Comparing the prevalence rates of social phobia in a community according to ICD-10 and DSM-III-R

Comparando estimativas de prevalência da fobia social na comunidade empregando-se a CID-10 e a DSM-III-R

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Abstract

Objective: *This population-based study aimed to compare the prevalence rates of social phobia using DSM-III-R and CID-10, based on the Composite International Diagnostic Interview (CIDI), in a Brazilian community.* **Methods:** *This survey was carried out in a representative sample of 1,041 residents from Bambuí, Minas Gerais, Brazil (attrition rate = 14.7%). The Brazilian version of the CIDI was used. One-month, one-year and lifetime social phobia prevalence rates were estimated, employing the DSM-III-R and ICD-10 classifications, using the CIDI computer program.* **Results:** *One-month, one-year, and life prevalence rates of social phobia, based on the DSM-III-R (7.9, 9.0 and 11.7% respectively) were higher than those based on the ICD-10 (4.7, 5.2 and 6.7% respectively; p < 0.01 for all).* **Conclusion:** *Our results reinforce the hypothesis that the prevalence of social phobia is higher when based on the DSM-III-R compared to the ICD-10 classification.*

Keywords *Phobic disorders/epidemiology; Phobic disorders/diagnosis; Phobic disorders/classification; Phobic disorders/ethnology; Anxiety disorders; Brazil/ethnology; Mental disorders/epidemiology; Psychiatric status rating scales*

Resumo

Objetivo: *Este estudo populacional visa comparar estimativas de prevalência de fobia social empregando-se a CID-10 e a DSM-III-R em uma comunidade brasileira.* **Métodos**: *O levantamento foi realizado em uma amostra representativa de 1.041 residentes de Bambuí, Minas Gerais, Brasil (perda = 14,7%). Foi utilizada a versão brasileira da Composite International Diagnostic Interview (CIDI). As prevalências de 1 mês, 1 ano e vida foram estimadas empregando-se as classificações CID-10 e DSM-III-R, utilizando-se o programa de computador da CIDI.* **Resultados**: *As prevalências de 1 mês, 1 ano e vida da fobia social, baseadas na DSM-III-R (7,9, 9,0 e 11,7% respectivamente) foram mais elevadas que aquelas baseadas na CID-10 (4,7, 5,2 e 6,7%, respectivamente; p < 0,01 para todos).* **Conclusão**: *Nossos resultados reforçam a hipótese de que as taxas de prevalência de fobia social são mais elevadas quando baseadas na DSM-III-R em comparação com a CID-10.*

Descritores: *Transtornos fóbicos/epidemiologia; Transtornos fóbicos/diagnostico; Transtornos fóbicos/classificação; Transtornos fóbicos/etnologia; Transtornos da ansiedade; Brasil/epidemiologia; Transtornos mentais/epidemiologia; Escalas de graduação psiquiátrica*

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Introduction

The results of forty-three epidemiological studies on social phobia (SP), published over the last two decades, show remarkably variable lifetime prevalence rates, ranging from 0% among men in Seoul to 52.7% in Udmurtia, Russia.[1-3] In the first wave of studies based on the DSM-III,[4] the social phobia lifetime prevalence was estimated at about 2-3% in the US.[5] Other studies, using DSM-III-R[6] criteria, showed higher rates (around 13%).[7] The latest studies based on the ICD-10[8] have reported lower prevalence estimates in Australia (2.7%),[9] Brazil (3.5%)[10] and in the Arabian Peninsula (0.4%).[11] This variation could be explained either by real differences or by methodological differences, including the diagnostic criteria and the diagnostic thresholds employed, the instruments utilized, and the prevalence period considered, among other factors.[3,12]

The ICD-10 (Diagnostic Criteria for Research - DCR)[13] and the DSM-III-R[6] are systems of classification for psychiatric disorders, which are defined by operational criteria. Concerning the diagnosis of SP, the ICD-10 (DCR) is more restrictive than DSM-III-R regarding 1) anxiety symptomatology (ICD-10 specifies type and number of symptoms, whereas DSM-III-R is generic) and 2) clinical significance of social phobic symptoms (ICD-10, criterion C: "significant emotional distress is caused by the symptoms *or* by the avoidance, *and* the individual recognizes that these are excessive or unreasonable; DSM-III-R, criterion E: " the avoidant behavior interferes with occupational functioning *or* with usual social activities *or* relationships with others, *or* there is marked distress about having the fear" *and* criterion F: "the person recognizes that the fear is excessive or unreasonable".

Regarding community studies, analyzing the interview instrument is even more important than analyzing the criteria and how they are used in the respective classifications because the wording and the algorithms in the computerized program may differ from the original classifications.[14] The Composite International Diagnostic Interview (CIDI),[15] used in the present study is a fully standardized interview that provides diagnoses according to the definitions and criteria of the ICD-10 and DSM-III-R. With regard to SP, there are important differences between the corresponding criterion C of ICD-10 and D of DSM-III (see discussion). There is some evidence that the DSM-III-R identifies more cases of SP than the ICD-10,[2,14] but there is no consensus.[9]

The present study aims at examining one of the methodological differences that could contribute to differences in the prevalence rates of SP: classifying SP using DSM-III-R and CID-10, according to the CIDI. The hypothesis is that the ICD-10 identifies fewer cases of SP than the DSM-III-R.

Methods

This population-based study was carried out in Bambuí, a town with approximately 15,000 inhabitants in southeastern Brazil. A complete census of the town was performed to identify the participants. A non-replaceable random sample of 1,221 residents aged ≥ 18 years was selected.[16] Of the 1,221 selected individuals, 1,041 (85.3%) participated in this study. The participants were similar to the individuals in the sample regarding age and sex.

The Brazilian version of the CIDI was used.[17] The diagnoses were obtained using the CIDI computer program. One-month, one-year and lifetime SP prevalence rates were estimated, employing the DSM-III-R and ICD-10 classifications. The univariate analysis was based on the Pearson chi-square test; confidence intervals were estimated. The Stata Statistical Software was used for data analysis.[18] Further methodological details were previously described.[16,19-20]

Results

The sample of 1,041 subjects had an average age of 39. Women accounted for 54.3% of the sample and men 45.7%. There were 26.5% with 8+ years of schooling, 21.5% between 4 and 7 years, 42.5% between 1 and 3 years of schooling and 9.5% with no schooling. Other socio-demographic characteristics were previously described.[16,19-20]

The one-month, one-year, and lifetime prevalence rates of SP, based on the ICD-10 were 4.7% (CI95% 3.4-6.0), 5.2% (CI95% 3.8-6.5) and 6.7% (CI95% 5.2-8.2), respectively. The corresponding figures based on the DSM-III-R were 7.9% (CI95% 6.2-9.5), 9.0% (CI95% 7.3-10.8) and 11.7% (CI95% 9.8-13.7) – Table 1.

Table 1 – One-month, one-year and lifetime prevalence of Social Phobia based on ICD-10 and DSM-III-R

Prevalence	ICD-10			DSM-III-R			p
	n	%	(IC95%)	n	%	(IC95%)	
1-month	49	4.7	3.4-6.0	82	7.9	6.2-9.5	< 0.01
1-year	54	5.2	3.8-6.5	94	9.0	7.3-10.8	< 0.01
Lifetime	70	6.7	5.2-8.2	122	11.7	9.8-13.7	< 0.01

Estimates of the one-month, one-year and lifetime prevalence among men, based on the ICD-10, were 3.1% (CI95% 1.5-4.7), 3.5% (CI95% 1.8-5.2) and 4.6% (CI95% 2.7-6.6), respectively. The corresponding results using DSM-III-R were 6.0% (CI95% 3.8-8.2), 7.5% (CI95% 5.1-10.0), 10.0% (CI95% 7.2-12.2) – p = 0.06; 0.01 and < 0.01.

For women the respective values for ICD-10 were 5.9% (CI95% 4.0-7.9), 6.5% (CI95% 4.5-8.4) and 8.3% (CI95% 6.1-10.6) and for DSM-III-R 9.3% (CI95% 7.0-11.7), 10.2% (CI95% 7.7-12.6) and 13.1% (CI95% 10.3-15.8) – p = 0.04; 0.03 and < 0.01.

Based on the ICD-10, as compared to men, women had higher rates of one-month prevalence (p = 0.03), one-year (p = 0.03) and lifetime prevalence (p = 0.02). Based on the DSM-III-R, higher prevalence for women was found for one-month prevalence (p = 0.03) but not for one-year (p = 0.09) and lifetime prevalence (p = 0.08).

Discussion

The results of this study show a consistently higher DSM-III-R one-month, one-year and lifetime prevalence rates of SP compared to that obtained using the ICD-10 classification. A similar trend was observed among males and females. Possibly, besides the differences between the ICD-10 and the DSM-III-R criteria, a major explanation for the higher prevalence when using DSM-III-R criteria, compared to ICD-10 estimates, are the CIDI's algorithms that compose the computerized program differences between the corresponding criteria C of ICD-10 and D of DSM-III. These two related criteria are defined by different elements by the computerized algorithms. In order to meet criterion C of ICD-10, the interviewed have to confirm that they have told a doctor or other professional about the fear or that they have taken the medication more than once because of the fear or that the symptoms interfere significantly with social life.

The criterion D of the DSM-III-R is met if the interviewed confirms the presence of several autonomic symptoms, *or* if there is a significant interference with social life.[14-15]

The impact of ICD-10 and DSM classifications on SP prevalence is controversial.[2-3,9,14] Wacker et al (1992) found a lower lifetime prevalence of ICD-10 SP (9.6%) as compared to DSM-III-R prevalence (16.0%) among adults residing in the city of Basle, Switzerland. In their study , almost 40% of positive SP according to the DSM-III-R were negative using the ICD-10 criteria; 57% did not meet criterion C (ICD-10 – "significant emotional distress due to the symptoms or to the avoidance and a recognition that these are excessive and unreasonable) and 29% did not meet criterion B (symptoms of anxiety in the feared situation at some time since the onset of the disorder, showing at least some of the autonomic symptoms listed under B 1-9 [F41.0] and with the addition of blushing or shaking, nausea or fear of vomiting, urgency or fear of micturition or defecation). In contrast, 3.7% positive SP according to the ICD-10 were negative using DSM-III-R criteria.[14] Pakriev et al described similar results in the rural population of Udmurtia (Estonia), a 45.6% lifetime prevalence using ICD-10 and 52.7% according to DSM-III-R classification.[2] However, these lifetime prevalence rates of SP are uncommonly high.

On the other hand, in a very large sample of Australian adults, Andrews et al[9] found higher one-year prevalence of SP using ICD-10 (2.7%) than DSM-IV (1.3%) classification, but employing the version 2.1 of the CIDI. The prevalence rates in this study were possibly underestimated.[9] In general, studies that have used DSM-IV definition reported prevalence rates of SP similar to DSM-III-R estimates.

Most studies have shown that women are more likely to have SP.[3,7,14] Our findings, using ICD-10, confirm higher rates of one-month prevalence, one-year and lifetime prevalence for women. However, DSM-III-R higher rates among women were found only for one-month prevalence, not for one-year and lifetime prevalence, suggesting that classifications and the interview instrument can have some impact in determining associated factors due to some discrepancies in identifying cases of SP.

The lifetime prevalence rate of SP based on the ICD.10 (6.7%) found in this study (Bambui, Brazil) was superior to the estimate of SP also based on the ICD.10 (3.5%) reported by Andrade et al (2002) in São Paulo, which is the largest city in the country.[9] Hence, geographical location, socioeconomic and cultural aspects appear to affect prevalence estimates of SP as much as the diagnostic criteria used (DSM-III-R vs. ICD-10).

Another aspect to be considered is that the real prevalence of mental disorders is difficult to be assessed as the criteria utilized in classifications such as the ICD or the DSM are only representations of what psychiatrists consider to be the disease's construct.[9] In addition, the CIDI is not a clinical examination, is a fully structured interview administered by lay interviewers. Particularly regarding SP, suffering and incapacitation, as well as prevalence rates may be overestimated by lay interviewers due to its similarities with normal social inhibition (shyness). Most importantly, the problem of validity in psychiatric epidemiological studies has not been solved.

Conclusion

Summing up, our results reinforce the hypothesis that the prevalence of SP is higher when based on the DSM-III-R in comparison with the ICD-10 classification. Thus, conclusive results cannot be produced when comparing epidemiological surveys using these different instruments. Further studies are necessary to assess the consistency of these findings in different geographical locations, socioeconomic situations and cultural settings.

References

1. Lee CK, Kwak YS, Yamamoto J, Rhee H, Kim YS, Han JH, et al. Psychiatric epidemiology in Korea. Part I: Gender and age differences in Seoul. J Nerv Ment Dis. 1990;178(4):242-6.
2. Pakriev S, Vasar V, Aluoja A, Shlik J. Prevalence of social phobia in the rural population of Udmurtia. Nordic J Psychiatry. 2000;54(2):109-12.
3. Furmark T. Social phobia: overview of community surveys. Acta Psychiatr Scand. 2002;105(2):84-93.
4. American Psychiatric Association. Diagnostic and statistical manual of mental disorders; DSMIII. 3rd ed. Washington, D.C: American Psychiatric Association; 1980.
5. Davidson JR, Hughes DC, George LK, Blazer DG. The boundary of social phobia. Exploring the threshold. Arch Gen Psychiatry. 1994;51(12):975-83.
6. American Psychiatric Association. Diagnostic and statistical manual of mental disorders: DSMIII. 3rd ed. Washington, DC: American Psychiatric Association; 1987.
7. Magee WJ, Eaton WW, Wittchen HU, McGonagle KA, Kessler RC. Agoraphobia, simple phobia, and social phobia in the National Comorbidity Survey. Arch Gen Psychiatry. 1996;53(2):159-68.
8. World Health Organization. Mental health and behavioral disorders (including disorders of psychological development). In: World Health Organization. International Classification of Diseases: ICD-10. Geneva: World Health Organization; 1992. p. 311-87.
9. Andrews G, Henderson S, Hall W. Prevalence, comorbidity, disability and service utilization. Overview of the Australian National Mental Health Survey. Br J Psychiatry. 2001;178:145-53. Erratum in: Br J Psychiatry. 2001;179:561-2.
10. Andrade L, Walters EE, Gentil V, Laurenti R. Prevalence of ICD-10 mental disorders in a catchment area in the city of Sao Paulo, Brazil. Soc Psychiatry Psychiatr Epidemiol. 2002;37(7):316-25.
11. Abou-Saleh MT, Ghubash R, Daradkeh TK. A1 Ain Community Psychiatric Survey. I. Prevalence and socio-demographic correlates. Soc Psychiatry Psychiatr Epidemiol. 2001;36(1):20-8.
12. Stein MB, Walker JR, Forde DR. Setting diagnostic thresholds for social phobia: considerations from a community survey of social anxiety. Am J Psychiatry. 1994;151(3):408-12.
13. World Health Organization. The ICD-10 Classification of mental and behavioural disorders. diagnostic criteria for research. Geneva: World Health Organization; 1993.
14. Wacker HR, Muellejans R, Klein KH, Battegay R. Identification of cases of anxiety disorders and affective disorders in the community according to ICD-10 and DSM-III-R using the Composite International Diagnostic Interview (CIDI). Int J Meth Psychiatr Res. 1992;2:91-100.
15. World Health Organization. WHO/ADAMHA. Joint Project on Diagnosis and Classification of Mental Disorders, Alcohol-and Drug related problems. Composite International Diagnostic Interview (CIDI). Version 1.1. Washington: American Psychiatric Press; 1993.
16. Costa MF, Uchoa E, Guerra HL, Firmo JO, Vidigal PG, Barreto SM. The Bambui health and ageing study (BHAS): methodological approach and preliminary results of a population-based cohort study of the elderly in Brazil. Rev Saude Publica. 2000;34(2):126-35.
17. Lopes C de S. Reliability of the Brazilian version of the CIDI in a case-control study of risk factors for drug abuse among adults in Rio de Janeiro. Bull Pan Am Health Organ. 1994;28(1):34-41.
18. Stata Corporation. Stata Statistical Software. Version 7.0 College Station, TX: Stata Corporation; 1997.
19. Vorcaro CM, Rocha FL, Uchoa E, Lima-Costa MF. The burden of social phobia in a Brazilian community and its relationship with socioeconomic circumstances, health status and use of health services: the Bambui study. Int J Soc Psychiatry. 2004;50(3):216-26.
20. Vorcaro CM, Lima-Costa MF, Barreto SM, Uchoa E. Unexpected high prevalence of one-month depression in a small Brazilian community: the Bambui Study. Acta Psychiatr Scand. 2001;104(4):257-63.