Common Mental Disorders and Contemporary Factors: 1982 Birth Cohort

Transtornos mentais comuns e fatores contemporâneos: coorte de nascimentos de 1982

Trastornos mentales comunes y factores contemporáneos: cohorte de nacimientos de 1982

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ABSTRACT

Objective: To describe the association between common mental disorders and socio-demographic variables, smoking habits and stressful events among the 30-year-old members of a 1982 cohort. **Method:** Mental disorder was analyzed by the Self-Reporting Questionnaire (SRQ-20). Poisson regression was used to analyze the unadjusted and adjusted associations. **Results:** Low level of education and stressful events increased the prevalence of mental disorders for both genders. Lower income for women and unemployment for men also remained associated with CMD. **Conclusion:** It was possible to describe the association between contemporary factors and mental disorders in a young population, to which prevention and control measures, through public policies proposed to the areas of Primary Care, Mental Health and Education, can represent a better quality of life and health.
Descriptors: Mental Health; Young Adult; Epidemiology; Association; Mental Disorders.

RESUMO

Objetivo: Descrever a associação de transtorno mental comum aos 30 anos nos membros da coorte de 1982 com variáveis sociodemográficas, tabagismo e eventos estressores. **Método:** Transtorno mental foi identificado pelo *Self-Reporting Questionnaire* (SRQ-20). Regressão de *Poisson* foi utilizada para analisar as associações brutas e ajustadas. **Resultados:** A baixa escolaridade e os eventos estressores aumentaram a frequência de transtorno em ambos os sexos. A menor renda familiar para mulheres e a falta de trabalho para homens também se mantiveram associadas. **Conclusão:** Permitiu descrever a associação de fatores contemporâneos com os transtornos mentais em população jovem, na qual as medidas de prevenção e controle, por meio de políticas públicas propostas nas áreas de Atenção Básica, Saúde Mental e Educação, podem representar uma melhor qualidade de vida e de saúde.
Descritores: Saúde Mental; Adulto Jovem; Epidemiologia; Associação; Transtornos Mentais.

RESUMEN

Objetivo: describir la asociación de trastornos mentales comunes a los 30 años en los miembros de cohorte de 1982 con variables sociodemográficas, tabaquismo y eventos estresores. **Método:** los trastornos mentales se identificaron mediante el Cuestionario de Autorreporte de Síntomas (SRQ-20). La Regresión de Poisson se utilizó para analizar las asociaciones brutas y ajustadas. **Resultados:** la poca escolarización y los eventos estresores aumentaron la frecuencia de trastornos en ambos sexos. Los ingresos familiares bajos de las mujeres y la falta de trabajo de los hombres también estaban relacionados. **Conclusión:** Existe una asociación entre los factores contemporáneos y los trastornos mentales padecidos por los jóvenes, en los que las medidas de prevención y control, a través de políticas públicas en las áreas de Atención Primaria, de Salud Mental y de Educación, pueden representar una mejoría en la calidad de vida e influenciar notablemente en su salud.
Descriptores: Salud Mental; Adulto Joven; Epidemiología; Asociación; Trastornos Mentales.

INTRODUCTION

Currently, mental health problems are highly prevalent in the general population[1]. Since the nineteenth century, different statistics that included socio-demographic characteristics of the mentally ill population in psychiatric asylums have been presented[2]. While the first estimates of prevalence were obtained in institutionalized populations, community studies were only conducted after World War II[2-3]. The knowledge obtained in these studies indicates that millions of people have some kind of mental illness in the world and that this number is progressively increasing, especially in low/middle-income countries[2,4]. It should be noted that among the population affected, only a few are treated[4-5], which can lead to individual suffering and important socioeconomic implications, since the symptoms can result in lost workdays and an increase in the demand for health services[6].

At the beginning of this century, the Pan American Health Organization (PAHO) and the World Health Organization (WHO) drew attention to the growing prevalence of mental disorders in the population[1]. Estimates suggest that about 450 million people in the world suffer from mental or neurological disorders, which represent four of the 10 leading causes of disability. In addition, PAHO/WHO data[1] indicates that, by 2020, these disorders might reach 15% of the adult population of the world.

In Brazil, epidemiological surveys carried out by the Ministry of Health[6] indicated that 20% of the adult population have some kind of mental disorder, 3% of the general population suffer from severe and persistent mental disorders, 6% suffer from severe psychiatric disorders due to the use of alcohol and other drugs, 12% need some kind of mental health care, whether continuous or occasional, and 2.3% of the annual budget of SUS is spent on Mental Health. The prevalence of common mental disorders (CMD) among health service users was assessed in a multicenter study conducted in four Brazilian capitals, which found that these rates were higher than 50% and especially high among women, unemployed, people with a low level of education and people with a low income[7].

According to Goldberg & Huxley, CMDs are a group of distress states manifesting with anxiety, depressive, and unexplained somatic symptoms that may occur together or not[8]. This category includes non-psychotic symptoms such as insomnia, difficulty concentrating, poor memory, fatigue, irritability, feelings of worthlessness and somatic preoccupation[8-9]. When these symptoms affect young adults, they may be a reflection of socioeconomic vulnerability and can affect their productive capacity, increase the use of health services and lead to a greater need for social assistance, justice, and informal care.

Given the above, the present study sought to answer the following research question: is there an association between common mental disorders and socio-demographic variables, smoking habits, and stressful events?

OBJECTIVE

To describe the association between common mental disorders and socio-demographic variables, smoking habits, and stressful events among the 30-year-old members of a 1982 cohort.

METHOD

Ethical aspects

The study was approved by the Research Ethics Committee of the Faculty of Medicine of the Federal University of Pelotas. All participants signed the Informed Consent Form.

Design, setting and period, population; inclusion and exclusion criteria

The study was carried out with data from the 30-year follow-up of the members of the Pelotas 1982 Birth Cohort. Pelotas is a medium-sized city in the south of Brazil, with about 330 thousand inhabitants. In 1982, the three maternity hospitals of the city were visited daily and the mothers of 6,011 newborns who lived in urban areas were interviewed in a perinatal study. Subsequently, the 5,914 live births were examined and included in the original cohort. Since the perinatal study, several follow-ups, including sub-samples or the entire cohort, were performed. The detailed methodology of these follow-ups is described in other publications[10-11].

The 30-year follow-up began in June 2012, seeking to locate and interview all members of the 1982 cohort. Participants were invited to visit the Epidemiological Research Center for data collection, which included questionnaires for demographic, socioeconomic, health, physical activity, nutrition, and mental health assessment. There were also physical examinations and blood and serum collection, but these data will not be used in this article.

Study protocol

In the present study, mental health was assessed using the Self-Report Questionnaire (SRQ- 20). This instrument was designed by Harding et al[12] and proposed by the World Health Organization to detect CMD in the population. It consists of twenty questions with yes or no answers. Translation and validation for the Portuguese language were conducted by Mari & Williams[16], and the translated instrument showed sensitivity of 85% and specificity of 80%. The prevalence of CMD was established based on the number of points in each of the SRQ-20 questions. Thus, women with eight or more points on this scale were considered possible cases of CMD. For males, the cut-off score was six points or more, as suggested in the instrument validation study for Brazil[13].

The prevalence of CMD was analyzed in association to socio-demographic variables, smoking and stressful events at 30 years old. The socio-demographic variables included the following factors: gender of the interviewee, as a dichotomous variable; skin color, self-reported according to the categories used by IBGE[14] and analyzed as white, black or brown; level of education, obtained in full years of education and presented as an ordinal variable, including the groups 0-4 years, 5-8 years, 9-11 years, 12 years or more; family income at 30 years old, divided into tertiles, with the first being the lowest and the third the highest income level; civil status, analyzed as a dichotomous variable — with and without partner; and paid employment in the last month, also analyzed as a dichotomous variable (yes/no). Current smoking habit was considered when the participant reported smoking at least one cigarette per day in the 30-year interview. Stressful events in the last year, such as the

death of a close relative or person, a serious health problem that impaired the participant's activities, financial issues that were more critical than usual, change of housing against their will, break up of a serious relationship, engagement or marriage and reports of nervous or emotional problems, were obtained in a questionnaire with yes or no answers; an ordinal variable was constructed based on the number of events with positive responses for each of these dichotomous variables (none, one, two and three events or more).

Analysis of results and statistics

The software Stata12.0 was used for statistical analysis. The analysis was stratified by gender, since there is evidence that the risk of mental disorders is higher in female subjects[15]. Bivariate analysis was performed, comparing proportions with the Fisher's exact test; when dealing with ordinal independent variables, the linear trend was tested. Adjusted Poisson regression was conducted according to a hierarchical two-level model. The socio-demographic variables were included in the first level of analysis and adjusted for each other: skin color, level of education, family income, civil status, and current employment. The second level included smoking and the number of stressful events in the past year. Those variables were adjusted for all variables of the previous level that remained in the model with p <0.2. Considering the possibility of collinearity between family income and level of education, two analyzes were carried out and adjusted for the first-level variables. However, for the inclusion of variables in the model, the value of p<0.2 was used, and the significance level was set at 5% for all the associations studied.

RESULTS

During the 2012-2013 follow-up, in the period from June 2012 to February 2013, 3701 members of the cohort were interviewed. Of the participants of the cohort, 4534 were located, of whom 467 were living away from Pelotas, 86 refused to participate and 280 did not directly refuse but did not attend the clinic visit.

If we sum up the number of respondents (n = 3701) and the number of participants who died during the 30 years of follow-up (n = 325), we have a follow-up rate of 68.1% of the original cohort (n = 5914). Of the participants interviewed in the last follow-up, 1914 (51.7%) were women and about two-thirds lived with a partner. Of the 3701 participants interviewed at 30-year-old, 3642 answered the SRQ-20, of which 1757 (48.2%) were men and 1885 (51.8%) were women. Some information about the cohort participants who did not attend the follow-up are described in another publication[14].

Table 1 presents the prevalence of CMD in relation to the other variables included in this study. The prevalence rates were different in relation to all variables when the total group of 30-year-old men and women was analyzed. The analysis stratified by gender found that there were no differences in the prevalence of CMD only in relation to the civil status of the women.

The results of the regression analysis for men and women are presented in Tables 2 and 3, respectively. Skin color and family income did not remain associated with CMD among men. On the other hand, men with a lower level of education had a prevalence of CMD almost twice as high as those who had 12 years or more of education. Living without a partner and smoking also increased the prevalence of CMD by more than 20%. The prevalence of CMD was 42% higher for those who were unemployed at the time of the interview in relation to those who had a job. In addition, the linear association between the number of stressful events in the last year and the prevalence of CMD remained significant after adjusting for all socio-demographic variables and smoking. The effects declined in the adjusted analysis; however, the occurrence of at least one stressful event increased by almost twice the prevalence of CMD among males and increased by three to six times when the respondent faced two, three or more stressful events (Table 3).

Table 1 – Prevalence (%) of common mental disorders in young adults belonging to a 1982 Birth Cohort, in relation to socio-demographic variables, smoking and stressful events, Pelotas, Rio Grande do Sul, Brazil, 2012

Variable	Total		Men		Women	
	n	%	n	%	n	%
Skin color	0.001		0.02		0.01	
White	2500	23.2	1204	20.1	1296	26.0
Black or brown	721	29.3	356	25.8	365	32.6
Level of education	<0.001*		<0.001*		<0.001*	
0-4	219	45.2	106	37.7	113	52.2
5-8	723	35.0	398	27.1	325	44.6
9-11	1092	23.2	561	18.4	531	28.3
>12	1594	17.3	681	17.3	913	17.2
Family income in 2012	<0.001**		0.001**		<0.001**	
1st tertile (lower income)	1187	32.8	497	25.8	690	37.8
2nd tertile	1135	21.3	594	20.2	541	22.3
3rd tertile	1154	16.3	598	17.3	556	15.3
Civil status	0.02		0.02		0.3	
With a partner	2410	23.2	1139	19.6	1271	26.4
Without a partner	1231	26.6	617	24.5	614	28.7
Current employment	<0.001		0.001		<0.001	
Yes	3026	22.0	1613	20.2	1413	23.9
No	613	35.9	142	32.4	471	37.0
Current smoking habit	<0.001		<0.001		<0.001	
Yes	859	34.5	458	28.4	401	41.4
No	2783	21.2	1299	18.8	1484	23.3
Stressful events	<0.001*		<0.001*		<0.001*	
No Event	748	6.2	358	6.7	390	5.6
1 Event	1073	13.1	546	11.7	527	14.4
2 Events	828	23.3	428	21.7	400	25.0
3 Events or more	990	50.9	422	45.3	568	55.1

Note: *linear trend test.

For women, it was observed that the variables skin color, civil status, current employment and smoking were no longer associated with CMD in the adjusted analysis. However, women with a lower level of education had a prevalence of CMD more than twice as high as those with a higher level of education. Women classified in the lowest income tertile had a prevalence of CMD 65% higher than those with higher family income. In relation to stressful events, it is observed that the association also remained strongly significant among women. The effects declined in the adjusted analysis; however, the occurrence of a stressful event increased by more than twice the prevalence of CMD among females and increased by about four or almost seven times when the interviewee experienced two, three or more stressful events in the last year (Table 3).

Table 2 - Unadjusted and adjusted prevalence ratio (PR) of the association between common mental disorders and socio-demographic variables, smoking and stressful events among 30-year-old men, Pelotas, Rio Grande do Sul, Brazil, 2012

Variable	Unadjusted PR (95%CI)	p value	Adjusted PR** (95%CI)	p value
Skin color		0.02		0.14
White	1		1	
Black or brown	1.29 (1.04 – 1.58)		1.20 (0.96 – 1.51)	
Level of education*		<0.001		0.001
0-4	2.18 (1.62 – 2.92)		1.93 (1.37 – 2.72)	
5-8	1.57 (1.24 – 1.97)		1.31 (0.99 – 1.74)	
9-11	1.06 (0.83 – 1.35)		0.93 (0.72 – 1.22)	
>12	1		1	
Family income in 2012*		0.002		0.16
1º tertile (lower income)	1.49 (1.19 – 1.88)		1.27 (0.95 – 1.69)	
2º tertile	1.17 (0.92 – 1.49)		1.15 (0.88 – 1.50)	
3º tertile	1		1	
Civil status		0.016		0.046
With partner	1		1	
No partner	1.25 (1.04 – 1.50)		1.21 (0.99 – 1.49)	
Current employment		0.0003		0.04
Yes	1		1	
No	1.60 (1.24 – 2.07)		1.42 (1.00 – 2.00)	
Current smoking habit		<0.001		0.03
Yes	1.51 (1.26 – 1.82)		1.24 (1.02 – 1.50)	
No	1		1	
Stressful events*		<0.001		<0.001
No event	1		1	
1 Event	1.74 (1.11 – 2.74)		1.70 (1.06 – 2.73)	
2 Events	3.24 (2.11 – 4.96)		2.99 (1.91 – 4.69)	
3 Events or more	6.75 (4.52 – 10.08)		6.09 (4.00 – 9.28)	

Note: *linear trend test; **according to hierarchic test.

Table 3 - Unadjusted and adjusted prevalence ratio (PR) of the association between common mental disorders and socio-demographic variables, smoking and stressful events among 30-year-old women, Pelotas, Rio Grande do Sul, Brazil, 2012

Variable	Unadjusted PR (CI95%)	p value	Adjusted PR** (CI95%)	p value
Skin color		0.01		0.77
White	1		1	
Black or pardo	1.25 (1.05 – 1.49)		0.97 (0.80 – 1.17)	
Level of education*		<0.001		<0.001
0-4	3.03 (2.42 – 3.80)		2.38 (1.79 – 3.16)	
5-8	2.59 (2.15 – 3.13)		2.06 (1.62 – 2.62)	
9-11	1.64 (1.35 – 1.99)		1.41 (1.11 – 1.78)	
>12	1		1	
Family income in 2012*		<0.001		<0.001
1º tertile (lower income)	2.47 (1.98 – 3.08)		1.65 (1.26 – 2.17)	
2º tertile	1.47 (1.15 – 1.90)		1.25 (0.95 – 1.65)	
3º tertile	1		1	
Civil status		0.29		0.53
With partner	1		1	
No partner	1.08 (0.93 – 1.27)		1.06 (0.89 – 1.28)	
Current employment		<0.001		0.3
Yes	1		1	
No	1.55 (1.33 – 1.80)		1.10 (0.92 – 1.31)	
Current smoking habit		<0.001		0.08
Yes	1.78 (1.53 – 2.07)		1.15 (0.98 – 1.35)	
No	1		1	
Stressful events*		<0.001		<0.001
No event	1		1	
1 Event	2.55 (1.62 – 4.03)		2.22 (1.40 – 3.53)	
2 Events	4.43 (2.85 – 6.88)		3.65 (2.32 – 5.73)	
3 Events or more	9.77 (6.46 – 14.76)		6.98 (4.56 – 10.68)	

Note:*linear trend test; **according to hierarchic model.

DISCUSSION

The prevalence of CMD in this study, as previously described[11], was slightly lower than that found in the same population (28.0%) when the individuals of the Birth Cohort were 23 years old[16]. It should be noted that the highest prevalence rates were observed in 23-year-old women. A similar finding was observed in the Dunedin Multidisciplinary Health and Development Study in New Zealand, which found that mental disorders were more prevalent at age 21 and 26, decreasing at age 32 years old[17]. On the other hand, when comparing the present study with another population-based study[21] developed in the same city, with the same instrument and criteria, with participants over 15 years old, the prevalence of CMD was higher in the 30-year-old cohort members, and the prevalence in the other study was 22.7%, a value outside of the confidence interval of the present study. It is not possible to compare the results with other population-based studies developed in Brazil because the follow-up time and the cut-off scores for the SRQ-20 were different[4,9].

The higher prevalence of CMD among women is in agreement with the results of other studies[16,18-19]. Women, in general, seek more help and seem to be more likely to report psychological symptoms[8]. According to the literature, the prevalence of anxiety and depression is two to three times higher in women than in men[5-20].

The higher prevalence of CMD in black and brown individuals observed in the follow-up of this cohort at age 23 years old[16] did not occur in the present study, since for both men and women these associations did not persist after adjusting for socioeconomic variables. The level of education may have a more important role in CMD than skin color. On the other hand, in the previous study[16], the effect of skin color was maintained after adjusting for the mother's level of education and for the family income at the time of birth, in 1982.

The inverse linear association between the prevalence of CMD and the variables level of education and family income is in agreement with other studies, both in Brazil[21-22] and in other countries[23-24].

For male participants, smoking remained associated with CMD even after adjustment for socio-demographic variables. This result is consistent with other studies[9,19,25], which, however, did not stratify participants by gender. On the other hand, the findings related to women in the present study may be associated with the fact that they have worse self-perceived health than men[9], meaning that they are more likely to express their symptoms and, consequently, to report symptoms of CMD. In addition, smoking might be associated with more severe forms of mental disorders, that could affect men more than women. It should be noted that the present analysis was cross-sectional; therefore, it does not allow identifying the cause and effect relationship between smoking and CMD. In this sense, other studies should investigate the longitudinal effect of smoking on mental disorders.

Unemployment has been mentioned[26] as one of the factors associated with higher scores on the SRQ-20. However, in the present study, unemployment only remained associated with CMD among men. Other factors related to insertion in the job market, besides the remuneration, can associate unemployment with mental disorders[27]. Among these factors we can cite the organization of daily routine and contact with people outside the family. These factors transcend individual, status and identity and can be the basis to organize daily life[27]. Women, on the other hand, may have faced less social pressure and may have chosen not to have a job because of maternity, for example, which could explain the disappearance of the association between unemployment and CMD among women in the adjusted analysis.

Stressful events are external events that cause stress in a given time and that can generate personal and social changes[28-29] due to the need to adapt to a new environment. In the present study, the prevalence of CMD increased as the number of stressful events in the last year increased. This association has also been observed in other studies[30-31], drawing attention to the need for an adequate approach and/or treatment of individuals who experience these events, since eventual psychic suffering, if not well treated, can lead to physical and mental health problems in the future of these young people.

Finally, for women, unlike men, the socioeconomic variables and stressful events were the factors that were most associated with CMD. For men, CMD was more related to behavioral issues, such as smoking, living alone and having a job.

Limitations of the study

A limitation that can be highlighted refers to the association of CMD with smoking, current employment and stressful events. Considering that this information was obtained at the follow-up of the participants at 30 years of age, it is not possible to know the meaning of these associations. It is possible to say that people who have experienced some stressful situation tend to overestimate the psychological symptoms. On the other hand, people with a mental disorder might be more likely to experience some kind of stressful external event. The same logic could be applied to the associations between CMD, smoking and current employment.

Contributions to the areas of health and public policy

The relevance of the present study is its contribution to public health regarding the knowledge of the prevalence and understanding of the impact of these disorders in this young adult population, which needs to be followed-up, especially when stressful events occur. It is also emphasized that the health problems arising from mental health issues have a multicausal origin, with a possible coexistence of multiple paradigms (biological, cognitive, interpersonal, psychodynamic, psychoanalytic)[32]. Thus, this knowledge enables several multi-professional interventions in public health.

Considering that there are few population-based studies, especially in recent years, research is often limited to specific population groups, such as workers of certain areas, students, the older adults and others, which made it difficult to compare the data with the current literature. It is important to continue investigating this topic, since epidemiological knowledge about mental health in young adults can contribute to the development of public policies that depend on the frequency and distribution of these disorders, as well as of its associated factors. The results of the present study are important showing the prevalence of CMD in young adults in working age that can have an economic, social and cultural impact, which may persist or have negative consequences throughout life. The high prevalence of these disorders in this population, as well as the consequence at the beginning of life, as already studied[19], may lead to other more serious disorders with future consequences for social, economic, cultural and environmental conditions.

CONCLUSION

This study allowed us to describe CMD, evaluated through the SRQ-20, and to identify associated factors in young adults with a mean age of 30 years old, who have not been well studied at the population level. Knowing the prevalence of these disorders makes it possible to indicate prevention and control measures, through public policies proposed to the areas of Primary Care, Mental Health and Education, aimed at reducing prevalence and treating users who already have some disorder, relieving their suffering and avoiding chronic illness when there is the possibility of dealing with the associated factors, such as stressful events.

FUNDING

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