeconomic status (SES) on elderly health is controversial. Some studies show that older adults with high SES have better health than those with low SES,<sup>2,15,18</sup> but other studies show that the strength of this association decreases, or even disappears, among older ages.<sup>1,5,10</sup> However, there are very few studies about this relationship in developing countries.<sup>13,21</sup>

Most experts hold that SES differences in health are produced as a result of various health-related factors such as living and working conditions, access to health care services, social relationships, and diversified lifestyles.<sup>6,14</sup> SES differentials in health may also result from health selection. People with preexisting illness drift down the social scale: those with poor health are selected into lower SES through decreased labor force participation or through withdrawal from paid work.<sup>24</sup>

Some studies have shown that health variations in adults are attributed to both early and later life circumstances,<sup>7</sup> suggesting that childhood SES has lasting effects on health beyond its impact on later status attainment. Other studies did not find a significant association be-

tween childhood SES and later health once adult SES is taken into account.<sup>16</sup>

The relationship between SES and health is shown to be strong, regardless of how SES is measured, whether via income,<sup>11</sup> occupation<sup>8</sup> or education.<sup>1,17</sup> However, there is no consensus about the idea that in old ages there is no difference in health among different SES.

According to House et al<sup>9</sup> social stratification of aging and health is produced by social and biological mechanisms which determine both exposure to and the impact of a set of psychological variables. House et al<sup>9,10</sup> argued that socioeconomic differences in health (morbidity) increase through early old age and do not converge until later old age (i.e., age 75 and older).

Despite the numerous studies about this subject, the majority of them were carried out in developed countries and little attention has been given to developing countries.<sup>13,21</sup>

The objective of the present study was to investigate the impact of SES on health in older ages and how this relation changes when controlled for confounding

variables in a developing country. The hypothesis is that due to the great distance between social strata and unequal access to adequate health care in Brazil, SES has a significant impact on elderly health. The knowledge about the impact of SES in the elderly health is crucial for developing policies and because older adults, particularly those at more advanced ages, are a fast growing population segment.

## METHODS

The study was based on cross-sectional data from the Survey on Health, Well-Being, and Aging in Latin America and the Caribbean (SABE),\* which was funded by the Pan American Health Organization and coordinated by the Center for Demography and Ecology on the University of Wisconsin – Madison. In Brazil, it was coordinated by Faculdade de Saúde Pública, Universidade de São Paulo.

The sample comprised 2,143 individuals aged 60 years and older living in private households in urban areas in the city of São Paulo, during the year 2000. It was generated through a multistage process by conglomerates with stratification of the units at the highest levels of aggregation.

Most interviews were carried out directly with the aged and only 12.9% of them were carried out with a substitute or proxy. However, the main variables were not obtained from questions answered by proxies. Missing cases were less than 5%. There were 12% of missing cases for depression symptoms and 16% for number of diseases under the age of 15. There were no significant differences between respondents and non-respondents, tested by logistic regressions on the independent variables.

Individual analysis for different age groups were not performed as recommended in the literature (Elder<sup>4</sup> 1999) as there were not enough cases for that.

Four measures of health in adulthood were examined: memory capacity, depression, self-rated health and morbidity.

Memory capacity was assessed using Folstein<sup>8</sup> Mini-Mental State Examination (MMSE), a recall test, which included words and numbers showed to subjects in a certain order, in different moments during the interview process.

For studying depression, the Yesavage Geriatric Depression Scale<sup>24</sup> was used with 15 dummy variables. The number of depressive symptoms was a count of the

affirmative responses, with three items tapping positive affect reverse coded.

Self-rated health was based on a 5-point scale ranging from poor to excellent. This measure captures respondents' overall assessment of their own medical and functional status.

In regard to morbidity, respondents indicated whether they have ever been told by a doctor that they have/had cancer, diabetes, heart disease, cerebrovascular disease, chronic lung illnesses, high blood pressure or arthritis/rheumatism. Seven dummy variables indicated the presence of each disease. Prior research<sup>7</sup> has shown substantial agreement between surveys self-reports of medical conditions and medical record reports of major medical conditions in representative samples in the United States. The number of chronic conditions was the total number reported, ranging from zero to seven.

The independent variable was the adult's SES, corresponding to respondent's own education, purchasing power and main occupation in life. Education was measured in complete years of schooling.

Purchasing power was assessed by the ownership of goods, which in Brazil reflect social class position (Associação Brasileira de Empresas de Pesquisas\*\* – Brazilian Association of Marketing Research). Those items are: automobile, refrigerator, washing machine, water boiler, microwave oven, telephone, VCR/DVD player, stereo system, fan, air conditioner and heater.

Main occupation was based on the International Standard Classification of Occupations (ISCO) of the International Labor Organization (ILO). Based on Waitzman & Smith,<sup>23</sup> occupations were added into three categories and converted into three dummy variables. The first category was high status occupation (jobs requiring high education, offering opportunities, well-paid, and involving technical work and independent decision making); the second category was medium status occupation (craft jobs requiring some years of education and affording latitude in decision making); the third was low status occupation (often machine-paced and subject to strict timetables, rules and supervision and with little security and opportunity). High status occupation was the reference category in the multivariate models.

The variable "income" was not used due to the excessive number of missing cases (86.4%).

Although the literature emphasizes people's childhood SES should be known in order to understand adult's

\* Palloni A, Pelaez M, Abdala C, Alfonso JC, Ham-Chande R, Hennis A, Lebrão ML, Lesn-Diaz E, Pantelides E, Prats O. SABE: Survey on Health and Well-being and Aging in Latin American and the Caribbean, 2000. Washington: Organización Panamericana de la Salud; 2003.

\*\* Associação Brasileira de Empresas de Pesquisas. Critério de Classificação Econômica Brasil. Disponível em: [http://www.abep.org/codigosguias/ABEP\\_CCEB.pdf](http://www.abep.org/codigosguias/ABEP_CCEB.pdf) [acesso em 26 jun 2006]

health, this is not problematic in Brazil because social and intra-generational mobility is not so frequent.<sup>19</sup> Thus self-rated childhood SES was included in the models as a control.

Controlling variables were the following:

**Childhood SES** – Respondent's rating of SES as a child was coded on a 3-point scale ranging from poor to very good.

**Childhood health** – Respondent's rating of health as a child was coded on a 5-point scale ranging from poor to excellent. Although retrospective reports of childhood health are subject to recall bias and measurement error, previous studies<sup>5</sup> found a high level of internal consistency between reports of general health and specific long-term health limitations in childhood. Other measure of childhood health was obtained as a dummy variable from the question if the subjects had to remain in bed at home for one month or more due to a health condition under the age of 15. The last measure of childhood health was the total number of diseases under the age of 15, which ranged from zero to seven and involved the same set of diseases used to measure adult number of present chronic conditions. Height was also included as a control, indicating health problems during childhood.

Other controlling variables were sex and age, marital status, living arrangements, intake of medicines, smoking, category of health insurance, and physical exercise, defined as regular physical exercise in the last six months.

After the descriptive analysis, four regression models were constructed for each adult health outcome. Model 1 included childhood SES and health only. Model 2 added SES indicators. Model 3 added other health indicators in adult life, indicators of comorbidity for each of the dependent variables were included along with age, gender and living arrangements. Model 4 added risk behaviors and category of health insurance. Statistical analyses were performed using the SPSS version 14.0. Multicollinearity was not a problem.

## RESULTS

The scores for memory capacity were summed and total score ranged from zero to 19, (mean=16.11, SD=3.05), with an alpha coefficient of 0.77. The depression scale ranged from zero to 15 (mean=2.99, SD=1.05) with an alpha coefficient of 0.80. The mean of self-rated health was 2.5 (SD=0.90). The alpha coefficient for morbidity scale was 0.72 (mean=1.52, SD=0.18). The respondents generally reported few health problems during childhood (mean=0.97, SD=0.37).

The SSE ranged from zero to 12, mean was 6.39 (SD=2.19) and reliability alpha coefficient was 0.70.

The average age was 73.28 years (SD=8.46) and 59% were female, 35.1% had private health insurance and 64.8% said they did not have it.

As for dimensions of SSE, mean score for education was 3.01, SD=1.24). This variable had 1.1% of missing cases. In terms of occupation, subjects tended to have low occupational status (71.3% of the sample), which was associated with poor self-evaluation of their SES during childhood ( $p \leq 0.05$ ). Interviewees with low occupational status evaluated their SES during childhood as poor as those with high occupational status, thus showing the predominance of low social mobility in Brazil.

Those who positively rated their health during childhood not always rated their current health in a positive way. Specifically, among those who rated their health during childhood as good, 12.1% of them rated their current health as bad; 44.4% as regular; 33.9% as good; 2.4% as very good and 7.3% as excellent. The ANOVA test for self-rating of health between past and current number of diseases was statistically significant: the highest number of diseases is related to the lowest health rating categories. The Tukey Post hoc test identified significant differences in terms of the average number of diseases between good and excellent categories.

An ANOVA test showed a significant association between self-rating of health and the number of depressive symptoms, where the highest means were seen in the lowest health rating categories. There was no significant difference among positive categories.

Another ANOVA showed significant association between memory capacity and self-rated health, the highest means were in the positive health rating categories but without significant difference between good, very good and excellent categories.

Self-rating of health was not affected by childhood characteristics, differently than that expected (Model 1; Table 1). Education had a positive effect on the subjective rating of health (Model 2). Even after controlling this effect was reduced but still statistically significant. The purchasing power followed the same pattern, i.e., after controlling for confounders, it had a greater effect on self-rated health compared to the education effect. Therefore, only some dimensions of SES have an impact on the way Brazilian older adults rate their health.

The controlling variables that had a negative effect on this indicator of health were: morbidity (number of diseases), depression (number of depressive symptoms) and intake of medicines. As expected, self-rating of health was affected by physical and mental health.

**Table 1.** Multivariate models predicting self-rated health of the elderly. São Paulo, southeastern Brazil, 2000.

Variable	Model 1		Model 2		Model 3		Model 4	
	b	$\beta$	b	$\beta$	b	$\beta$	b	$\beta$
Self-evaluation of SES during childhood	0.088 (0.028)	0.076**	0.070 (0.028)	0.061**	0.021 (0.034)	0.018	0.023 (0.034)	0.020
Self-evaluation of health during childhood	-0.047 (0.037)	-0.031	-0.025 (0.036)	-0.017	-0.011 (0.044)	-0.007	-0.009 (0.044)	-0.006
Number of diseases under the age of 15	-0.054 (0.038)	-0.035	-0.063 (0.37)	-0.41	-0.010 (0.099)	0.073	-0.011 (0.044)	-0.007
Had to remain in bed at home due to a health condition under the age of 15	-0.027 (0.079)	-0.008	-0.077 (0.78)	-0.23	0.077 (0.044)	0.007	0.079 (0.094)	0.024
Education			0.033 (0.007)	0.121***	0.025 (0.009)	0.091***	0.024 (0.009)	0.087**
Low occupation			-0.031 (0.070)	-0.016	-0.075 (0.083)	-0.037	-0.077 (0.083)	-0.038
Medium occupation			0.132 (0.081)	0.054	0.073 (0.093)	0.030	0.069 (0.097)	0.028
Purchasing power			0.046 (0.010)	0.113***	0.049 (0.014)	0.115***	0.046 (0.014)	0.107**
Number of present current diseases					-0.228 (0.024)	-0.287***	-0.225 (0.025)	0.282***
Number of depressive symptoms					-0.082 (0.009)	-0.270***	-0.079 (0.009)	0.262***
Gender					-0.113 (0.059)	-0.061	-0.086 (0.065)	-0.046
Age					0.003 (0.004)	0.029	0.003 (0.004)	0.028
Marital dummy					-0.015 (0.064)	-0.008	-0.025 (0.065)	-0.013
Living alone					0.108 (0.084)	-0.043	0.092 (0.085)	0.037
Intake of medicines					-0.214 (0.071)	-0.093**	-0.212 (0.072)	-0.092**
Height					0.004 (0.004)	0.040	0.004 (0.004)	0.045
Smoking							0.038 (0.107)	-0.010
Physical activity							0.065 (0.059)	0.032
Health insurance							0.022 (0.056)	0.012
Adjusted R <sup>2</sup>	0.010		0.052		0.240		0.240	

Standard errors in the parentheses.

\*  $p \leq 0.05$

\*\*  $p \leq 0.01$

\*\*\*  $p \leq 0.001$

SES: Socioeconomic status

Table 2 shows the results of a multivariate analysis of SES on morbidity of the elderly. SES childhood evaluation had a significant negative effect on morbidity, even after controlling for other confounders. Another childhood-related variable that had positive effect on

current number of diseases was the number of diseases under the age of 15, but this effect was no longer seen with current health characteristics. SES did not have a statistically significant effect on morbidity. The number of depressive symptoms and intake of medicines have

**Table 2.** Multivariate models predicting morbidity of the elderly. São Paulo, southeastern Brazil, 2000.

Variable	Model 1		Model 2		Model 3		Model 4	
	b	$\beta$	b	$\beta$	b	$\beta$	b	$\beta$
Self-evaluation of SES during childhood	-0.060 (0.027)	-0.089*	-0.061 (0.028)	-0.081*	-0.110 (0.044)	-0.074*	-0.117 (0.044)	-0.080*
Self-evaluation of health during childhood	-0.007 (0.049)	-0.003	-0.007 (0.049)	-0.004	0.011 (0.057)	0.005	0.014 (0.057)	0.007
Number of diseases under the age of 15	0.117 (0.050)	0.058**	0.118 (0.050)	0.058**	0.050 (0.058)	0.025	0.047 (0.058)	0.024
Had to remain in bed at home due to a health condition under the age of 15	0.184 (0.104)	0.104	0.177 (0.106)	0.041	0.095 (0.122)	0.023	0.113 (0.122)	0.057
Education			-0.012 (0.010)	-0.035	0.007 (0.012)	0.019	0.010 (0.012)	0.029
Low occupation			-0.091 (0.094)	-0.035	-0.078 (0.108)	-0.031	-0.067 (0.128)	-0.027
Medium occupation			-0.129 (0.110)	-0.041	-0.022 (0.126)	-0.007	-0.020 (0.126)	-0.007
Purchasing power			0.006 (0.014)	0.011	0.017 (0.018)	0.032	0.022 (0.019)	0.041
Number of depressive symptoms					0.042 (0.011)	0.109***	0.035 (0.011)	0.091**
Gender					-0.148 (0.077)	-0.063	-0.154 (0.084)	-0.066
Age					0.002 (0.005)	0.012	0.000 (0.005)	0.002
Marital dummy					-0.065 (0.084)	-0.028	-0.057 (0.085)	-0.024
Living alone					-0.237 (0.011)	-0.075	-0.208 (0.110)	-0.066
Intake of medicines					1.062 (0.087)	0.365***	1.029 (0.087)	0.353***
Height					0.003 (0.005)	0.028	0.003 (0.005)	0.026
Smoking							-0.021 (0.052)	-0.013
Physical activity							-0.274 (0.076)	-0.108***
Health insurance							0.012 (0.068)	0.005
Adjusted R <sup>2</sup>		0.005		0.019		0.173		0.181

Standard errors in the parentheses

\* $p \leq 0.05$ \*\* $p \leq 0.01$ \*\*\* $p \leq 0.001$ 

a significant positive effect on morbidity. Maybe the latter is a reciprocal effect but this was not possible to be tested. Physical activities appeared to contribute for reducing the current number of diseases.

The multivariate analysis showed that education had a significant positive impact on memory capacity even after controlling for confounders (Table 3). Occupation had positive impact on memory capacity: those in high status occupation had high scores in terms of memory resources than those in lower status occupa-

tion. However, the effect of occupation disappeared in the presence of controls related to current health status. Age had an important impact on memory capacity, as memory capacity decreases with aging. Depression also had negative impact on memory capacity and height had a positive effect.

Multivariate models for depression and SES are presented in Table 4. Health during childhood had a positive and significant impact on the current number of depressive symptoms. The number of diseases during

**Table 3.** Multivariate models predicting memory capacity of the elderly. São Paulo, southeastern Brazil, 2000.

Variable	Model 1		Model 2		Model 3		Model 4	
	b	$\beta$	b	$\beta$	b	$\beta$	b	$\beta$
Self-evaluation of SES during childhood	0.042 (0.094)	0.011	-0.088 (0.089)	-0.023	-0.037 (0.098)	-0.011	-0.026 (0.098)	-0.008
Self-evaluation of health during childhood	-0.217 (0.122)	-0.045	-0.093 (0.115)	-0.019	-0.111 (0.127)	-0.027	-0.101 (0.127)	-0.024
Number of diseases under the age of 15	0.184 (0.125)	0.037	0.093 (0.117)	0.018	0.140 (0.129)	0.032	0.133 (0.129)	0.031
Had to remain in bed at home due to a health condition under the age of 15	0.129 (0.258)	0.012	0.065 (0.244)	0.006	-0.237 (0.272)	-0.026	-0.233 (0.273)	-0.025
Education			0.244 (0.023)	0.276***	0.173 (0.026)	0.229**	0.167 (0.026)	0.221**
Low occupation			-0.439 (0.221)	-0.068**	0.015 (0.242)	0.003	0.006 (0.242)	-0.001
Medium occupation			-0.581 (0.255)	-0.075**	0.090 (0.282)	0.013	0.068 (0.281)	0.010
Purchasing power			0.247 (0.033)	0.187***	0.145 (0.040)	0.124***	0.127 (0.042)	0.109**
Number of present diseases					-0.038 (0.071)	0.017	-0.023 (0.071)	-0.011
Number of depressive symptoms					-0.067 (0.025)	-0.080**	-0.056 (0.026)	-0.068**
Gender					-0.140 (0.171)	-0.027	-0.037 (0.128)	-0.007
Age					-0.047 (0.010)	-0.144**	-0.047 (0.011)	-0.144**
Marital dummy					0.355 (0.188)	0.070	0.314 (0.189)	0.062
Living alone					0.368 (0.245)	0.053	0.294 (0.247)	0.043
Intake of medicines					0.004 (0.208)	0.001	0.002 (0.208)	0.000
Height					0.037 (0.012)	0.139**	0.038 (0.012)	0.143**
Smoking							0.140 (0.116)	0.040
Physical activity							0.307 (0.171)	0.056
Health insurance							0.133 (0.152)	0.028
Adjusted R <sup>2</sup>	0.001		0.140		0.142		0.144	

Standard errors in the parentheses

\*  $p \leq 0.05$ \*\*  $p \leq 0.01$ \*\*\*  $p \leq 0.001$ 

adulthood had a significant positive impact on depression. Education had a weak effect on depression, which was no longer seen after controlling. The only SES indicator that had a significant negative effect on depression was purchasing power. Age, physical activity and smoking had a negative impact on depression. Women reported fewer depressive symptoms than men.

## DISCUSSION

Except for morbidity, at least one indicator of SES had a significant effect on other three health indicators (self-rated health, memory capacity and depression).

The lack of SES effect on morbidity can be explained by the study sample, which comprised elderly people in

whom the majority of diseases are related to the aging process. Thus, these diseases could not be prevented or postponed even if these people would have knowledge gained through education.

Those subjects who rated their health during their childhood as poor now rate it positively. This may be due to the many health problems suffered in the past, that nowadays, with the new generation of medicines and vaccination available, they can better manage their health. Thus, they tend to positively rate their current health. To verify this assumption, an ANOVA was performed to test these differences, but it was not statistically significant. With regard to other health measures, there were no variables available to verify this association.

The association between education and memory capacity is possible to be explained in the sense that it is expected that those older adults with more educational resources (formal knowledge) should be those who exercise more their memory functions.

The impact of purchasing power on memory capacity can be understood in the extent to which those older adults who have more access to certain types of goods, like those related to communication and media resources, can have more chance to exercise their memory.

The effect of high status occupation on memory capacity is explained by the fact that high status occupations are those that involve more intellectual challenges than the low status occupations, these last involve more manual activities.

One explanation to the positive and significant impact of childhood health on adult depression could be that the severity of childhood health problems are more important than the absolute number of conditions on mental health status later in life. The negative impact of smoking on depression can be related to the fact that nicotine has a stimulating effect on mood.

The impact of number of diseases during childhood on adult depression happens because many diseases can cause limitations and dependency. Unfortunately the information about disability could not be used in this study due to excessive number of missing cases.

The fact that only purchasing power has an impact on depression can be explained by the huge inequality of Brazilian society and, as mentioned before, low social mobility. Thus, Brazilians tend to value the ownership of certain goods, not only as a way to have access to a variety of resources and social position but also to be socially recognized and accepted.<sup>3</sup>

The present study has potentially important implications as it shows health cannot be approached as a unique homogeneous concept and can provide information for developing social policies. Also, it confirms that SES and childhood events are important to explain elderly

health problems. This emphasizes the importance of preventive policies not only for older adults but also for early ages.

Other strength of the study is the use of a life course perspective in a developing country context, even though there was no longitudinal data available. It is possible to argue that taking childhood characteristics into account provided information about subject's life course. Some health indicators in adult later life may be the outcome of a variety of childhood conditions and experiences.<sup>12</sup> By using those retrospective questions was possible, at some extent, to compensate for the fact there was no longitudinal data to use a life course perspective.

However, the present study has some limitations. First, it was not possible to check whether the impact of SES on health varies by age group as there were not enough cases in each group to perform individual analysis. Second, income was not used in the study due to the excessive number of missing cases. Third, as aforementioned, data were gathered at one point in time and therefore it was not possible to conclude that SES causes health problems in late life. However, other studies<sup>10,15</sup> have not shown evidence of reverse causality, that is, that poor health conditions lead to low SES. Another interpretation problem of cross-sectional studies is survival bias. It is expected that subjects with poor childhood SES have lower survival rates. However, it is possible that low social mobility in Brazil tends to attenuate the differences between those who survived.

A fourth limitation arises from the fact that data were based solely from self-reports and childhood events using retrospective questions. However, it is believed that whenever people are informed by their doctor they have a health problem it means a real and serious health problem. There is controversy in the literature over the reliability and validity of retrospective reports of health events. There is clearly no way to deal with this issue given the data available in the present study.

Another limitation is the external validity. This sample is representative of a major Brazilian city and a destination of migrants from other parts of the country but it cannot be assured these results can be generalized to the whole country.

Regardless of those limitations, the study results showed a relationship between SES and health status in late life in developing countries, and also a need for further longitudinal research in these countries.

In conclusion, the study results do not fully corroborate previous results of other studies that there is a lack of association between SES and health among elderly population. However, they show that not all SES indicators have an effect on specific health dimensions. There is a need for developing policies taking into account different health dimensions and different SES indicators individually.



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