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Social inequalities in the prevalence of common mental disorders in adults: a population-based study in Southern Brazil

Iniquidades sociais na prevalência de desordens mentais comuns em adultos: estudo de base populacional no Sul do Brasil

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ABSTRACT: ***Objective:*** This study aimed to investigate the prevalence and factors associated with Common Mental Disorders (CMD) in adults in a capital city in Southern Brazil. ***Methods:*** Population-based survey conducted on 1,720 adults aged 20 – 59 years from Florianópolis, Southern Brazil. The CMD were investigated through the Self-Reporting Questionnaire (SRQ-20). The independent variables were demographic, socioeconomic, health-related behaviors, health conditions and use of health services. Multivariable Poisson regression was used for the estimation of prevalence ratios (PR) and 95%CI. ***Results:*** The prevalence of CMD was 14.7%. Adjusted analyses showed that the prevalence was higher among women, those self-reported as blacks, with lower educational level, poor, divorced/separated/widowed, inactive in leisure time, heavy smokers, people with chronic diseases, those who reported negative health self-rating, those who had medical appointments and who were hospitalized before the interview. ***Conclusion:*** CMD is relatively high among population subgroups most vulnerable to social inequalities and with worse conditions related to health indicators.

Keywords: Mental health. Epidemiology. Cross-sectional studies. Brazil. Socioeconomic factors. Adult.

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RESUMO: ***Objetivo:*** O objetivo do estudo foi investigar a prevalência e os fatores associados com Transtornos Mentais Comuns (TMC) entre adultos de Florianópolis, Sul do Brasil. ***Métodos:*** Estudo de base populacional conduzido com 1.720 adultos de 20 a 59 anos. Os TMC foram investigados pelo *Self-Reporting Questionnaire* (SRQ-20). As variáveis independentes foram as demográficas, socioeconômicas, comportamentos relacionados com a saúde, condições de saúde e uso de serviços de saúde. A regressão multivariável de Poisson foi empregada para a estimativa de razões de prevalência e IC95%. ***Resultados:*** A prevalência de TMC foi de 14,7%, sendo as maiores prevalências nas mulheres, nas pessoas de cor da pele preta, com baixo nível educacional, pobres, divorciados, inativos durante o lazer, fumantes pesados, pessoas com doenças crônicas, com percepção negative de saúde, que tiveram consultas médicas e foram internados nos últimos 12 meses. ***Conclusão:*** Os subgrupos populacionais mais vulneráveis aos TMC foram aqueles mais vulneráveis às iniquidades sociais e com piores condições relacionadas aos indicadores de saúde.

Palavras-chave: Saúde mental. Epidemiologia. Estudos transversais. Brasil. Fatores socioeconômicos. Adulto.

INTRODUCTION

Mental, physical, and social health are elements of life that are closely related and interdependent, and are fundamental to the well-being of people and society. Mental health is a state of well-being in which an individual realizes their own abilities, can cope with normal stress of life, can work productively and is able to make their contribution to community. In this positive sense, mental health is the foundation for individual well-being and the effective functioning of a community[1]. Throughout most of the world, however, both health and mental issues are neglected and are not given the same attention or importance as physical health[2].

The World Report 2001, which focused on mental health, found that 450 million people suffer from mental or behavioral disorders that include clinically significant alterations in emotion, thought process or behavior associated with impaired functioning[2]. Research coordinated by the WHO[3] in North American countries, Latin America and Europe, which investigated the occurrence of any diagnosis of mental disorder in life, identified a huge variation in the prevalence of these disorders: more than 40% of the population in the United States and Holland, 20% in Mexico and 12.2% in Turkey.

In Brazil, a multi-center study[4] carried out with adults from three large capital cities (Brasília, São Paulo, and Porto Alegre), showed that the prevalence of mental disorders in the population varied from 19% in São Paulo to 34% in Brasília and Porto Alegre. The most common diagnoses were anxiety disorder (18%), alcohol disorders (3%), and depression, ranging from 3% in São Paulo and Brasília to 10% in Porto Alegre.

Approximately 90% of mental disorder cases are disorders of mood, anxiety, and/or somatoforms[1,2,5]. The symptomatology of these diagnostic categories, represented by insomnia, fatigue, irritability, forgetfulness, difficulty with concentration and somatic complaints,

characterize the expression created by Goldberg & Huxley[6] in 1992, named common mental disorders (CMD). Due to their high frequency in the community, CMD represent a high social and economic cost as they constitute a significant reason for days taken off work, as well as increasing the demand on health services[7], creating a public health problem[1-3].

The literature has indicated some characteristics that are associated with CMD prevalence. Cross-sectional studies conducted in Brazil showed that CMD are more frequent in women[8-12], blacks[9,10,13], individuals with low educational level[13-15], poor[14-16], unemployed[13-15], bad health self-perception[10-11], smokers and those suffering from chronic diseases[17]. However, most population-based studies in Brazil were conducted in inner cities[13-15,18,19], whose pace of life are less hectic than that of capitals and major urban centers.

In this sense, this study contributes to population-based surveys, especially in Brazil — a country of continental dimensions where health, housing, and socioeconomic conditions change from one location to another[20,21]. In addition, population-based surveys rise in importance, as they allow knowledge of the health profile and the distribution of risk factors in a given population, with periodic updating and sequential comparisons over time and between geographic regions[22].

This study aimed to investigate the prevalence of CMD and their association with demographic and socioeconomic factors, health-related behaviors, health conditions, and use of health services in the adult population of Florianópolis, Southern Brazil.

METHODS

This is a cross-sectional, population-based study entitled EpiFloripa Adult 2009, developed to investigate health conditions of individuals in the age range 20 – 59 years, residents of the urban area of Florianópolis, capital of the state of Santa Catarina, south Brazil. The city has a population of 408,161 inhabitants[20], and stands out as the Brazilian capital city with the best Human Development Index (HDI), around 0.875, which also makes it the fourth Brazilian city with the best quality of life[20,21].

POPULATION AND SAMPLE

The sample size was calculated to estimate the prevalence of diverse health outcomes investigated in the survey through the Epi-Info, considering a target population of 249,530 adults aged between 20 and 59[20], confidence level of 95%, prevalence for unknown outcomes of 50%, sample error of 3.5 percentage points, estimate design effect (deff) of 2.0 (due to cluster sampling) and percentage of estimate loss of 10%. Based on these parameters, a sample size of 1,820 individuals was obtained. However, due to the multiple objectives of the EpiFloripa study, 32 adults from each of the 63 census tracts were interviewed, thus increasing the sample size to 2,016 individuals.

The first stage comprised the census tracts and the second stage comprised the households. The 420 existent urban census tracts in Florianópolis, in accordance with the 2000 census, were stratified in increasing order of income of the head of household, ranging from R$ 192.80 to R$ 13.209.50 (Brazilian currency: R$ 1.00 = US$ 1.7 at data collection), added in deciles, each one with 42 sectors. Sixty sectors were systematically selected, i.e., 6 sectors in each decile of income. All sectors were visited by the research team in order to update the number of households in each sector. The number of occupied households ranged from 61 to 810 per sector. In order to reduce the variation coefficient between the census residential units, which initially were 55% (n = 60 sectors), the sectors were reorganized through fusion and division of these units, totaling 63 sectors. This resulted in a reduction of the variation coefficient to 32%. Consequently, this allowed for a self-weighed sample. Sixteen thousand seven hundred and fifty-five households made up the 63 sample sectors. We systematically chose 18 households at random in each of the geographical units (average of 1.78 adults per domicile) or 32 adults in each census tract.

Every person in the 20 – 59 years' age range in each selected household should have been interviewed. Individuals who were institutionalized or with a physical and/or mental impediment were excluded from the research and those who declined to participate were considered refusals. Individuals who were not at home, and who were visited at least four times including at least one visit on weekends and one at night, were considered losses.

Field work was carried out between September 2009 and January 2010. Data were collected through face-to-face interviews with all adults living in the selected households. For this purpose, 35 interviewers were selected and trained to perform the field work. The Personal Digital Assistant (PDA) device was used for recording and storing data, thus eliminating the need of typing for data entry.

Quality control for the responses was performed weekly by checking 15% of the interviews (n = 248), selected at random. The field work supervisors checked the key information (10 questions) contained in the questionnaire by phone calls over a period of up to seven days after the initial interview. Of the questions used in this study, physical activity was in the quality control scope and showed a Kappa value of 0.7. The other variables evaluated in the quality control had similar or higher Kappa values.

The understanding of the questionnaire was pre-tested, by administering it to 30 adults living in an area covered by a municipal Health Unit, near *Universidade Federal de Santa Catarina*. After training the interviewers, a pilot study was carried out with 100 individuals from two census tracts selected at random for this purpose; however, the results were not incorporated to the study.

OUTCOME

The instrument employed to detect the outcome of this study, Common Mental Disorders[6], was the Self-Reporting Questionnaire (SRQ-20)[23], validated in Brazilian Portuguese[17]. This instrument contains 20 questions divided into 4 symptom groups: depressed/anxious

mood, somatic symptoms, a decrease in vital energy and depressive thoughts[24]. The answers 'yes' or 'no' to each question referred to the 30-day period prior to the interview and each affirmative answer scored one point. The final score was obtained by summing up these scores. The scores obtained are related to the probability of presence of Common Mental Disorders ranging from 0 (no probability) to 20 (extreme probability). The cutoff point used was 8 or more affirmative answers for both sexes. At this cutoff point the instrument presented sensitivity and specificity of 86.3% and 89.3%, respectively[25].

INDEPENDENT VARIABLES

The association between CMD and independent demographic and socioeconomic variables, health-related behaviors, health condition, and use of health services were investigated as follows: sex (male/female); self-reported skin color, collected according to the categories of the Brazilian Institute of Geography and Statistics (IBGE) and classified as white, brown, or dark skinned black (the results of those who self-reported as Asian – 1.0% or Indigenous – 1.2% were not presented in the tables due to its low frequency, but were included in the adjusted analyses); age range (20 – 29, 30 – 39, 40 – 49, 50 – 59), level of schooling collected by number of completed years of study and later categorized into 0 – 4, 5 – 8, 9 – 11, 12 years or more; *per capita* family income in reais (R$), referring to the total of earnings of all kinds received by all family members for the month prior to the interview and divided by the number of household members and categorized into tertiles; marital status (married/living with a partner, single, divorced/separated/widowed); practices physical exercise during leisure time (yes/no) according to the methodology described in Florindo et al.[26]; smoking habit (never smoked, former smoker, up to 10 cigarettes a day, from 11 to 20 and over 21); alcohol problem (yes/no), BMI (in kg/m^2), presence of at least one chronic disease (back pain, arthritis or rheumatism, fibromyalgia, cancer, diabetes, bronchitis or asthma, hypertension, heart or cardiovascular disease, chronic renal insufficiency, depression, schizophrenia, tuberculosis, tendinitis or tenosynovitis, cirrhosis, cerebral aneurysm, stomach, or duodenal ulcer); self-assessment of health (very good, good, regular, bad, very bad) categorized as positive (very good and good) and negative (regular, bad and very bad), medical consultation in the last 15 days (yes/no), hospital admittance in the last 12 months (yes/no).

In relation to the use of alcohol, individuals who scored 8 or more were considered problematic on the Alcohol Use Disorders Identification Test (AUDIT) validated for the Brazilian population[27]. The nutritional state of the respondents was measured through the BMI, calculated by dividing body mass (kg) by height (m^2). The anthropometric measurements followed international standards[28]. To assess body mass, electronic scales were used (GA.MA Italy Professional®, model HCM 5110M, 100-gram resolution and 150 kg capacity), and were calibrated before the research began. Height was measured by a stadiometer especially built for the study with a 1-mm resolution metric tape. The BMI was

categorized as follows: eutrophic (≤ 24.9 kg/m^2), overweight (25.0 – 29.9 kg/m^2), and obese (≥ 30 kg/m^2) according to recommendations stipulated by the WHO[29]. The 2% of underweight participants (BMI ≤ 18.5 kg/m^2) were grouped together with the eutrophic category. Anthropometric measurements of pregnant women or those in the puerperal period were not taken.

STATISTICAL ANALYSIS

To characterize the sample, descriptive statistics was used. Poisson regression was used to identify factors associated with the presence of common mental disorders, estimating prevalence ratios (PR), with confidence intervals of 95% (95%CI). Adjusted analysis followed a hypothetically temporal hierarchical model for the determination of common mental disorders, as proposed by Victora et al.[30] Statistical modeling followed the division into five blocks of variables, the first of which — the most distal to the outcome — was composed of demographic variables (gender, skin color, and age). The second was formed by socioeconomic variables (educational level and family income) and marital status. The third block of variables was formed by health-related behaviors (physical activity during leisure time, smoking, and problematic alcohol use). The fourth block was composed of variables nutritional status, chronic diseases, and self-rated health. The block most proximal to the outcome was formed by variables medical visit in the past 15 days and hospitalization in the last 12 months. All variables were included in the adjusted model, regardless of the p-value in the crude analysis. For the choice of the selection method of input variables in the multivariate model, the forward and backward methods were tested, which showed similar results, and the backward method was selected. Adjustments were performed for variables of the same level and levels above those with $p \leq 0.20$ in the Wald test remaining in the model variables with $p < 0.05$[31]. Additionally, the possible interaction and effect modification in the associations between gender and the other independent variables (skin color, age, *per capita* family income, educational level, and marital status) was tested. None of the interactions tested were statistically significant and, for this reason, all analyses are presented without stratification.

All analyses were performed using the Stata 9.0 software (StataCorp, College Station, Texas, USA), considering the design effect and the sampling weight.

ETHICAL ISSUES

The study was approved by the Ethics Committee on Human Research of *Universidade Federal de Santa Catarina* (no. 351/08). The subjects were informed about the objectives of the study and signed the Free and Informed Consent.

RESULTS

The response rate of the study was 85.3%, i.e., 1,720 people investigated out of the predicted 2,016. The design effect (deff) of the Common Mental Disorders variable was 1.76. Table 1 shows the characteristics of the sample. The prevalence of CMD in the population was 14.7% (95%CI 12.2 – 17.2), higher in females, blacks, people aged over 30 years, among those with low educational level, in individuals with low socioeconomic level and among divorced/separated/widowed individuals (Table 1).

Females, blacks, those aged 30 – 39 years, with low educational level, poor, divorced, separated or widowed, physically inactive during leisure time, smokers, those with some type of non-communicable chronic disease and those with negative health self-assessment, those who had medical consultation during the 15 days preceding the interview and those hospitalized in the 12 months preceding the interview were the subgroups with the highest prevalence of CMD in the unadjusted analyses (Table 1).

In the adjusted analysis, health inequities were perceived in the prevalence of CMD. The outcome was higher in women, blacks, in those with lower education levels, the poor, and divorced, separated, or widowed people. Moreover, adults who were physically inactive during leisure time, those who smoked more than 21 cigarettes per day, those with some non-communicable chronic disease and with negative health self-assessment showed twice as high prevalence of having CMD than their counterparts. Individuals who had medical consultation during the 15 days preceding the interview and those hospitalized in the 12 months preceding the interview also integrated the population subgroup with the highest prevalence of CMD (Table 2).

DISCUSSION

The prevalence of CMD among adults in Florianópolis was 14.7%, the lowest prevalence among the published Brazilian population-based studies. Although the same outcome in the adult population was investigated and the same instrument was used, these compared studies[8-11] presented methodological differences related to the categorization of age range and the SRQ-20 cutoff point.

The association between socioeconomic variables with CMD was higher in women, blacks, people with lower income and education levels, and was similar to findings from other studies[8-11], thus confirming the social inequalities in health, which persist and amplify the differences in health among the socioeconomic strata and differences of gender, race, and ethnicity[11]. Although authors consider the possibility of reverse causality in this association (CMD affect unfavorable socioeconomic conditions), they do not rule out the hypothesis that there could be a vicious circle in which poverty and socioeconomic inequalities generate CMD, which, in turn, generate more poverty and so on, making it even more difficult for these people to overcome unfavorable social situations[32].

Table 1. Characteristics of the adult population studied, prevalence of common mental disorders and prevalence ratio between common mental disorders and independent variables. Florianopolis, Brazil (2009-2010).

Variables	Sample		CMD		Crude analysis	
	n	%	%	95%CI	PR (95%CI)	p
Total	1,720	100.0	14.7	12.2 – 17.2		
Sex (n = 1,720)						
Male	761	44.5	7.4	5.4 – 9.4	1.0	< 0.01
Female	959	55.5	20.5	16.7 – 24.4	2.8 (2.1 – 3.6)	
Skin Color* (n = 1,678)						
White	1,444	85.8	13.5	11.3 – 15.7	1.0	< 0.01
Brown	147	9.1	17.1	8.9 – 25.3	1.3 (0.8 – 2.0)	
Black	87	5.1	22.0	14.5 – 29.5	1.6 (1.1 – 2.3)	
Age (years) (n = 1,720)						
20 – 29	540	32.7	11.7	8.6 – 14.7	1.0	0.09
30 – 39	392	22.9	16.0	12.1 – 20.0	1.4 (1.1 – 1.8)	
40 – 49	438	25.0	16.5	12.6 – 20.5	1.4 (1.0 – 2.0)	
50 – 59	350	19.4	15.8	10.1 – 21.4	1.3 (0.9 – 2.0)	
Educational level (years) (n = 1,716)						
≥ 12	737	43.9	10.5	8.1 – 12.8	1.0	< 0.01
9 – 11	568	33.4	14.4	10.7 – 18.0	1.4 (1.1 – 1.8)	
5 – 8	253	14.0	20.9	14.5 – 27.2	2.0 (1.4 – 2.8)	
≤ 4	158	8.7	27.2	19.7 – 34.8	2.6 (1.8 – 3.6)	
Household per capita income (R$)* (n = 1,685)						
1,300.00	559	34.1	9.7	6.5 – 12.8	1.0	< 0.01
566.80 – 1,300.00	562	33.3	14.7	12.2 – 17.3	1.5 (1.1 – 2.2)	
0 – 566.70	564	32.6	20.7	16.1 – 25.2	2.1 (1.6 – 2.8)	
Marital status (n = 1,720)						
Married/living with a partner	1,043	60.1	14.2	11.4 – 17.1	1.0	0.02
Single	503	29.9	12.4	9.7 – 15.2	0.9 (0.7 – 1.2)	
Divorced/separated/widowed	174	10.0	24.1	16.9 – 31.3	1.7 (1.3 – 2.2)	

Continue...

Table 1. Continuation.

Variables	Sample		CMD		Crude analysis	
	n	%	%	95%CI	PR (95%CI)	p
Leisure physical activity (n = 1,718)						
Yes	806	46.9	8.9	6.6 – 11.3	1.0	< 0.01
No	912	53.1	19.8	16.4 – 23.0	2.2 (1.6 – 2.8)	
Smoking habit (cigarettes a day) (n = 1,711)						
Never smoked	926	54.7	12.0	8.5 – 15.6	1.0	< 0.01
Former smoker	449	26.1	15.4	11.7 – 19.1	1.3 (0.9 – 1.8)	
Up to 10	158	9.0	21.6	14.8 – 28.4	1.8 (1.2 – 2.7)	
From 11 to 20	132	7.6	17.0	10.2 – 23.8	1.4 (0.8 – 2.4)	
Over 21	46	2.6	32.6	17.6 – 47.4	2.7 (1.6 – 4.6)	
Alcohol problem (n = 1,720)						
No	1,403	81.5	14.8	12.0 – 17.6	1.0	0.76
Yes	317	18.5	14.1	10.1 – 18.1	0.9 (0.6 – 1.3)	
Nutritional Status (n = 1,674)						
Normal	873	52.8	13.9	10.8 – 16.9	1.0	0.18
Overweight	531	31.4	13.7	10.4 – 16.9	0.9 (0.7 – 1.3)	
Obesity	270	15.8	18.3	12.5 – 24.1	1.3 (0.9 – 1.8)	
Chronic disease (n = 1,718)						
No	592	35.7	5.3	3.0 – 7.5	1.0	< 0.01
Yes	1,126	64.3	20.0	17.0 – 23.0	3.7 (2.5 – 5.5)	
Self-assessment of health (n = 1,720)						
Positive	1,373	81.2	9.3	7.4 – 11.1	1.0	< 0.01
Negative	347	18.8	38.5	32.8 – 44.0	4.1 (3.3 – 5.1)	
Medical consultation in the last 15 days (n = 1,717)						
No	1,236	72.0	11.6	9.4 – 13.9	1.0	< 0.01
Yes	481	28.0	22.5	18.0 – 26.8	1.9 (1.6 – 2.3)	
Hospital admission in the last 12 months (n = 1,717)						
No	1,602	93.5	13.4	10.9 – 16.0	1.0	< 0.01
Yes	115	6.5	32.8	23.0 – 42.7	2.4 (1.7 – 3.4)	

*R$: Brazilian currency (US$ 1 = R$ 1.7 during the data collection period); PR: prevalence ratio.

Table 2. Association between CMD and demographic and socioeconomic variables, health-related behaviors, health status and service use in adults. Adjusted Poisson regression model. Florianopolis, Brazil (2009-2010).

Level	Variables	Adjusted Analysis	
		PR (95%CI)	p
1	Sex		
	Female	2.7 (2.0 – 3.4)	< 0.01
	Skin Color		
	Brown	1.4 (0.8 – 2.1)	< 0.01
	Black	1.6 (1.1 – 2.3)	
	Age (years)		
	30 – 39	1.3 (1.0 – 1.8)	0.10
	40 – 49	1.3 (0.9 – 1.9)	
	50 – 59	1.3 (0.9 – 2.0)	
2	Educational level (years)		
	9 – 11	1.3 (0.9 – 1.8)	< 0.01
	5 – 8	1.5 (1.1 – 2.3)	
	≤ 4	2.0 (1.3 – 2.8)	
	Household per capita income (R$)		
	566.80 – 1,300.00	1.3 (0.9 – 2.0)	0.02
	0 – 566.70	1.5 (1.1 – 2.1)	
	Marital status		
	Single	1.1 (0.7 – 1.4)	0.04
	Divorced/separated/widowed	1.4 (1.1 – 2.0)	
3	Leisure physical activity		
	No	1.7 (1.3 – 2.2)	< 0.01
	Smoking habit		
	Former smoker	1.3 (0.8 – 1.8)	0.03
	Up to 10 cigarettes a day	1.4 (0.9 – 2.1)	
	From 11 to 20 cigarettes a day	1.3 (0.7 – 2.2)	
	Over 21 cigarettes a day	2.1 (1.2 – 3.7)	
	Alcohol problem		
	Yes	1.4 (1.0 – 2.1)	0.06

Continue...

Table 2. Continuation.

Level	Variables	Adjusted Analysis	
		PR (95%CI)	p
4	Nutritional Status		
	Overweight	0.8 (0.6 – 1.1)	0.74
	Obesity	1.0 (0.7 – 1.3)	
	Chronic disease		
	Yes	2.7 (1.9 – 4.4)	< 0.01
	Self-assessment of health		
	Negative	2.5 (2.0 – 3.1)	< 0.01
5	Medical consultation in the last 15 days		
	Yes	1.4 (1.1 – 1.7)	< 0.01
	Hospital admission in the last 12 months		
	Yes	1.5 (1.1 – 2.1)	0.02

*R$: Brazilian currency (US$ 1 = R$ 1.7 during the data collection period); PR: prevalence ratio; 95%CI: confidence interval.

The highest prevalence of CMD in women can be explained by biological factors, such as changes in mood derived from hormonal alterations, as part of the menstrual cycle or post-partum[2], and also related to social actors. Some authors[33] state that the traditional role played by women in society, the responsibilities of being, simultaneously, wives, mothers, educators, and caregivers, and having an increasingly more essential participation in the workplace, as well as the pressures imposed on them due to an expansion of their roles and facing a significant sexual discrimination and the concomitant poverty and domestic and sexual violence, keep them continually in an environment of stress[34].

This study found an association between CMD and smoking > 21 cigarettes per day. In relation to health-related behaviors, WHO[2] points out that people who smoke are approximately twice more likely to develop mental disorders. In this sense, public policies to tackle smoking can help prevent CMD and significantly reduce costs associated with CMD treatment.

Physical and psychosocial benefits as a result of adequate patterns of physical activity are confirmed by the scientific literature: increase in muscle strength; improvement in cardiorespiratory conditioning; reduction of fat; improvement in mood and self-esteem; and reduction of anxiety and depression[26], are factors that can protect against CMD. Conversely, inadequate patterns of physical activity are related to numerous problems, such as an inadequate nutritional state verified by the increase in prevalence of obesity

over the last few decades, as well as for being one of the risk factors involved in the onset of a series of chronic diseases[26]. These complex situations, in which a physical complaint brings psychosocial consequences at individual, family, and community levels, require better assessment in order to determine impact on mental health[22]. In this study, individuals who reported having at least one chronic illness had a 170% higher prevalence of CMD than those who did not have any, even after being adjusted for the socioeconomic and demographic blocks. This was in spite of this condition being closely linked with self-perception of health, and being negatively influenced by the chronic diseases.

One of the main limitations of this study is that it was not developed specifically to assess CMD, but rather was a part of a comprehensive multidisciplinary population-based survey. For this reason, a more in-depth investigation of this subject was not possible. The strengths of this research include the high response rate, the use of standardized and validated instruments in Brazil and in other countries, and adequate reproducibility of the questions.

The study sample has external validity for the adult population of the urban area of Florianópolis. The uniform distribution of losses in family income deciles contributed to the inference of the results to the adult population of the city. Distribution by gender and age was similar to estimates from IBGE for the adult population, for the year 2009[20].

CONCLUSION

As the results represent the distribution of CMD in the population, it is hoped that these will contribute to a qualified understanding of the problem by professionals and policy makers. One important finding of this study that has great implication for actions of health promotion and disease prevention in Florianópolis was the strong association between CMD and medical consultation and hospitalization, indicating that people who had medical consultation or were hospitalized were more likely to have CMD. Due to the study design, a causal relationship between variables could not be established.

CMD is relatively high among the adult population of Florianópolis. Socioeconomic inequalities in the distribution of CMD were found, and should be taken into account.

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