

# Prevalence of common mental disorders among the residents of urban areas in Feira de Santana, Bahia

## *Prevalência de transtornos mentais comuns entre residentes em áreas urbanas de Feira de Santana, Bahia*

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## Abstract

**Objective:** To describe the prevalence of common mental disorders according to socio-demographic characteristics, lifestyle and medical conditions among residents in urban areas of Feira de Santana, Bahia, Brazil. **Methods:** A cross-sectional study was carried out, including a random sample of the urban population of Feira de Santana, over the age of 15 years. A specific form was used to obtain information about socio-demographic aspects, lifestyle and disease frequency. In addition, the SRQ-20 was used to measure common mental disorders (CMD). The statistical analysis adopted a significance level of  $p \leq 0.05$ ; prevalence ratios and respective 95% confidence intervals were calculated. **Results:** A total of 3,597 individuals were analyzed, of which 71.4% were females. The global prevalence of CMD was 29.9%. Data analysis revealed that socio-demographic characteristics (sex, education level, income), lifestyle and clinical conditions were associated with the prevalence of CMD. **Conclusion:** The present study enabled the estimation of CMD prevalence in the urban population of a city located in Northeastern Brazil and the identification of characteristics associated with this prevalence, which may interfere with their mental health. In this sense, municipal health care policies should include actions aimed at encouraging participation in leisure activities, as well as campaigns to control tobacco use and chronic diseases.

**Key Words:** Mental Health, Urban Health, Common Mental Disorders, SRQ-20

## Resumo

**Objetivo:** Descrever a prevalência de transtornos mentais comuns segundo características sociodemográficas, hábitos de vida e presença de doenças crônicas entre residentes em áreas urbanas de Feira de Santana, Bahia. **Métodos:** Trata-se de um estudo epidemiológico de corte transversal com amostra da população de 15 anos de idade de Feira de Santana, aleatoriamente selecionada. Foi utilizado um formulário, contendo informações sociodemográficas, de hábitos de vida e doenças referidas. O SRQ-20 foi utilizado para mensuração de Transtornos Mentais Comuns (TMC). A análise estatística foi realizada com nível de significância  $p \leq 0,05$ , cálculo da razão de prevalência e intervalos de confiança de 95%. **Resultados:** Foram estudados 3.597 indivíduos; 71,4% do sexo feminino. A prevalência global de TMC foi 29,9%. A análise dos dados revelou que características sociodemográficas (sexo, renda e escolaridade), hábitos de vida e as condições clínicas estavam associadas à maior prevalência de TMC. **Conclusões:** O estudo permitiu estimar a prevalência de TMC na população urbana de um município localizado no nordeste do Brasil e identificar características associadas aos TMC que podem interferir na saúde mental das populações estudadas. Neste sentido, as políticas de atenção a saúde mental do município devem contemplar ações direcionadas ao incentivo a participação em atividades de lazer além de campanhas de controle do uso de tabaco e doenças crônicas.

**Palavras-chave:** Saúde mental, Saúde da População Urbana, Transtornos Mentais, SRQ-20.

## Introduction

Psychological disorders are one of the main problems in modern times, affecting the health of populations and incurring high expenses for public health.

According to estimates of the World Health Organization (WHO)<sup>1</sup>, one out of every four people will suffer from a mental disorder in a certain stage of life. Mental or neurological disorders and psychosocial problems associated with alcohol and drug use affect approximately 450 million individuals.

Common mental disorders (CMD) include non-psychotic disorders and they are characterized by symptoms such as insomnia, fatigue, irritability, forgetfulness, difficulty in concentrating and somatic complaints<sup>2</sup>.

CMD represent a psychiatric morbidity with significant prevalence in modern societies, affecting individuals in different age groups, causing suffering to both the individual and their family and community.

Studies conducted in Brazil and Latin American countries identified high prevalences of mental disorders (20.2%<sup>3</sup> and 26.7%<sup>4</sup> respectively).

CMD are more frequent in women<sup>5;6;7</sup>, black and mixed individuals<sup>5;7</sup>, those with a low level of education<sup>6;8</sup>, those who are older<sup>13</sup>, those with a low income<sup>5</sup>, smokers<sup>13</sup> and those with chronic diseases<sup>13</sup>.

Although the group of mental disorders represents approximately between 13% and 14% of the total burden of diseases, less than 1% of the total spending on health is invested in mental health<sup>1</sup>, thus creating a wide gap between demand and offer of mental health services. As a result of this difference, only part of the existing cases is identified and treated, increasing social and economic costs due to such health problems (Almeida-Filho et al., 1997). These disorders are an important cause of missed work days, which indirectly leads to an increase in health service demand.

Although the few available estimates indicate the relevance of mental disorders,

data on the mental health status of population groups are still scarce, causing a lack of information about psychiatric morbidity indicators.

The absence or lack of information about the mental health status of populations is a factor that contributes to poor or inexistent mental health care, both in terms of the offer of services and development of policies on health protection and promotion.

Aiming to increase knowledge about the mental health status of populations, this study was conducted to estimate the prevalence of common mental disorders in residents of urban areas in the city of Feira de Santana, BA, Brazil, and to describe factors associated with the identified prevalence.

In view of the growing prevalence of CMD in this population, there is the need of population surveys aimed at the identification of factors associated with these disorders, enabling health care strategies to be more based on mental health.

## Methods

A cross-sectional descriptive study was conducted in the city of Feira de Santana, situated 116 km from Salvador, the capital of the state of Bahia, in Northeastern Brazil, between April and December 2007.

The city of Feira de Santana is the second largest city in Bahia and the 31<sup>st</sup> in the country. It is situated on the plain between the *Recôncavo Baiano* (the fertile coastal area of this state) and the semi-arid tablelands in Northeastern Bahia, with an estimated population of 535,820 inhabitants in 2006<sup>8</sup>.

The selection of study areas was performed with the adoption of random stratified sampling, according to sub-districts and based on census data from the *Fundação Instituto Brasileiro de Geografia e Estatística* (Brazilian Institute of Geography and Statistics Foundation)<sup>9</sup>, where the household is the sampling unit.

The sample was obtained by considering an estimated prevalence of common mental disorders of 25%<sup>1</sup>, sampling error of 3% and

confidence level of 95%. Based on these parameters, a sample of 800 individuals was established. Considering the design effect of the study (cluster sampling), the sample size was doubled, totaling 1,600 individuals. In addition, when refusals and losses of about 20% were considered, the defined sample size was 1,920 individuals.

The following procedures were adopted to select the sample: determination of the percentage of population representation per sub-district of urban area; definition of percentage in the sample of each sub-district, according to data on the population living in each sub-district; listing of census tracts in each sub-district; random selection of census tracts that were included in the sample of each sub-district; random selection of streets included in the sample, in each census tract; inclusion of all households on the selected streets in the sample; eligibility of all individuals aged 15 years or more, living in the households on the selected streets, who comprised the study sample. A total of up to three visits per household were conducted to reduce the percentage of losses.

Data were collected with a form, applied to eligible residents of the selected households. This instrument included socio-demographic information, characteristics of professional and household work, reproductive health aspects, information about self-reported diseases and lifestyle, such as: alcohol use, smoking habit, participation in and time spent on leisure activities, practice of physical activities and mental health status.

The variables associated with lifestyle (alcohol use, smoking habit, participation in regular leisure activities and sufficient leisure time) and clinical conditions (diabetes, hypertension, high cholesterol, obesity, cancer and heart diseases) were obtained from self-reports and evaluated using dichotomous questions ("yes" or "no").

The variables associated with investigated clinical conditions (reporting diseases such as diabetes, hypertension, high cholesterol, obesity, cancer and heart diseases) were grouped into one single variable, "pre-

sence of chronic disease". Thus, "presence of chronic disease" was considered when at least one of the six clinical conditions mentioned above was reported.

The Self Reporting Questionnaire (SRQ-20) was used to evaluate Common Mental Disorders (CMD). This instrument, developed by the World Health Organization (WHO, 1994), was validated by Mari, Williams<sup>9</sup> (1986) and it is aimed at evaluating the level of suspected mental disorder, not providing a specific diagnosis of the existing disorder. The SRQ-20 has an acceptable performance as a mental health tracking instrument<sup>10</sup>. A cut-off point of seven or more positive responses was considered to determine CMD, a procedure adopted in other studies.<sup>6, 10, 11</sup>

The SPSS statistical software, version 9.0, and the R 2.6.1 were used to create the database and analyze these data.

First of all, a descriptive analysis was made, considering socio-demographic variables, behavioral variables and clinical conditions, aiming to show the profile of the population studied.

The prevalences of CMD were estimated and stratified, according to socio-demographic variables (sex, age, income, level of education and marital status), lifestyle (alcohol use, smoking habit, participation in leisure activities and sufficient leisure time) and clinical conditions (diabetes, hypertension, high cholesterol, obesity, cancer and heart diseases).

Prevalence ratios and their respective 95% confidence intervals were calculated. Pearson chi-square test was used to evaluate the measure of statistical significance, adopting  $\alpha=5\%$ .

Multiple logistic regression analysis (MLRA) with an exploratory purpose was performed to simultaneously evaluate the factors included in the study.

MLRA was conducted according to procedures recommended by Hosmer & Lemeshow (2000), including the following steps: 1) verification of assumptions; 2) pre-selection of basic variables; 3) pre-selection of interaction terms; 4) evaluation

of confounding; and 5) the logistic regression analysis per se. This logistic regression adopted the backward procedure to select the best model. The complete model included the socio-demographic variables (sex, age, income, level of education and marital status), lifestyle (alcohol use, smoking habit, participation in leisure activities and sufficient leisure time) and chronic diseases (presence/absence).

As the MLRA was developed to be used in case-control studies, producing OR measures, rather than PR, the use of OR estimates obtained from such analysis has not been recommended to study the effects of high frequency. Once the estimated prevalence of mental disorders was high (higher than 25%), it was necessary to calculate PR estimates. Based on the parameters of the final model, the prevalence ratios and respective confidence intervals were estimated, using the Delta Method, a program specifically developed for this end (Oliveira et al., 1996).

This research project followed the ethical principles present in the Declaration of Helsinki and in Resolution 196/96 of the *Conselho Nacional de Saúde* (Brazilian Health Council). The research protocols were evaluated and approved by the *Comitê de Ética em Pesquisa com Seres Humanos da Universidade Estadual de Feira de Santana* (Feira de Santana State University Human Research Ethics Committee – Official Opinion 042/06).

## Results

A total of 3,597 individuals were analyzed. Individuals aged between 15 and 29 years (39.9%), females (71.4%) and those living with a partner (51.3%) predominated. Primary school level was more frequent (47.2%); 6.7% were illiterate and only 5.5% had a higher education level. Low monthly income was also predominant in the population studied (81.7% with a monthly income of up to one minimum wage) (Table 1).

Table 2 shows the variables associated with lifestyle and presence of chronic dise-

ases. Among interviewees, 11.8% reported smoking and 28.1% reported regular alcohol use. When asked about their participation in leisure activities, only 15.4% did not participate in leisure activities; 27.3% believed that the time available for leisure was sufficient and 24.0% reported the presence of chronic diseases.

The global prevalence of CMD was 29.9%. The identification of the prevalence of CMD, according to socio-demographic characteristics, is shown in Table 3. The prevalence of CMD was greater in women (35.3%). With regard to age group, this prevalence increased with age. Individuals with an income lower than or equal to one minimum wage had a higher prevalence of CMD (32.5%), when compared to those with an income higher than one minimum wage (16.7%). Individuals with a low level of education (38% of whom had never been

to school or could only read and write) and who lived without a partner (32.0%) showed higher prevalences of CMD.

In the multivariate analysis, the following variables remained in the final model obtained: sex, level of education, income, smoking habit, sufficient leisure time and presence of chronic disease – these variables maintained a statistically significant association with CMD (Table 4).

## Discussion

The prevalence of CMD was high (29.6%) in this study and it is characterized as a serious public health problem. The estimated prevalence was similar to the results found in population-based studies, conducted in different Brazilian regions, using the SRQ-20,<sup>5;7;11;13;14</sup> and in other Latin American countries.<sup>4;16</sup> In these studies, the prevalence

**Table 1** - Distribution of residents in urban areas, according to socio-demographic aspects. Feira de Santana, BA, Brazil, 2007.

Variable	Frequencies	
	n	%
<b>Sex</b>		
Female	2,569	71.4
Male	1,028	28.6
<b>Age (years)</b>		
15-29	1,400	38.9
30-49	1,197	33.3
50-69	770	21.4
70 and more	230	6.4
<b>Marital status</b>		
With a partner	1,838	51.3
Without a partner	1,743	48.7
<b>Level of education</b>		
Had never been to school/knows how to read and write	240	6.7
Primary education	1,692	47.2
Secondary education	1,457	40.6
Higher education	199	5.5
<b>Monthly income*</b>		
Up to one minimum wage	2,938	81.7
More than one minimum wage	658	18.3

\* Minimum wage at the time of this study = R\$ 380.00 or US\$ 172.70 (2007)

**Table 2** - Distribution of residents in urban areas, according to lifestyle and clinical conditions. Feira de Santana, BA, Brazil, 2007.

Variable	Frequencies	
	n	%
<b>Smoking</b>		
No	3,169	88.2
Yes	423	11.8
<b>Alcohol use</b>		
No	2,586	71.9
Yes	1,010	28.1
<b>Participation in leisure activities</b>		
No	3,044	84.6
Yes	552	15.4
<b>Sufficient leisure time</b>		
No	811	27.3
Yes	2,163	72.7
<b>Presence of chronic disease</b>		
No	2,731	76.0
Yes	862	24.0

of CMD varied from 22.7%, in the city of Pelotas, Rio Grande de Sul<sup>11</sup>, to 35.0%, in the city of Olinda, Pernambuco<sup>7</sup>.

The high prevalence of CMD is an alarming fact, especially when compared to the estimate of the World Health Organization (WHO),<sup>1</sup> which points to a mean prevalence of 25% in urban populations. This information shows the need for policies that contribute to better direction of mental health in the city.

The results obtained in this study reveal that, with regard to socio-demographic characteristics, women, individuals with an income equal to or lower than one minimum wage and those with low levels of education showed higher prevalence of CMD.

Findings of the present study are in agreement with those of other studies that point to female populations and low income and low level of education strata being more affected by psychiatric morbidities.<sup>4;5;15;17.</sup>

In the last decades, there have been considerable changes in the role of women in society, which may be contributing to the increase in mental health problems in this

population. Studies conducted in the United States, Sweden and Holland observed that women are responsible for most of the household chores and child education,<sup>18</sup> in addition to performing functions resulting from their inclusion in the formal job market, thus causing a work overload in the female population. The excess of attributions can create conflicting situations, stress and suffering and also be associated with greater psychiatric morbidity<sup>6,18</sup>.

With regard to the positive association between level of education and CMD, these results are in agreement with findings from other studies, conducted in different populations<sup>5,19</sup>. Ludermir and Melo-Filho<sup>7</sup> found that individuals with up to four years of education had 2.84 times more CMD than those with 11 years of education or more.

Access to school, which should occur since the first years of life, is closely associated with possibilities for the future. Murphy et al.<sup>20</sup> emphasized that the level of education increases the possibility of choices in life; broadens the perspectives of inclusion in the job market, especially in better paid

**Table 3** - Prevalences of Common Mental Disorders, according to socio-demographic variables, lifestyle and chronic diseases. Feira de Santana, BA, Brazil, 2007.

Variable	Prevalence (%)	PR	CI (95%)	P value
<b>Sex</b>				
Male*	15.2	-	-	<0.001
Female	35.3	2.32	1.99-2.71	
<b>Age group</b>				
15-29*	24.8	-	-	<0.001
30-49	30.3	1.22	1.07-1.38	
50 or more	35.4	1.42	1.26-1.61	
<b>Income</b>				
More than one monthly minimum wage*	16.7	-	-	<0.001
≤ 1 monthly minimum wage	32.5	1.94	1.62-2.32	
<b>Level of education</b>				
Secondary education/higher education*	22.8	-	-	<0.001
Primary education	35.0	1.18	1.13-1.24	
Had never been to school/knows how to read and write	38.8	1.26	1.13-1.39	
<b>Marital status</b>				
With a partner*	27.0	-	-	<0.001
Without a partner	32.0	1.16	1.05-1.29	
<b>Smoking</b>				
No*	27.8	-	-	<0.001
Yes	42.6	1.53	1.35-1.73	
<b>Alcohol use</b>				
No*	30.4	-	-	0.067
Yes	27.3	0.89	0.79-1.00	
<b>Participation in leisure activities</b>				
No*	46.2	-	-	
Yes	26.5	0.57	0.51-0.64	<0.001
<b>Sufficient leisure time</b>				
No*	38.2	-	-	<0.001
Yes	22.5	0.58	0.52-0.66	
<b>Presence of chronic disease</b>				
No*	29.3	-	-	<0.001
Yes	35.5	1.58	1.43-1.75	

\* Reference group

positions with higher social status; which, in their turn, could also promote the adoption of healthier behaviors and psychological well-being.

Income remained associated with CMD, even after adjustment for the remaining variables analyzed. This result corroborates

findings from studies conducted in other populations<sup>3,4,16</sup>. An insufficient income can lead to stressful and unsafe situations, aspects that trigger CMD. With regard to the association between age and CMD, it is clear that older individuals are more exposed to chronic diseases, mourning, marital

**Table 4** – Adjusted prevalence ratios with their respective 95% confidence intervals between the characteristics studied and common mental disorders, obtained from the multiple logistic regression analysis.

Variable	PR	CI 95%
<b>Sex</b>		
Male*	1.00	-
Female	2.72	2.16- 3.42
<b>Age group</b>		
15-29*	1.00	-
30-49	1.01	0.80 - 1.26
50 or more	0.95	0.71 - 1.21
<b>Income</b>		
More than one monthly minimum wage*	1.00	-
≤ 1 monthly minimum wage	1.89	1.44- 2.48
<b>Level of education</b>		
Secondary education/higher education*	1.0	-
Primary education	1.75	1.18 - 1.70
Had never been to school/knows how to read and write	1.61	1.33 - 1.95
<b>Marital status</b>		
With a partner*	1.00	-
Without a partner	1.13	0.91- 1.41
<b>Smoking</b>		
No*	1.00	-
Yes	2.14	1.64 - 2.79
<b>Participation in leisure activities</b>		
No*	1.00	-
Yes	0.52	0.16 - 1.64
<b>Sufficient leisure time</b>		
No*	1.00	-
Yes	0.52	0.47- 0.54
<b>Presence of chronic disease</b>		
No*	1.00	-
Yes	1.68	1.35 - 2.10

\* Reference group

separations, widowhood, social isolation, economic difficulties and unemployment, which could increase the occurrence of psychiatric morbidities<sup>13,21</sup>. However, in the present study, this association was not maintained after the multivariate analysis.

The prevalence of CMD was higher in individuals who reported living without a partner (separated/divorced or widowed). Marriage enables greater social and family

support. Costa and Ludermir<sup>14</sup> emphasize that the perception of being loved and cared for is associated with lower indices of anxiety and depression.

The availability of sufficient leisure time was a factor negatively associated with common mental disorders – the prevalence of CMD was lower in the group that reported satisfactory time for these activities. Participation in leisure activities positively



influences mental health status<sup>22</sup>. Araújo et al.<sup>23</sup> found that individuals who do not participate in leisure activities have almost two times more CMD than those who participated in such. In this sense, policies on mental health must include proposals to promote the practice of leisure activities in their actions, aiming to reduce the number of barriers that hinder or prevent access to these activities.

An interesting fact observed in this study, which will be analyzed in future studies, refers to the time dimension involved in leisure activities. Reporting participation in leisure activities or not was only statistically associated with mental disorders in the crude analysis; this association lost statistical significance when all variables of interest were simultaneously analyzed. However, with regard to the time spent on such activities, whether sufficient or not, the association with CMD remained after adjustment, evidencing that the time available for leisure activities was a relevant factor to observe a lower prevalence of CMD.

Smoking habit was positively associated with the prevalence of CMD. Goodwin et al.<sup>24</sup> found evidence linking pulmonary function to mental health problems, in a sample of adults, in the United States. Individuals with a reduced pulmonary function, something frequently found in smokers, showed a higher prevalence of mental health problems.

A survey conducted in individuals aged between 20 and 69 years, living in the city of Pelotas, Rio Grande do Sul, also observed that the smoking habit was positively associated with CMD<sup>13</sup>. Findings from studies performed in Brazil and abroad show the evidence of an association between smoking and psychiatric disorders.

There was not a statistically significant association between alcohol use and prevalence of CMD. Studies have shown that alcohol consumption is not directly associated with a higher prevalence of CMD<sup>13; 19</sup>.

Exposure to chronic diseases appears as an aspect associated with CMD<sup>13</sup>. In a survey conducted in an adult population of the city

of Pelotas, RS, Brazil, Coelho et al.<sup>19</sup> found that individuals who were hypertensive or diabetic or with heart failure and who reported more than five chronic diseases showed higher prevalence of CMD.

The results obtained here must be evaluated with caution, due to possible limitations of the study. Among such limitations, those related to the cross-sectional design used in his study, which simultaneously evaluate variables of the effect of interest and their associated factors, should be emphasized. Thus, the reverse cause hypothesis cannot be disregarded, i.e. it is not possible to identify whether CMD influenced the associated factors or vice-versa. The cross-sectional nature of this study prevents temporal antecedence analysis.

Another factor that must be considered in the analysis of the limitations of this study is the possibility of selection bias. Although the procedures comprising the sample were random, the sample composition obtained points to its possible distortion by sex, with a female over-representation. This study sought to conduct up to three visits per sample household to reduce the percentage of losses of eligible individuals in each sample unit – one of these visits occurred at night time or on weekends – however, these procedures may not have been enough to prevent losses of male individuals. It should be noted, nevertheless, that the results associated with CMD prevalences and the differences observed according to sex were similar to those obtained in other population-based studies (Costa and Ludermit, 2005<sup>13</sup>, Anselmi et al., 2008<sup>5</sup>). Thus, the results achieved here seem not to have originated from sample distortions that may have occurred.

In addition, the results obtained are similar to literature data on monthly income, levels of education and CMD in population-based studies (Ludermit and Melo-Filho, 2002<sup>8</sup>, Dias da Costa et al.<sup>12</sup>, Patel et al. 2008<sup>15</sup>). Thus, although there was a higher proportion of low-income individuals in the sample of this study (contributing to a greater homogeneity of the study group, which

could hinder the observation of differences between groups), a statistically significant association was found between this variable and mental disorders, in the population studied, confirming this to be a relevant variable for the occurrence of CMD (Murphy et al.<sup>19</sup>). Consequently, the results found seem to support evidence of explanatory models of occurrence of common mental disorders in population groups.

The age group distribution in the sample studied was similar to the population composition aged 15 years or more, in the city of Feira de Santana<sup>8</sup>.

With regard to the measurement of the effect on the mental disorder investigated (CMD), it should be emphasized that the research instrument used to assess mental disorders (SRQ-20) has been largely employed in population studies in Brazil and such instrument shows good performance in the evaluation and screening for psychiatric morbidity<sup>6,7,10-14</sup>. Data collection procedures were standardized and the research team was adequately qualified. A *Manual de Procedimentos e Condutas* (Manual of Procedures and Conducts) was developed to guide and standardize field work.

Despite these limitations, the study evaluated a relevant number of individuals (N=3,597), including population groups of all sub-districts of the city studied, which enabled the estimation of the prevalence of CMD in this city and the identification of factors associated with its occurrence. The results obtained represent useful information for health management and they can

serve as input for public policies on mental health intervention.

## Conclusion

This study enabled the prevalence of non-psychotic disorders to be assessed in the urban population of the city of Feira de Santana, Bahia, Brazil. In addition, it raised knowledge about factors associated with CMD in this population. A high prevalence of CMD was observed, surpassing the estimates of psychiatric morbidity in populations of the World Health Organization (WHO)<sup>1</sup>. Prevalence was more significant in women, those with a low monthly income and level of education, smokers, those who reported insufficient leisure time and those who reported having chronic diseases.

The results of the present study indicate that some of the variables emphasized, which were associated with common mental disorders, are subject to preventive intervention. The establishment of preventive actions can be regulated, in light of the findings of this study, by interventions that aim at greater social integration of individuals through active leisure and anti-smoking activities and policies on better income distribution and student access to and staying in school.

## Conflicts of Interest

Authors declared there were no conflicts of interest in the present study.

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## Referências

1. Organização Mundial da Saúde. *Relatório Mundial da Saúde. Saúde Mental: Nova concepção, nova esperança*. Lisboa; 2002.
2. Goldberg D, Huxley P. *Common mental disorders: a bio-social model*. London: Tavistock; 1992.
3. Cury AF, Menezes P, Araya R, Zugaib M. Common disorders during pregnancy: prevalence and associated factors among low-income women in São Paulo, Brazil. *Arch Womens Ment Health* 2009; 12: 335-43.
4. Araya R, Rojas G, Fritsch R, Acuña J. Common mental disorders in Santiago, Chile. *Br J Psychiatry* 2001; 178: 228-33.
5. Anselmi L, Barros FC, Minten GC, Gigante DP, Horta BL, Victora CG. Prevalência e determinantes precoces dos transtornos mentais comuns na coorte de nascimentos de 1982, Pelotas, RS. *Rev Saude Publica* 2008; 42: 26-33.

6. Araújo TM, Pinho OS, Almeida MG. Prevalência de transtornos mentais comuns em mulheres e sua relação com as características sociodemográficas e o trabalho doméstico. *Rev Bras Saude Mater Infant* 2005; 5: 337-48.
7. Ludermir AB, Melo Filho DA. Condições de vida e estrutura ocupacional associadas a transtornos mentais comuns. *Rev Saude Publica* 2002; 36: 213-21.
8. Instituto Brasileiro de Geografia e Estatística. *Censo demográfico de 1999/2000*. Brasília; 2006.
9. Costa AG, Ludermir AB. Transtornos mentais comuns e apoio social: estudo em comunidade rural da Zona da Mata de Pernambuco, Brasil. *Cad Saude Publica* 2005; 21: 73-9.
10. Almeida-Filho N, Mari JJ, Coutinho E, Franca JF, Fernandes J, Andreoli, SB et al. Brazilian multicentric study of psychiatric morbidity. Methodological features and prevalence estimates. *Br J Psychiatry* 1997; 171: 524-9.
11. World Health Organization WHO. *A User's Guide to Self-Reporting Questionnaire (SRQ)*. Geneva: WHO; 1994.
12. Mari JJ, Williams P. A validity study of a psychiatric screening questionnaire (SRQ-20) in primary care in the city of São Paulo. *Br J Psychiatry* 1986; 148: 23-6.
13. Santos KOM, Araújo TM, Oliveira NF. Estrutura fatorial e consistência interna do Self-Reporting Questionnaire (SRQ-20) em população urbana. *Cad Saude Publica* 2009; 25: 214-2.
14. Araújo TM, Carmo Júnior JJ, Almeida MG, Pinho OS. Prática de atividades de lazer e morbidade psíquica em residentes em áreas urbanas. *Rev baiana saude publica* 2007; 31: 294-310.
15. Hosmer DW, Lemeshow, S. *Applied logistic regression* (2<sup>nd</sup> ed.). New York: John Wiley e Sons; 2000.
16. Oliveira NF, Santana VS, Lopes AA. Razões de proporções e uso do método Delta para intervalos de confiança em regressão logística. *Rev Saude Publica* 1997; 31(1): 90-9.
17. Dias da Costa JS, Menezes AMB, Olinto MTA, Gigante DP, Macedo S, Britto MAP et al. Prevalência de distúrbios psiquiátricos menores na cidade de Pelotas, RS. *Rev Bras Epidemiol* 2002; 5: 164-73.
18. Patel V, Araya R, Chowdhary N, King M, Kirkwood B, Nayak S et al. Detecting common mental disorders in primary care in India: a comparison of five screening questionnaires. *Psychol Med* 2008; 38: 221-8.
19. Lima MS, Soares BGO, Mari JJ. Saúde e doença mental em Pelotas, RS: dados de um estudo populacional. *Rev Psi Clin* 1999; 26(5): 225-35.
20. Puertas G, Ríos C, Del Valle H. Prevalencia de trastornos mentales comunes en barrios marginales urbanos con población desplazada en Colombia. *Rev Panam Salud Publica* 2006; 20: 324-30.
21. Gjerdingen D, McGovern P, Bekker M, Lundberg U, Willemssen T. Women's work roles and their impact on health, well-being, and career: comparisons between the United States, Sweden, and The Netherlands. *Women Health* 2000; 31: 1-20.
22. Griffin JM, Fuhrer R, Stansfeld S, Marmot M. The importance of low control at work and home on depression and anxiety: do these effects vary by gender and social class? *Soc Sci Med* 2002; 54: 783-98.
23. Coelho FM, Pinheiro RT, Horta BL, Magalhães PVS, Garcias CMM, Silva CV. Common mental disorders and chronic non-communicable diseases in adults: a population based study. *Cad Saude Publica* 2009; 25: 59-67.
24. Murphy JM, Olivier DC, Monson RR, Sobol AM, Federman EB, Leighton AH. Depression and anxiety in relation to social status. *Arch Gen Psychiatry* 1991; 48: 223-9.
25. Losada A, Peñaranda AP, Sanchez ER, Marcos MAG, Rios CB, Carrera IRR, Torre MAC, Ortiz LG. Leisure and distress in caregivers for elderly patients. *Arch Gerontol Geriatr* 2009; 50: 347-50.
26. Goodwin RD, Chuang S, Simuro N, Davies M, Pine DS. Association between Lung Function and Mental Health Problems among Adults in the United States: Findings from the First National Health and Nutrition Examination Survey. *Am J Epidemiol* 2007; 165: 383-8.