
RELATION OF COMMON MENTAL DISORDER, PHYSICAL ACTIVITY AND BODY MASS INDEX IN WOMEN, POPULATION-BASED STUDY

RELAÇÃO ENTRE TRANSTORNO MENTAL COMUM, NÍVEL DE ATIVIDADE FÍSICA E ÍNDICE DE MASSA CORPORAL EM MULHERES, ESTUDO DE BASE POPULACIONAL

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RESUMO

A literatura tem apontado um aumento da prevalência de Transtorno Mental Comum ao longo dos anos, especialmente entre o público feminino. A realização de levantamentos populacionais que investiguem a prevalência desta morbidade psíquica e fatores a ela associados mostra-se relevante, permitindo identificar precocemente os casos e sugerir e/ou encaminhar para estratégias de intervenção apropriadas. O objetivo do estudo foi estimar a prevalência de transtorno mental comum (TMC) e verificar sua relação com níveis de atividade física (NAF), índice de massa corporal (IMC) e variáveis sociodemográficas e econômicas, em mulheres adultas e idosas de Uberaba, Minas Gerais. A amostra populacional (probabilística em múltiplos estágios) foi composta por 1520 mulheres. A coleta de dados foi realizada por meio de entrevistas domiciliares. Para investigação dos TMC foi utilizada a escala *Self-Report Questionnaire*; para o NAF utilizou-se a versão longa do Questionário Internacional de Atividade Física; para cálculo do IMC mensurou-se peso e altura. A prevalência de TMC foi de 29,67%, sem associações significativas com o NAF e o IMC. Por outro lado, encontra-se associada às desvantagens socioeconômicas (baixa renda e baixa escolaridade) e a questões sociodemográficas (estar em união e não ser chefe de família).

Palavras-chave: Ansiedade. Atividade física. Saúde da mulher.

ABSTRACT

The literature has shown an increased prevalence of common mental disorder over the years, especially among women. Carrying out population surveys to investigate the prevalence of psychological morbidity and associated factors are relevant, allowing early identification of cases to suggest and/or forward to appropriate intervention strategies. This study aimed to estimate the prevalence of common mental disorders (CMD) and verify its relationship with physical activity levels (PAL), body mass index (BMI) and economic / demographic variables in adult and elderly women in Uberaba, Minas Gerais. The population sample (multistage and probabilistic) consisted by 1520 women. Data collection was carried out through home interviews. For investigation of the CMD it was used the Self-Report Questionnaire; the PAL was measured by long version of the International Physical Activity Questionnaire; to calculate BMI it was measured height and weight. The prevalence of CMD was 29.67%, no significant associations with PAL and BMI. On the other hand, CMD was associated with economic disadvantages (low income and low education) and sociodemographic questions (married and not to be the head of family).

Keywords: Anxiety. Motor activity. Women's health.

Introduction

Goldberg and Huxley¹ defined Common Mental Disorder (CMD), through a bio-social model, as those cases with non-psychotic symptoms, such as fatigue, irritability, insomnia, concentration difficulties, somatic complaints and depressive symptoms¹, which result in the individual's disability².

CMDs do not meet the requirements to be classified under the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*³. Despite this, they show signs and symptoms that, if not identified in the early stages, they may probably evolve to a more

advanced and chronic mental disorder, causing suffering that will generate mental, social and labor losses in the individuals' lives^{2,4}.

Literature has shown an increase in the prevalence of CMD over the years⁴, especially among women⁵. In addition to gender issues, there are other factors that may be associated with CMD, such as low Level of Physical Activity (LPA)⁶, high values of Body Mass Index (BMI)⁷ and socioeconomic indicators such as low level of education and low income⁸.

Mental illnesses are, in general, neglected when compared to physical health, especially in underdeveloped countries, unrelated to adequate planning and investment in services and public health care within the psychic context⁹. There is a mismatch between the demand and the supply of services in this sector. Therefore, only part of the existing cases are identified and adequately addressed, causing an increase in social and economic costs⁵.

Population surveys investigating the prevalence of this psychiatric morbidity and their associated factors are relevant, allowing early identification of cases and suggesting and/or referring to appropriate intervention strategies¹⁰. Studies such ours may promote a better understanding of the distribution of this mental disorder in the population, implying in several positive aspects. Health professionals would be more informed about the health profile of people under their care, allowing adequate technical preparation for the health care needed for this population. From the population profile observed with this study, it is possible to mobilize health managers regarding investment priorities for the mental health sector, offering a service compatible with the demand needs. This preparation process can also be applied to the physical structure of the services offered by the health system, which could structure a care network in a way coherent with the health profile of its users. CMD patients would also benefit, since they would have a better prepared health care network at their disposal, with health services and professionals adequately trained and structured for health care. The general population would benefit from a service that could perform screenings for a mental health problem and, consequently, identify them at an early stage in positive cases, allowing faster care and avoiding their worsening. Population study of women's mental health profile and physical activity levels could also be good for the research field of Physical Education and public health, as it presents elements for understanding the relationships between mental illness and physical activity level.

To date, studies verifying the concomitant relationship between CMD and LPA and CMD and BMI are unknown. Therefore, this work aimed at estimating the prevalence of CMD and its relations with LPA as well as BMI and, in a supportive way, the relations of this psychic disorder with socio-demographic and economic variables in adult and elderly women living in the urban area of the city of Uberaba, Minas Gerais.

Methods

This is a quantitative, analytical, observational and cross-sectional population-based study, focused on the identification of health profile. The data in this research come from a more comprehensive survey: the Women's Health Survey in the city of Uberaba, Minas Gerais (MG), 2014 (WHS-Woman, 2014), which investigated the general health profile of women residing in city of Uberaba, MG.

Population Characterization

Uberaba, MG is a city located in the Triângulo Mineiro region, and currently has an estimated population of 322,126 inhabitants. The data used for the sample calculation were based on IBGE CENSO 2010, a period in which there was a total population of 296,000 inhabitants, of which 151,527 were women¹¹.

Participants

The WHS-Woman sample consisted of women aged 18 years and over. However, only adult (20 to 59 years of age) and olderwomen (60 years of age or older) were considered for this study, according to the report "Women and Health: today's evidence, tomorrow's agenda"¹².

The signing of the Informed Consent Form (TCLE) was a prerequisite for the women's participation, who were informed about the research objectives as well as the guarantee regarding the secrecy and confidentiality of the information collected. The research was analyzed by the Research Ethics Committee of the Federal University of Triângulo Mineiro (UFTM) and was approved as the protocol number 1826/2010.

Sampling Process

We considered a probabilistic sampling in multiple stages, by census tracts and then by households for the participants' selection. We randomly selected 24 of a total of 36 neighborhoods in the first stage, respecting the population proportionality of each district in terms of the number of neighborhoods. In the second stage, we selected 25% of the census sectors within each previous neighborhood randomly assigned, respecting the population proportionality of each neighborhood in terms of the number of census sectors. Households were systematically selected within each census sector. The first domicile selected corresponded to the beginning of the sector. The other selected households obeyed a sampling interval (SI)=32, until reaching the desired quantity for each stratum of interest regarding the age group. If the end of the census sector was reached, but the maximum number of respondents for that sector had not been reached, we returned to the beginning of the sector, from the house following the first one selected.

We used the absence of *a priori* knowledge about the estimates of the prevalence of the events of interest to calculate the sample size. Thus, all we adopted equal to 50%. To infer the estimates of interest found in the sample over the population, we used a confidence level of 95% and a margin of error of up to 2.5%, according to the formula:

$$n = \frac{(Z_{\alpha})^2 \pi(1 - \pi)}{(me)^2}$$

Being Z_{α} : normal distribution score considering the significance level ($\alpha = 0.05$); me : margin of error for interval estimates; π : estimated proportion of the event of interest. The final sample size for women aged ≥ 18 years was $n = 1530$ plus 20% loss ($n = 1530 + 306 = 1836$).

We considered the same population proportions of these strata regarding age range, according to the Brazilian Institute of Geography and Statistics¹¹ 2010 Census so that this study sample to be representative of the women population in the city of Uberaba in terms of age, income, level of education and skin color,

Tools

We used a questionnaire, which was previously tested in a pilot study, for the socio-demographic and economic identification and characterization. The questionnaire asked the following questions: date of birth; current marital status (single, stable union, separated, widow); level of education in full years of study (0; 1-4; 5-8; 9-11; ≥ 12)¹³; skin color (white, yellow, brown, black, red, other); monthly total family income categorized according to minimum wages (MW): < 2 MW; ≥ 2 MW up to 3 MW; ≥ 4 MW up to 9 MW; ≥ 10 MW up to 19 MW; ≥ 20 MW)¹⁴; number of persons residing in the household; number of people helping

with family income; whether or not he or she is the head of the family and whether or not being employed at the time of the survey.

The Self-Report Questionnaire (SRQ-20), developed by Harding et al¹⁵, and validated for Brazil by Mari and Williams¹⁶ and by Gonçalves et al¹⁷ was used to investigate CMD. It is a low-cost, easy-to-use instrument widely recommended for psychiatric screening¹⁶ of non-psychotic mental disorders¹⁸ both in the clinical context and in epidemiological studies¹⁷. It has categorical answers (yes=one point, no=zero point), and the final score is calculated by the sum of all answers¹⁷. The cut-off point for women is 7/8 (up to seven positive responses=no risk for CMD, eight or more positive responses= risk for CMD)¹⁷, with a sensitivity of 86.3% and specificity of 89.3%^{16,18}.

LPA was measured using the International Physical Activity Questionnaire (IPAQ), long version. It is a validated and useful tool in Brazil, used in epidemiological studies for all age groups, since it is precise and stable in its measures¹⁹. It aims to estimate the time spent weekly in physical activities of light, moderate and vigorous intensity in a wide range of domains (a=physical activity of leisure and recreation, b=domestic and gardening activities, c=work-related physical activity, d=physical activity related to transportation, and sitting time)¹⁹. The cut-off point used to classify the participants as physically active was 150 minutes or more spent on activities of moderate intensity²⁰ or 120 minutes or more spent on activities of vigorous intensity²¹. We considered the domains of work-related physical activity, domestic activities and physical activities of leisure and recreation for the calculation, as proposed by Abel et al²².

Anthropometric data were obtained through weight and height measurements. Weight was measured using the OMRON brand digital scale. Height was measured by means of a measuring tape attached to a wall, placing the women with their back against the wall with their feet together and their body completely erect. BMI was calculated using the weight (in kilograms) over the squared height (in meters). The sample was classified, according to the WHO recommendations²³, as follows: low weight, eutrophic, overweight and obese. However, for women aged 60 years and over, we used the Lipschitz²⁴ classification: low weight, eutrophic and overweight.

Procedures

Data was collected from March to October 2014 by means of home interviews, by female interviewers, who were previously trained in a pilot study. There was field supervision of the interviewers. 10% of the interviews conducted in each census section were randomly checked by telephone.

Data processing

Prior to the data tabulation, a mask was created in the EpiData® program to enter the data, with double typing.

Statistical analysis

For analysis, the women were allocated in the age groups: 20-29 years (young adult); 30-59 years (adult); 60-79 years (elderly)²⁵ and aged 80 years or over (very old)²⁶.

Statistical analyzes were conducted in the Stata 13 program. CMD positivity was considered as a predictive variable and LPA, age increase and BMI as outcome variables. The level of statistical significance adopted was 5% ($p < 0.05$).

We first carried out a descriptive analysis in order to obtain the frequency and percentages of the studied variables. Subsequently, we performed the bivariate analysis (Chi-square test) to measure the association between the predictive variable (independent) and the outcome (dependent), as well as to verify the distribution of sociodemographic and economic

variables. The confidence interval (CI=95%) was calculated to compare the prevalence between the variable categories.

A multivariate analysis was performed in order to establish the relationship between the variables and to obtain the estimates of the Prevalence Ratio (PR). To do so, we used Poisson regression model, using socio-demographic and economic variables as adjustment variables ($5\% < p < 20\%$), .

Results

The final sample of the WHS-Woman, 2014 totaled 1,557 interviewees. Only women aged 20 years or more were considered in this study. Thus, the sample corresponded to 1,520 women.

The maximum age attained was 94 years (mean=50.67, SD=16.71), with a predominance in the age range between 30-59 years (53.16%). Further information about the sample characteristics is described in Table 1.

Approximately 30% of the women presented positive CMD; 90.26% were classified as active according to IPAQ, but most of them were overweight according to their BMI (38.54%) (Table 1).

Table 2 presents information regarding CMD presence according to socio-demographic and economic characteristics. As for age, CMD occurrence increased until the age group of 30-59 years (30.80%). There was a significant difference between the CMD presence and the following variables: civil status ($p=0.003$); head of the household ($p = 0.004$); family income ($p < 0.001$) and level of education ($p < 0.001$).

Table 1. Socio-demographic/economic characterization and CMD, LPA, BMI prevalence among women over 20 years old, Uberaba, Minas Gerais, Brazil, 2015

Characteristics	n	%
Age group (n= 1.520)		
20-29	225	14.80
30-59	808	53.16
60-79	445	29.28
≥ 80	42	2.76
Skin color (n= 1.511)**		
White	843	55.79
Brown	435	28.79
Black	191	12.64
Yellow	18	1.19
Other	24	1.59
Level of education (in years) (n= 1.520)		
0 year	56	3.68
1 to 4 years	326	21.45
5 a 8 years	356	23.42
9 a 11 years	294	19.34
12 years or more	488	32.11
Marital status (n= 1.519)**		
Single	338	22.25
Stable union	804	52.93
Separated	147	9.68
Widow	230	15.14
Family Income in minimum wage* (n= 1.520)		
<2	480	31.58
≥ 2 upto 3	593	39.01
≥ 4 upto 9	327	21.51
≥ 10 upto 19	34	2.24
≥ 20	86	5.66
Head of the household (n= 1.479)**		
Yes	641	43.34
No	838	56.66
Currently working (n= 1.520)		
Yes	556	36.58
No	964	63.42
Common Mental Disorder (n= 1.503)**		
Yes	446	29.67
No	1057	70.33
Level of Physical Activity (n= 1.335)**		
Active	1205	90.26
Inactive	130	9.74
Body Mass Index (n= 1.505)**		
Low weight	105	6.98
Eutrophic	543	36.08
Overweight	580	38.54
Obese	277	18.41

CMD: Common Mental Disorder; LPA: Level of Physical Activity; BMI: Body Mass Index; *Minimum wage in Brazil in 2014: R\$ 724,00; **Maximum number of losses: 185.

Source: The authors.

Table 2. CMD prevalence according to the soci-demographic and socio-economic variables among aged 20 or more. Uberaba, Minas Gerais, Brazil, 2015

Age group (n= 1.503)				0.778
	20-29* (n= 221)	64 – 28.96	23.34-35.30	
	30-59 (n= 802)	247 – 30.80	27.69-34.08	
	60-79 (n= 438)	123 – 28.08	24.06-32.48	
	≥ 80 (n= 42)	12 – 28.57	16.87-44.07	
Skin color (n= 1.494)				0.125
	White (n= 837)	236 – 28.19	25.24-31.34	
	Brown (n= 428)	142 – 33.17	28.86-37.78	
	Black (n= 187)*	48 – 25.66	19.90-32.43	
	Yellow (n= 18)	7 – 38.88	19.34-62.80	
	Other (n= 24)	10 – 41.66	23.75-62.08	
Marital status (n= 1.502)				0.003
	Single (n= 335)	90 – 26.86	22.38-31.87	
	Stableunion (n= 791)*	234 – 29.58	26.49-32.86	
	Separated (n= 147)	62 – 42.17	34.42-50.33	
	Widow (n= 229)	59 – 25.76	20.50-31.83	
Head of the household (n= 1.465)				0.004
	Yes (n= 636)	214 – 33.65	30.07-37.41	
	No (n= 829)*	221 – 26.66	23.75-29.77	
Family income (n= 1.503) (minimum wage**)				<0.001
	<2 (n= 475)	185 – 38.94	34.65-43.41	
	≥ 2 upto 3 (n= 586)	156 – 26.62	23.19-30.35	
	≥ 4 upto 9 (n= 323)	76 – 23.52	19.21-28.47	
	≥ 10 upto 19 (n= 34)	9 – 26.47	14.23-43.83	
	≥ 20* (n= 85)	20 – 23.52	15.66-33.75	
Levelofeducation (n= 1.503)				<0.001
	0 years (n= 55)	30 – 54.54	41.24-67.22	
	1 a 4 years (n= 322)	117 – 36.33	31.24-41.74	
	5 a 8 years (n= 352)	111 – 31.53	26.88-36.58	
	9 a 11 years (n= 290)	81 – 27.93	23.05-33.38	
PaidJob (n= 1.503)				0.274
	Yes (n= 547)	153 – 27.97	24.36-31.88	
	No (n= 956)*	293 – 30.64	27.80-33.65	

CMD: Common Mental Disorder; *Reference group to compare the CI-95%;**Minimum wage in Brazil in 2014: R\$ 724,00; Maximum number of missing data: 11
Source: The authors.

CMD prevalence was higher among physically active women (88.68%). There were no records of CMD for the inactive category in the very old age group (≥ 80 years). There was a statistically significant association between CMD presence regarding LPA only for the age group 60-79 years ($p = 0.027$). However, there was no significance in the adjusted RP model for these variables ($p = 0.235$) (Table 3).

As for BMI, the highest CMD prevalence was found in overweight women (37.41%). There is a predominance of CMD in the age group of 30-59. There was no statistically

significant difference between the CMD presence and the BMI and age groups (Table 4) and between the CMD Prevalence Ratio and BMI and age groups (Table 5).

Table 3. Prevalence ratio and Confidence Intervals of CMD according to LPA and age group of women aged 20 or more. Uberaba, Minas Gerais, Brasil, 2015

	Level of Physical Activity			Gross			
	Inactive		Active	p	PR	CI-95%	p
	n - % (CI - 95%)	n - % (CI - 95%)	n - % (CI - 95%)				
CMD	20-29	6 - 37.50 (17.32-63.20)	52 - 29.37 (23.08-36.57)	0.497	0.78	0.33-1.82	0.583
	30-59	17 - 31.48 (20.45-45.08)	200 - 29.80 (26.45-33.38)	0.796	0.94	0.57-1.55	0.829
	60-79	20 - 38.46 (26.19-52.39)	77 - 23.98 (19.61-28.98)	0.027	0.62	0.38-1.01	0.072
	≥ 80	-	8 - 34.78 (17.61-57.09)	0.053	-	-	-
	Total**	43 - 11.32	337 - 88.68				

Chi-square test. ($p < 0.05$). CMD: Common Mental Disorder; CI: Confidence Interval; PR: Prevalence ratio; **Maximum number of missing data: 66

Source: The authors.

Table 4. CMD Prevalence and Confidence Interval according BMI and age group of women aged 20 or more. Uberaba, Minas Gerais, Brazil, 2015

	Body Mass Index				p	
	Low weight ¹	Eutrophic ²	Overweight ³	Obese ⁴		
	n - % (CI - 95%)	n - % (CI - 95%)	n - % (CI - 95%)	n - % (CI - 95%)		
CMD	20-29	4 - 28.57 (10.65-57.29)	27 - 25.71 (18.19-35.00)	14 - 24.56 (15.00-37.51)	18 - 41.86 (27.98-57.14)	0.206
	30-59	4 - 19.04 (7.14-41.84)	80 - 32.00 (26.49-38.05)	81 - 27.83 (22.97-33.28)	79 - 34.19 (28.34-40.57)	0.263
	60-79	17 - 27.41 (17.68-39.90)	42 - 25.30 (19.23-32.50)	63 - 30.58 (24.64-37.24)	-	0.526
	≥ 80	1 - 16.66 (1.74-69.29)	4 - 20.00 (7.27-44.32)	7 - 43.75 (21.37-68.99)	-	0.230
	Total	26 - 5.90	153 - 34.69	165 - 37.41	97 - 22.00	

Chi-square test. ($p < 0.05$). CMD: Common Mental Disorder; BMI: Body Mass Index; CI: Confidence Interval; Maximum number of missing data: 5

Source: The authors.

Table 5. CMD prevalence ratio and Confidence Intervals according to BMI and age group of women aged 20 or more. Uberaba, Minas Gerais, Brazil, 2015

	Gross PR								
	PR 1(1/2)	CI -95%	p	RP 2(3/2)	CI -95%	p	PR 3(4/2)	CI -95%	p
	20-29	1.11	0.38-3.17	0.844	0.95	0.50-1.82	0.889	1.62	0.89-2.95
30-59	0.59	0.21-1.62	0.311	0.86	0.63-1.18	0.376	1.06	0.78-1.45	0.675
60-79	1.08	0.61-1.90	0.780	1.20	0.81-1.78	0.341			
≥ 80	0.83	0.09-7.45	0.870	2.18	0.64-7.47	0.212			

Poisson's Regression test ($0.05 < p < 0.20$). CMD: Common Mental Disorder; BMI: Body Mass Index; CI: Confidence Interval; PR1: Prevalence Ratio (Low weight/Eutrophic); PR2: Prevalence Ratio (Overweight/Eutrophic); PR3: Prevalence Ratio (Obese/Eutrophic)

Source: The authors.

Discussion

The overall prevalence of CMD in this study was 29.67%. This finding is similar to the prevalence values observed in other Brazilian epidemiological studies that investigated

both genders (with predominance of women in both, the sample and in the CMD occurrence) and used the same instrument (SRQ-20) for CMD screening⁵. However, Araújo et al²⁷ and Ludermir and Mello-Filho²⁸ found a higher prevalence of CMD (39.4% and 35%, respectively). These divergences in prevalence rates can be explained by the different regional, contextual, target audience and cutoff points used to classify CMD presence/absence.

Regarding age, the literature points to an increase in CMD prevalence as age advances (over 40 years) for both genders⁵. In the present study, there was a higher prevalence in the 30-59 years age range, with a reduction in CMD among older women. It appears that over the age of 40 years is a factor associated with the CMD occurrence in women²⁷, possibly due to estrogen deficiency in advanced ages, which reduces the speed of brain processing, causing impairment of the cognitive function and triggering mood disorders²⁹. These findings deserve special attention from health professionals since this group represents an economically productive part of society², and a psychic ailment at this stage may compromise their work performance^{2,4}.

Regarding LPA, we observed that nearly 90% of the women were considered physically active. Most women with positive CMD were also physically active (88.68%). The literature points to divergent data, in which individuals with CMD (especially women) tend to be less active than the general population⁶. However, the findings of these authors refer only to activities related to sports practice, while the high LPA in our study may be attributed to domestic activities^{28,30}, since most women are unemployed.

Regarding BMI for the general sample, there was a higher prevalence of overweight women (38.54%). The studies linking CMD and BMI³¹ are scarce and represent results of investigations in both genders, with inconclusive and controversial results³³. Researches linking depression and BMI³² are more common. This is because the relationships between obesity and mental health are complex, and it is possible to establish a bidirectional relationship between CMD and obesity³¹.

There was no significant association between BMI and the CMD positive cases. Goldney et al³⁴ did not observe significance between BMI and psychic ailments (depression and suicidal ideation), thus contradicting the paradigm that the BMI increase is related to mental disorders in general.

However, the overweight category stood out over the others regarding the presence of CMD. When examining the relationships between BMI and mental health, one must consider the type and severity of the mental disorder in question³⁵. Most of the studies that establish associations between these indicators focus on depression^{32,36}, which is a psychic impairment with duration and symptomatology more intense than CMD. Thus, the data in the literature show that the significant associations between depression and BMI have non-linear tendencies³⁷, which means that it is the extremes of BMI (low weight and obesity) that determine the associations between this indicator and the presence of this mental disorder³⁷, especially in women³⁸.

Finally, as in our research, several other researchers have also investigated and found inverse associations between socioeconomic conditions (such as low income and low level of education) and CMD⁸. According to Ludermir and Mello-Filho²⁸, this socioeconomic disadvantage makes individuals more subject to stress situations, contributing to the occurrence of CMD.

The results presented in this study – high prevalence of CMD (29.67%) and association with overweight (37.41%), economically productive age range (30-59 years old - 30.80%), women with low income and low levels of education – offer subsidies for health actions from the perspective of the National Health Promotion Policy in order to induce

“social and environmental changes at the collective level to favor healthy choices at the individual level”. According to the National Mental Health Policy (Law No. 10.216/2001), which deals with the protection and rights of persons with mental disorders, it is the State’s responsibility to provide assistance to individuals with this impairment⁴⁰.

One of the limitations of this research is its design. Since it is a cross-sectional study, it is not possible to establish direct causal relationships between the studied variables. Nevertheless, the information obtained is useful and important to contribute to health care policies, in order to guide health interventions aimed at this population group. In this regard, gender issues need to be considered: women have different health determinants from men, which requires different policies and approaches. Modifying the current model of care to women's mental health is the first step to guarantee their wholeness and a more humane, efficient and effective care, intervening positively on the reality of the women’s psychological suffering.

Conclusion

CMD prevalence among adult and elderly women in the city of Uberaba, MG was 29.67%. The majority of the women in this sample are physically active (90.26%) according to the IPAQ and 38.54% of the total are overweight, according to the BMI classification. Among women with CMD, the majority was physically active (88.68%) and overweight (37.41%). There were no significant associations between CMD and LPA and BMI. On the other hand, CMD prevalence is associated with socioeconomic disadvantages (low income and low level of education) and socio-demographic issues.

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Acknowledgment: Fundação de Amparo à Pesquisa de Minas Gerais – FAPEMIG, for the Project financing (APQ-01825-12).

Received on Sep, 20, 2016.

Reviewed on Nov, 02, 2016.

Accepted on Dec, 18, 2016.

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