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Association between disability and social capital among community-dwelling elderly

Associação entre incapacidade funcional e capital social em idosos residentes em comunidade

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ABSTRACT: *Objective:* To assess the prevalence of disability and its association with social capital among community-dwelling elderly. *Methods:* The study was based on 2nd Health Survey of Belo Horizonte Metropolitan Region – 2010, that included 1,995 community-dwelling elderly, randomly sampled. The exposure of interest was social capital, measured by confidence in neighborhood, perception of the physical environment, sense of cohesion in housing, and neighborhood perception of help. Socio-demographic variables, health conditions and use of health services were considered in the analysis with the purpose of adjustment. *Results:* Approximately one third of participants (32.6%) were unable to at least one instrumental activity of daily living (IADL) and/or basic activity of daily living (ADL); the prevalence of disability in ADL/IADL was 18.1%, and only in IADL was 14.6%. Elderly with functional disabilities had higher odds of poor social capital, but only the sense of cohesion in housing neighborhood showed to be independently associated with functional disability (OR = 1.80; 95%CI 1.12 – 2.88). *Conclusions:* Our results show the importance of social capital in research on associated factors of functional disability and indicate the need to implement public policies for social and environmental areas, since the needs of the elderly require measures beyond those typical of the health sector.

Keywords: Disabled Persons. Social capital. Health of the elderly. Health surveys. Elderly. Epidemiology.

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RESUMO: *Objetivo:* Estimar a prevalência da incapacidade funcional e sua associação com o capital social entre idosos residentes na comunidade. *Metodologia:* O estudo foi baseado nos dados do Segundo Inquérito de Saúde da Região Metropolitana de Belo Horizonte - 2010, coletados junto a 1.995 idosos residentes em comunidade, amostrados probabilisticamente. A exposição de interesse foi o capital social, considerando os itens confiança na vizinhança, percepção do ambiente físico, sensação de coesão ao bairro de moradia e percepção de ajuda. Foram consideradas na análise, com o propósito de ajustamento, variáveis sociodemográficas, descritoras de condições de saúde e de utilização de serviços de saúde. *Resultados:* Cerca de 1/3 dos participantes (32,6%) apresentou-se incapaz para pelo menos uma das atividades instrumentais de vida diária (AIVD) e/ou atividades básicas de vida diária (ABVD); a prevalência da incapacidade para ABVD/AIVD foi de 18,1% e da incapacidade exclusiva para AIVD foi de 14,6%. Os idosos incapazes para AIVD e para AIVD/ABVD apresentaram chances mais elevadas de pior capital social, mas apenas o elemento de sensação de coesão ao bairro de moradia mostrou-se independentemente associado à incapacidade funcional (OR = 1,80; IC95% 1,12 – 2,88). *Conclusões:* Nossos resultados evidenciaram a importância do capital social na investigação dos fatores associados à incapacidade funcional e apontam para a necessidade de que outras políticas públicas sejam implementadas, nas áreas social e ambiental, visto que as necessidades dos idosos demandam medidas que vão além daquelas próprias do setor saúde.

Palavras-chave: Pessoas com Deficiência. Capital social. Saúde do idoso. Inquéritos epidemiológicos. Idoso. Epidemiologia.

INTRODUCTION

Aging may lead to the development of functional disability, which consists of the difficulty or need of help for the individual to perform typical self-care activities (basic activity of daily living, or ADL) or more complex ones (instrumental activity of daily living, or IADL), as well as in the impairment of physical mobility, they are important for independent living in society[1]. To Verbrugge and Jette[2], the incapacitating process of the individuals may be determined by predisposing factors (sociodemographic characteristics), intraindividual (lifestyle, behavior, or diseases), and extraindividual ones (interventions from health services, use of medication, external support, in addition to physical and social environments).

Several epidemiological studies, in different populations, have been associating functional disability to predisposing (gender and age) and intraindividual characteristics (self-evaluation of health and history of diagnosis for chronic diseases, such as hypertension, diabetes, and arthritis)[1,3,4]. In relation to the extraindividual factors, the role of social environment and of social relations in determining disability has been demonstrated in longitudinal[5] and cross-sectional[4,6,7] studies, as the limitations in social relations may generate inequalities in health, preventing social control and hindering decision making in health.

As for social relations, the social capital is an important outcome in health. Social capital may be defined as "characteristics of social organizations such as trust, rules, and social

networking which facilitate coordinates actions and generate benefits"[8], and it can be accessed through social relations[9]. Their study allows deeper understanding of the health relations of the population with the individual particularities, their ability to face the environmental challenges and the social dynamics of the community in which they are inserted[9].

A discussion that permeates the social capital is the individual-collective opposition, regarding its measuring[10]. Those who see it as an attribute of the individual, use the individual level of analysis. In it, each person is treated as a unit of analysis and personal indexes of social capital are built and analyzed, considering their behavior, perception, and attitude in the midst of social groups or neighborhood[11].

The investigations about the relations between social capital and health began at the end of the last century, when Kawachi et al.[12] studied the role of social capital in mortality. Since then, some researches have been offering evidence of the relation of the social capital and health conditions[13,14], but the ones specifically focused on the relations between social capital and functional disability are still scarce[15,16]. This investigation becomes, then, important as the knowledge of their determinants may reduce the negative aspects of the limitations or dependencies, such as expenses and overload of the health system and also about the community and the elderly individuals or caregiver.

Considering what was exposed so far, this study had the objective of estimating the prevalence of functional disability and investigating the association between social capital among community-dwelling elderly.

METHODS

AREA AND POPULATION OF STUDY

The study was carried out in the Metropolitan Region of Belo Horizonte (RMBH), state of Minas Gerais, in Southeastern Brazil, which is the third greatest urban concentration in the country, with a population of 4.9 million inhabitants, of which 10% are 60 years old or older[17]. It is based on the data collected in the Second Health Survey of RMBH, conducted between May 1st and July 31st 2010, a supplementary questionnaire to the Job and Unemployment Survey in RMBH (*Pesquisa de Emprego e Desemprego da RMBH*: PED–RMBH), which is coordinated by the João Pinheiro Foundation, a government agency of the state of Minas Gerais[18]. The investigation was approved by the Research Ethics Committee René Rachou, Oswaldo Cruz Foundation, protocol number 10/2009.

The participants were selected through probabilistic cluster sampling, using the census tracts of the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*: IBGE) as a primary selection unit, and the households, the sampling units, of the urban area of the 34 municipalities in the RMBH. The sample of the survey was based on 7,500 households, with about 24,000 residents. All the individuals aged 20 years or older (n = 7,778), living in the sample households, took part in the interview. Of those, 2,271 of them were aged 60 years or older[19] and were eligible for this study.

VARIABLES OF THE STUDY

The dependent variable was the functional disability of the elderly, measured by the answer to the question *"What degree of difficulty do you have to perform the following activities?"* formulated for each of the six ADL and the five IADL researched. The first ones included feeding, transferring from bed to chair, getting dressed, walking between two rooms on the same floor, using the toilet, and taking a shower; the last ones covered preparing their own meal, taking care of their own money, performing household chores, taking medicine, and shopping. The possible answers were: no difficulty, some difficulty, a lot of difficulty, and not able to perform it without help. Elderly who reported any degree of difficulty to perform at least one of the activities mentioned were considered incapable seniors. According to the answers provided, the elderly were classified into one of the three categories:

1. able,
2. incapable only of IADL, and
3. incapable of ADL and IADL.

All elderly who reported difficulty in performing any ADL also did so in relation to an IADL and, as a result, were placed in the same group.

The exposure of interest was the social capital, measured by four indicators: trust in the neighborhood, perception of the physical environment, sense of cohesion to the house, and perception of help[20], were built by seven questions of the questionnaire. Given the dichotomous nature of these seven questions, the matrix of tetrachoric correlation to evaluate the correlation between them was used, an analysis which justified the definition of the composition of each one of the indicators, as described below.

To compose the indicator "trust in the neighborhood," the participant was asked whether they could or could not trust most people, and for the composition of "help perception," it was asked whether or not the elderly thought their neighbors helped each other. In each of these questions, the negative answer characterized, respectively, low trust in the neighborhood and absence of perception of help. The indicator "perception of the physical environment" consisted of two questions: "Are you satisfied with the way your block is taken care of?" and "Do you think your neighborhood is good for children and teenagers?" The negative answer to at least one of these questions characterized worse perception of the physical environment. The composition of the "sense of cohesion to the neighborhood" was based on three questions, being, whether or not they felt comfortable in the neighborhood where they live, whether or not they liked their neighborhood, and if they would like to stay in the place where they live. Similarly, the worse sense of cohesion was determined by the negative answer to at least one of these questions. As well as in other studies[20,21], the low trust in the neighborhood, the absence of help perception, and worse perception of the physical environment and sense of cohesion indicate low levels of social capital.

The model used to evaluate the association between social capital and functional disability took into account, for the purpose of adjustment, three sets of variables, namely: sociodemographic characteristics, health conditions, and use of health services. The sociodemographic characteristics included gender, age (in years), education (in years), marital status (married,

widowed, or single/divorced), and if they lived alone. For the set of health conditions, the number of chronic diseases (0, 1, 2, and 3 or more), based on the report of medical diagnosis for the following diseases: arthritis, cancer, hypertension, asthma, diabetes, coronary diseases, stroke, depression, and kidney and spine diseases was considered. Also among health conditions, the health self-evaluation (very good/good, fair, and poor/very poor) was used. As for the describing variables of the use of health services, the number of medical appointments (0 to 1, 2 to 4, and 5 or more) and the history of hospitalization within the last 12 months, in addition to the coverage by health insurance, were the variables chosen.

DATA ANALYSIS

The incapable seniors for IADL and the incapable ones for both ADL and IADL were compared, simultaneously, with those who do not have difficulties in ADL nor in IADL (capable seniors), by the χ^2 test of Pearson, in relation to all the aforementioned covariables.

The multivariate analysis of the association between social capital and functional disability was performed using the model of multinomial logistic regression, which estimates the *odds ratios* (OR) and the respective 95%confidence interval (95% CI). The final multivariate model includes the four indicators of social capital. For the selection of the covariates to be included in the multivariate model, the statistical significance level $p < 0.20$ was adopted, considering that the significance level $p < 0.05$ is the criterion to identify the independent variables associated to functional disability. The appropriateness of the adjustment of the multivariate model was evaluated through the generalized Hosmer–Lemeshow test.

The analyses were conducted using the Stata® software, version 13 (Stata Corp), considering the technical procedures adopted for populational surveys with complex sample designs.

ETHICAL CONSIDERATIONS

The Adult Health Survey of the metropolitan area of Belo Horizonte in 2010, protocol number 10/2009, was approved by the Research Ethics Committee of the Institute René Rachou, Oswaldo Cruz Foundation, Belo Horizonte, Minas Gerais.

RESULTS

One thousand nine hundred and ninety-five elderly took part in the study with the complete information on all the variables included in the study. The elderly excluded (n = 276) were no different from the participants in relation to the functional disability (p = 0.345) and to all indicators of social capital (p > 0.05). Most of the participants were females (61.7%) and belonged to the age range from 60 to 69 years of age (55.8%). A little more than 6 among every 10 participants (64.1%) had education of less than 8 years, half (49.9%) of them were

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Table 1. Characteristics of the studied population and their distribution according to the functional disability among elderly (60 years of age or more), living in the metropolitan area of Belo Horizonte, 2010.

Variables	Total population (n = 1,995) %	Able (n = 1,343) %	Unable only to IADL (n = 292) %	Unable to ADL/IADL (n = 360) %	p-value
Gender					
Male	38.3	43.1	32.5	25.2	< 0.001
Female	61.7	56.9	67.5	74.8	
Age (in years)					
60 to 69	55.8	64.4	42.6	34.3	
70 to 79	30.2	28.2	35.2	33.6	< 0.001
80 or more	14.0	7.4	22.2	32.1	
Education (in years)					
< 4	26.3	20.0	38.5	40.1	
4 to 7	37.8	37.5	35.4	40.8	
8 to 11	24.9	28.2	20.6	16.0	< 0.001
12 or more	11.0	14.3	5.5	3.1	
Marital status					
Married	49.9	56.1	42.1	32.7	
Widowed	32.5	25.2	43.3	51.2	< 0.001
Single/divorced	17.6	18.7	14.6	16.1	
Living alone					
No	84.6	57.3	12.6	14.6	0.196
Yes	15.4	10.0	2.0	3.4	
No. of chronic diseases					
0	27.8	33.5	17.6	14.7	
1	33.7	36.1	31.0	27.3	
2	22.2	19.4	26.0	29.4	< 0.001
3 or more	16.3	11.0	25.4	28.6	
Self-perception of health					
Very good/good	58.1	69.4	43.6	28.0	
Fair	32.5	26.9	44.6	43.5	< 0.001
Bad/very bad	9.4	3.7	11.8	28.5	
No. of medical appointments					
0 to 1	37.8	43.3	27.9	25.0	
2 to 4	39.7	38.9	43.8	39.1	< 0.001
5 or more	22.5	17.8	28.3	35.9	
History of hospitalization					
No	90.6	94.1	87.0	80.6	< 0.001
Yes	9.4	5.9	13.0	19.4	
Health insurance					
No	53.9	35.6	8.0	102.2	0.421
Yes	46.1	31.9	6.6	7.7	

Absolute frequencies disregard sample weighting; percentage consider sample weighting; IADL: instrumental activity of daily living; ADL: basic activity of daily living.

married and 15.4% lived alone. In relation to health conditions, 72.2% of them had at least one chronic disease and more than half of them (58.1%) evaluated health as good or very good. The characterization of the population of the study and the results of the univariate analysis of the characteristics associated to functional disability may be seen in details in Table 1. With the exception of living alone and coverage by health insurance, the remaining variables were associated to functional disability, with $p < 0.05$.

Every one-third of the participants (32.7%) were incapable of at least one IADL and/or ADL; the prevalence of disability for ADL was 18.1% and the exclusive disability for IADL was 14.6%, considering that the elderly with disability for ADL were also incapable of at least one IADL. Considering that the indicators which dimensions the social capital, the proportion of elderly who did not notice help from the neighborhood, is case they needed, and with worse sense of cohesion to the neighborhood reached approximately 14%. With more elevated proportions, the ones with worse perception of the environment reached 21.8%, and 39.5% had low trust in the people of the neighborhood.

In Table 2, it is possible to see the results of the univariate analysis of the association between the social capitals and functional disability. The elderly incapable of IADL and incapable of both IADL and ADL showed higher proportions of worse social capital, but only the perception of the physical environment and the sense of cohesion of the neighborhood were significantly associated to the functional disability ($p < 0.05$).

The final results of the multivariate analysis of the factors associated with functional disability are presented in Table 3. Only the indicator of sense of cohesion to the neighborhood kept a significant and independent association of the variables of adjustment, with OR = 1.80

Table 2. Results of the univariate analysis between social capital and functional disability.

Variables	Total population (n = 1,995) %	Able (n = 1,343) %	Unable only to IADL (n = 292) %	Unable to ADL/IADL (n = 360) %	p-value
Perception of help					
Yes	86.2	86.9	85.7	83.8	0.433
No	13.8	13.1	14.3	16.2	
Perception of the physical environment					
Better	78.2	79.7	72.6	77.1	0.048
Worse	21.8	20.3	27.4	22.9	
Sense of cohesion to the neighborhood					
Better	86.2	88.6	81.1	81.6	0.001
Worse	13.8	11.4	18.9	18.4	
Trust in the neighborhood					
High	60.5	61.6	56.1	60.0	0.295
Low	39.5	38.4	43.9	40.0	

Absolute frequencies disregard sample weighting; percentage consider sample weighting; IADL: instrumental activity of daily living; ADL: basic activity of daily living.

Table 3. Results of the multivariate analysis of the association between social capital and functional disability.

Variables	Crude OR (95%CI)		Adjusted OR (95%CI)	
	Unable only to IADL	Unable to ADL/IADL	Unable only to IADL	Unable to ADL/IADL
Gender (ref: Male)				
Female	1.57 (1.18 – 2.09)	2.25 (1.71 – 2.97)	1.24 (0.89 – 1.71)	1.55 (1.06 – 2.26)*
Age (continuous)	1.07 (1.06 – 1.09)	1.11 (1.09 – 1.13)	1.06 (1.04 – 1.08)	1.09 (1.07 – 1.11)*
Education (ref: < 4 years)				
4 to 7	0.49 (0.34 – 0.70)	0.54 (0.40 – 0.74)	0.70(0.49 – 1.00)	0.91 (0.63 – 1.32)
8 to 11	0.38 (0.26 – 0.56)	0.28 (0.19 – 0.42)	0.59 (0.39 – 0.88)	0.59 (0.37 – 0.91)*
12 or more	0.20 (0.10 – 0.39)	0.11 (0.05 – 0.21)	0.39 (0.19 – 0.77)	0.35 (0.17 – 0.71)*
Marital status (ref: Married)				
Widowed	2.29 (1.66 – 3.16)	3.48 (2.54 – 4.76)	1.52 (1.04 – 2.23)	1.69 (1.12 – 2.57)*
Single/divorced	1.05 (0.71 – 1.55)	1.48 (0.98 – 2.23)	1.10 (0.70 – 1.71)	1.44 (0.82 – 2.52)
Living alone (ref: No)				
Yes	0.91 (0.62 – 1.36)	1.33 (0.93 – 1.89)	0.58 (0.37 – 0.90)	0.65 (0.41 – 1.03)
No. of chronic diseases (ref: none)				
1	1.63 (1.12 – 2.40)	1.73 (1.17 – 2.56)	1.25 (0.83 – 1.87)	1.22 (0.80 – 1.87)
2	2.54 (1.65 – 3.91)	3.44 (2.28 – 5.20)	1.29 (0.81 – 2.05)	1.20 (0.76 – 1.92)
3 or more	4.40 (2.82 – 6.87)	5.95 (3.86 – 9.17)	1.86 (1.14 – 3.03)	1.40 (0.84 – 2.34)
Self-perception of health (ref: Very good/good)				
Fair	2.63 (1.94 – 3.57)	3.99 (2.87 – 5.54)	1.77(1.25 – 2.50)	2.77 (1.94 – 3.94)*
Bad/very bad	5.07 (2.81 – 9.14)	18.96 (11.79 – 30.47)	2.80 (1.50 – 5.22)	10.26 (6.04 – 17.43)*
No. of medical appointments (ref: 0–1)				
2 to 4	1.74 (1.24 – 2.46)	1.75 (1.25 – 2.44)	1.53 (1.06 – 2.20)	1.42 (0.97 – 2.08)
5 or more	2.48 (1.69 – 3.63)	3.52 (2.44 – 5.08)	1.75 (1.15 – 2.66)	1.89 (1.24 – 2.89)*
Hospitalization (ref: No)				
Yes	2.36 (1.48 – 3.76)	3.82 (2.59 – 5.63)	1.41 (0.85 – 2.32)	1.77 (1.11 – 2.80)*
Perception of health (ref: Yes)				
No	1.10 (0.73 – 1.67)	1.28 (0.87 – 1.88)	0.90 (0.56 – 1.47)	1.21 (0.79 – 1.85)
Perception of the physical environment (ref: Better)				
Worse	1.48 (1.08 – 2.03)	1.17 (0.86 – 1.60)	1.26 (0.86 – 1.84)	1.01 (0.66 – 1.55)
Sense of cohesion to the neighborhood (ref: Better)				
Worse	1.81 (1.20 – 2.73)	1.76 (1.19 – 2.58)	1.80 (1.12 – 2.88)	1.99 (1.17 – 3.41)*
Trust in the neighborhood (ref: High)				
Low	1.26 (0.94 – 1.68)	1.07 (0.82 – 1.40)	1.19 (0.86 – 1.66)	1.06 (0.75 – 1.48)

OR: *odds ratio*, estimated by the multinominal logistic regression model. Reference category: independently for IADL and ADL. Adjusted OR for all the variables described in the model; 95%CI: confidence interval of 95%; *values of $p < 0.05$; IADL: instrumental activity of daily living; ADL: basic activity of daily living. A total of 1,995 elderly took part in the study for all the variables included in the multivariate model.

(95%CI 1.12 – 2.88) for exclusive inability of IADL and OR = 1.99 (95%CI 1.17 – 3.41) for association of disability of ADL/IADL, indicating that elderly with worse perception of their neighborhood have higher chances of disability of IADL/ADL.

All the variables included in the final model for adjustment are presented independently associated with the exclusive inability of IADL and/or inability of ADL/IADL. Female elderly, older widowers, in worse health conditions (with three or more chronic diseases or who evaluated negatively their own health) and who used more health services (five or more medical appointments and history of hospitalization within the last 12 months) had more chances of presenting one of the disabilities, whereas among the elderly with education equal to or longer than 8 years, the chances of disability were lower.

DISCUSSION

Our results showed that one-third of the elderly presented themselves incapable to perform at least one IADL and/or ADL, and that the chances of functional disability were higher among elderly with lower level of social capital, although among the indicators of this later one, only the perception of cohesion to the neighborhood was independently associated with disability.

The prevalence of disability observed in this study (32.7%) was slightly lower than the one detected (35.8%) in a study carried out among elderly living in the RMBH in 2003[22], which measured the functional disability with identical criteria to the ones used here. When compared with other studies, it was proven to be higher than the 22.7% verified among Brazilian elderly participating in the National Survey by Household Sample (*Pesquisa Nacional por Amostras de Domicílio:* PNAD) 2003[23] and to the 25% observed among Iranian elderly[7]. However, in the study of the PNAD[23], the measure of functional disability restricted themselves to the activity of walking about 100 m and the inability of ADL, among the Iranians, was evaluated. The prevalence was lower, however, than the one found among Spanish elderly (71.7%)[24], but in this study the measure of disability was broader, covering not only the ADL and IADL, but also activities of mobility. Therefore, the prevalence of disability among the elderly in the RMBH was higher than the one observed in studies in which its operation was proven to be more restricted in terms of activities, and lower than the studies in which a broader criterion to measure disability was adopted.

In our study, the disability of IADL was more frequent than the inability of ADL, results of which are considered consistent with other literatures[3,6,24]. The ADL is related to the survival and it requires the need of caregivers, whereas the IADL involves greater complexity degree for implementation and precedes the ADL[3]. The measuring of the IADL allows scaling at populational level, the functional disability in the early stages, and facilitating the early detection of the problem. From the perspective of health services, this investigative option favors the targeting of their actions for the limitation of the advance of the less severe disability, reducing the potential for future growth of a severe disability, and reducing costly

consequences about the health system and about the quality of life of the individual and their family[25]. From the perspective of the objective of our study, considering the IADL along with the ADL in the estimates of functional disability was particularly relevant, as the variable of exposure of interest was the social capital and the instrumental activities are strongly connected to the social participation and to the life outside the household.

In this study, the functional disability was shown positively associated to the low level of social capital. Our results corroborate findings of international studies carried out in the higher income countries[15,26,27]. In addition to that, our results showed that not all elements of the social capital are associated to the functional disability, as its association was restricted to the indicator of cohesion to the household. Also in this aspect, our results are consistent with the literature. For example, among Japanese elderly women, the association between social capital and functional disability was limited to two elements of the former, in this case, trust and social participation[15]. In England[26], in a sample of elderly aged 65 years or older, the social support and participation in groups were the dimensions of the social capital, which were statistically associated with the functional disability. In the cities of Denmark, the indicators of social capital significantly associated with the disability were the diversity in social relations, the social participation, and the social support[27]. In Brazil, Ferreira et al.[28] observed that only the component called perception of the physical environment was associated with the functional disability of elderly in the RMBH, Minas Gerais.

It is highlighted that the indicator of perception of cohesion to the neighborhood portrays the sense of comfort with the place of residence and whether the individuals think that a specific neighborhood is a good place to live. Probably, the elderly with high perception of cohesion to their neighborhood adopt healthier behaviors, even regarding their prevention of the onset of disabilities and they benefit from the effects of belonging to a community that shares the same interests and feelings, cultural activities, and recreation[29]. Given the lack of studies on specific effects of cohesion perception about the functional disability and even about other health events, new investigations on this theme are necessary. In general, it is possible that the high level of social capital interferes in the health of the individuals by improving the possibilities of access to several kinds of resources, dissemination of information, organizations of the community, social control, satisfaction, and quality of life, influencing the health of the members of the society and the health actions brought before these individuals in a positive way[30].

The functional capacity is one of the most relevant issues in public health, because of its dimensional aspect and for allowing aging with quality of life; its study and understanding are configured as one of the main objectives of health professionals and health services. The identification of associated factors that causes functional disability of elderly provides relevant elements for the prevention and for the intervention strategies and it is essential to avoid or lessen the damages to the individuals, the family, and the society. From what is known, few studies have been examining social factors as the determinants of functional disability[15,27].

In addition to that, considering the social capital proves particularly important, as it provides opportunities for better understanding the reason why inequalities in health are

manifested, especially the functional disability, and how they may be better addressed, directing the focus of health professionals, policies, and the community members themselves, in favor of aging with quality of health[31].

The multiple definitions, the different options of measuring, and the data analysis hamper the research of the social capital in populational studies. Thus, recognizing their diverse and multidimensional nature, we use measures of social capital that are able to express the degree of interpersonal relation and the satisfaction with the place of residence and with neighbors, which are also used in other investigations performed with elderly living in the RMBH[29]. Another difficulty arises from the absence of a consensus on which would be the appropriate level of social capital, if either the individual or aggregate one[32]. In relation to the unit of analysis, we have chosen to measure the social capital at an individual level, once it was originally considered and defined as a good thing of the individual and not inducing to ecological fallacy[33,34].

An important limitation of this study is its cross-sectional design, which makes it impossible to establish a distinction, in time, between exposure end events. It sets up then, the possibility of occurrence of reverse causality, that is, the low level of social capital being a consequence of functional disability. On the other hand, the study shows qualities that reinforce it, such as being population based, allowing the inference of its results for one of the most populous metropolitan areas in Brazil, in addition to the methodological rigor in its conduction, which support its internal validity.

CONCLUSION

In conclusion, our study showed high prevalence of functional disability, especially in the group of IADL and their association with the social capital. Elderly with low levels of social capital had more chances of presenting some kind of difficulty in performing the IADL/ADL, particularly regarding the perception of cohesion of their neighborhood. The future populational researches on functional disability should not neglect the role of the social context for a broader understanding of this complex and dynamic phenomenon. It is also expected that coping with the disability is not limited to specific health actions, but it also contemplates the implementation of other public policies, in social and environmental areas, once the needs of elderly demand measures beyond those specific to the health field.

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CORRECTION / *ERRATA*

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