THE EPIDEMIOLOGY OF OBSESSIVE-COMPULSIVE DISORDER IN MEXICO CITY

Jorge J. Caraveo-Anduaga*, Eduardo Colmenares Bermúdez*

SUMMARY

Antecedents: Prevalence studies of the OCD in Latin American countries are scarce. To our knowledge, the only epidemiological report in general population is from Puerto Rico. In Mexico, prevalent cases of OCD among 3086 patients attended at the Mexican Institute of Psychiatry was 2.3%, most of them being females and showing high comorbidity with depression as well as high frequency of OCD in first grade relatives. Nevertheless, clinical samples do not always reflect the phenomenon as it is presented in the general population.

Objectives: During 1995, a comprehensive psychiatric epidemiological study was carried out in Mexico City, the capital of the country, including the following objectives: 1. to estimate the lifetime and 12-month prevalence of OCD in the adult population aged 18 to 65 years old in Mexico City; 2. to identify the patterns of lifetime comorbidity in subjects with OCD; 3. to study the help-seeking process or the absence of it.

Method: This was a household survey where the sampling design was polietapic and stratified by sex. The response rate was 60.4%, although only 8% openly refused the interview. The final total sample size was 1932 subjects. The basic diagnostic instrument was an amended version of the CIDI 1.1 (University of Fresno), including the OCD section from the WHO-CIDI 1.1. Algorithms following the ICD-10 research diagnostic criteria were constructed using the SPSS 7.5 version program.

Results: Lifetime prevalence of OCD was 1.4% (0.8% in men and 1.8% in women); 12-month prevalence was 1.0 (0.7% in men and 1.2% in women). Mean age of onset was almost the same for men (mean: 22.5 years, s.d.: 11.9) and for women (mean: 22.1 years s.d.: 9.0). However, women cases showed an earlier onset (range: 5-43 vs. 15-59 years). Socio-demographic variables showed that OCD is more prevalent among young age-cohorts (18-34 years) and with higher education (10 or more years); men predominantly were single, while women were either divorced or living in free-union.

Lifetime comorbidity was present in 71% of the cases, and in women was higher than in men (ratio: 2.7); 49% reported a previous disorder and in 22% comorbidity was developed after OCD onset. Comorbidity in men was mainly with substance use disorders and predominantly preceding the OCD onset. In women, all kind of psychiatric disorders, excluding mania, alcohol and illegal substances abuse, were comorbid with OCD. Depressive episode was the most frequent first comorbid disorder following OCD onset, while specific phobias and generalized anxiety usually preceded OCD onset. Less than 10% of the affected population sought help or used medicines. Subjects with OCD but without any other disorder did not seek help at all. Results are expected to be of great value for other ongoing studies about OCD, specially in Mexico and Latin America, and to promote awareness of the problem both amount the general population and health professionals.

Key words: Obsessive-compulsive disorder, epidemiology, comorbidity, psychiatric disorders.

RESUMEN

Introducción: En Latinoamérica, la prevalencia del trastorno obsesivo-compulsivo (TOC) ha sido escasamente estudiada. El único reporte que encontramos de la prevalencia del TOC en población general fue realizado en Puerto Rico. En México, los casos prevalentes de TOC entre 3086 pacientes atendidos en el Instituto Mexicano de Psiquiatría, representaron 2.3%. La mayoría eran mujeres y con alta comorbilidad de trastornos depresivos. No obstante, los estudios en servicios clínicos no reflejan, necesariamente, la distribución y características del trastorno en la población general.

Objetivos: 1. Estimar la prevalencia durante la vida y anual del TOC en personas adultas, de 18 a 65 años, de la Ciudad de México; 2. estudiar los patrones de comorbilidad a lo largo de la vida; y 3. identificar el patrón de búsqueda de ayuda en los casos.

Método: El estudio se realizó a través de una encuesta en hogares utilizando un diseño multietápico y estratificado. La tasa de respuesta fue de 60.4%, aunque solamente 8% se rehusó abiertamente a la entrevista. La muestra total fue de 1932 personas. El instrumento diagnóstico básico fue una versión del CIDI 1.1, que incluyó la sección del WHO/CIDI 1.1, para evaluar el TOC. Los algoritmos diagnósticos se construyeron siguiendo los criterios diagnósticos de investigación de la Clasificación Internacional de Enfermedades, CIE-10, utilizando el programa SPSS versión 7.5.

Resultados: La prevalencia durante la vida fue de 1.4%, mientras que la prevalencia anual fue de 1.0%. La edad promedio de inicio del TOC fue similar para hombres y mujeres, 22 años de edad. De acuerdo con las variables sociodemográficas, el TOC fue más frecuente en los grupos de edad más jóvenes y con mayor

*División de Investigaciones Epidemiológicas y Psicosociales. Departamento de Investigaciones de Servicios de Salud. Calzada México-Xochimilco 101, San Lorenzo Huipulco. Tlalpan, 14370 México, D.F. Recibido: 18 de agosto 2003. Aceptado: 9 de octubre 2003.

escolaridad, especialmente entre las mujeres.

La comorbilidad se reportó en 71% de los casos, siendo mayor entre las mujeres. El 49% reportó la presencia de otro trastorno precediendo el inicio del TOC, mientras que 22% los presentó después. Entre los hombres, los trastornos comórbidos se relacionaron casi exclusivamente con el consumo de sustancias, mientras que en las mujeres se presentaron otro tipo de patologías. Menos de 10% de los casos con TOC buscó ayuda para este problema.

Se espera que los resultados se espera sean de utilidad para otras investigaciones acerca del TOC, especialmente en México y Latinoamérica, y para promover la identificación del trastorno entre la población general y por parte de los prestadores de servicios de salud.

Palabras clave: Trastorno obsesivo-compulsivo, epidemiología, comorbilidad, trastornos psiquiátricos.

INTRODUCTION

Prevalence of obsessive-compulsive disorder in the general population was first presented in the 1988 ECA study (6), showing a lifetime prevalence without DSM-III exclusions of 2.5%, and 1.7% with such exclusions. More recently, studies in diverse countries using the same methodology have found similar rates, exception being Taiwan where the prevalence for all psychiatric disorders was relatively low (12). Results also showed that OCD subjects were at higher risk to present comorbid major depression or any other anxiety disorder across all sites.

In the ECA study, major depression as well as alcohol and other drug abuse/dependency disorders were more frequently reported following OCD onset, while panic and mostly phobias usually preceded it. Although the presence of OCD increased the probability of having other psychiatric disorders, the pattern of comorbidity was non distinctive from other disorders, and the same observation was also made about seeking professional help (6).

In Mexico, prevalence of OCD among 3086 consecutive patients attended at the National Institute of Psychiatry was 2.3% (10), most of them being females and showing high comorbidity with depression, as well as high frequency of OCD in first degree relatives (9). Nevertheless, clinical samples do not always reflect the phenomenon as it is presented in the general population. Prevalence studies of the OCD in Latin American countries are scarce. To our knowledge, the only epidemiological report comes from Puerto Rico, with a lifetime prevalence of 3.2% among the population aged 17 to 64 years (1).

During 1995, a comprehensive psychiatric epidemiological study was carried out in Mexico City (3), including the following objectives: 1. to estimate the lifetime and 12-month prevalence of OCD in the adult population aged 18 to 65 years in Mexico City; 2. to identify the patterns of lifetime comorbidity in subjects with OCD; 3. to study the help-seeking process or the absence of it.

METHOD

Sampling

This was a household survey restricted to the urban area of Mexico City, excluding the rest of the surrounding metropolitan area. Target population were adults aged 18 to 65 years old living permanently or temporarily in private dwellings from the 16 political division areas of the City. The sampling design was polietapic and stratified by sex and availability of mental health services. Two domains were defined based on the existence or absence of mental health services: eight political divisions with them and eight without them.

The primary unit for sampling corresponded to the geostatistic basic area (AGEB) defined in the XI General Population and Household Census of 1990. Independently, in each domain 48 AGEBs were selected with proportional probability relative to the size defined as the number of dwellings in each AGEB in accordance to the 1990 census. On the second sampling stage, six blocks were selected with an equal probability from each AGEB, obtaining a total of 288 for each domain. A detailed sketch of each selected block was done, clearly identifying private dwellings. These were grouped in segments of approximately seven dwellings as a mean. These segments represented the third unit for sampling. A systematic sampling was carried out in order to select a total of 576 segments in each domain. While home questionnaires were being raised, a census of all households within each selected segment was carried out; thus the selection probability of each household was equal to the segment obtaining a self-weighted sample within each domain. On the last sampling stage, one subject without replacement was selected in each dwelling, looking for an equal number of females and males within the selected dwellings. The overall response rate was 60.4%. The final total sample size was 1932 subjects representing 2,625 883 inhabitants (weighted sample).

Instrument

The basic diagnostic instrument was an official amended version of the Composite International Psychiatric Interview, CIDI 1.1 (Fresno-CIDI), to which the OCD section from the WHO-CIDI 1.1 (15) was added. Diagnostic algorithms following the ICD-10 research diagnostic criteria (14) were constructed using the SPSS 7.5 version program.

Diagnostic categories included in the study were: Anxiety disorders: agoraphobia, specific phobia, panic disorder, generalized anxiety, OCD and other phobic disorders. In the latter, subjects fulfilling criteria for agoraphobia, but reporting only one phobic situation instead of two or more, were included. Affective disorders: depressive episodes, dysthymia, hypomania and mania. Substance use disorders: alcohol abuse and dependence, and other drugs, including sedatives, tranquilizers, stimulants, pain killers, inhalants, marihuana, cocaine, hallucinogens and heroin.

Socio-economic level was estimated based on information gathered about the characteristics of the dwellings, following the criteria used by the Mexican Association of Agencies in Market Research and Public Opinion (AMAI). Five levels were elicited in accordance to the estimated family income.

Analyses were done using the Stata 7.0 program. Variance and confidence interval estimation accounted for the complex stratified sampling of the survey.

RESULTS

Lifetime and 12-month prevalence of OCD is presented in table 1. Clinically, 11.9% of OCD cases reported only obsessions without compulsions, while 31.8% reported both and 56.3% manifested only compulsions.

Mean age of onset was almost the same for men (mean: 22.5 years, s.d.: 11.9) as for women (mean: 22.1 years, s.d.: 9.0). However, women reported an earlier onset (range: 5-43 vs. 15-59 years). As shown in table 2, OCD was more prevalent among young age-cohorts (18-34 years) and with higher education and income, specially for women; men were predominantly single, while women were either divorced or living in free union (table 2).

Lifetime comorbidity was present in 71% of the cases, and for women was higher than for men (ratio: 2.7:1). Two comorbid disorders were reported by 42.6% of the cases and 27.6% showed three comorbid disorders

TABLE 1
Lifetime and 12-month prevalence of OCD

	Male	*Female*	*Total*
Lifetime prevalence	0.8 (0–1.9)	1.7 (0.7–2.8)	1.4 (1.0–1.7)
12-month prevalence	0.7 (0–1.8)	1.2 (0.1–1.3)	1.0 (0.7–1.3)
Mean age of onset	22.5 (s.d 11.9)	22.1 (s.d 9.0)	22.2 (s.d 9.8)

Rates/100 inhabitants

TABLE 2
Socio-demographic characteristics of lifetime and 12-month OCD cases

Socio-demographics	*Male*		*Female*	
Prevalence	*Lifetime*	*12-month*	*Lifetime*	*12-month*
Nº Subjects (weighted)	*(n=9430)*	*(n=8138)*	*(n=26063)*	*(n=17359)*
Age				
18–24	1.8	1.8	1.9	1.9
25–34	0.5	0.4	2.3	1.4
35–44	0.3	—	2.6	1.4
45–54	—	—	—	—
≥ 55	0.9	0.9	—	—
Years of education				
None	—	—	—	—
1-6	0.6	0.4	1.3	0.9
7-9	0.7	0.5	1.5	0.8
10-12	2.2	2.2	3.0	2.2
≥ 13	—	—	1.0	0.4
Marital status				
Married	0.1	0.1	1.4	0.7
Separated	—	—	—	—
Divorced	—	—	4.1	4.1
Widowed	—	—	—	—
Single	2.0	1.7	2.0	1.4
Free union	0.3	0.3	4.2	3.3
Socio-economic level (income)				
A (13,000 or more)*	—	—	8.4	2.3
B (4,000 a 12,999)	—	—	0.9	0.9
C (2,000 a 3,999)	2.3	2.3	1.6	1.0
D (1,000 a 1,999)	—	—	2.5	2.0
E (less than 1,000)	0.7	0.4	0.4	0.4

*in pesos, exchange rate to US dollars in 1995=5:1

TABLE 3
Proportional comorbidity as presented in OCD cases

Diagnoses ICD-10	*First (n=25135)*	*Second (n=15142)*	*Third (n=9623)*
Agoraphobia	4.0	7.9	—
Other phobias	6.1	—	2.2
Specific phobias	13.7	8.3	—
Social phobia	1.0	6.1	—
Generalized anxiety	—	—	10.5
Panic	2.2	4.0	2.2
Depressive episode	11.9	6.5	—
Dysthymia	8.3	6.1	4.0
Alcohol dependence	7.3	—	—
Alcohol abuse	16.4	—	—
Tranquilizers	—	—	8.3
Dependence	—	—	—
Cannabis dependence	—	3.7	—

(table 3). Considering the age of onset, 49% reported a previous disorder, while in 22% comorbidity was developed after or at the same time of OCD onset.

Interestingly, comorbidity in men was almost restricted to substance use disorders and predominantly preceding OCD onset. On the contrary, in women all kinds of psychiatric disorders were found to be comorbid with OCD, with exception of mania, alcohol and illegal substances. Among anxiety disorders, agoraphobia and social phobia always followed OCD; panic was also predominantly secondary, while specific phobias and generalized anxiety usually preceded OCD onset. Among affective diagnoses, depressive episode was the most frequent first comorbid disorder following OCD onset (table 4).

Help-seeking: Only 8% of all OCD cases sought help, and those without any other psychiatric comorbid disorder did not seek help at all.

Help was sought mainly from general practitioners and mental health specialists. In order of frequency, women sought help when agoraphobia, depressive episode, generalized anxiety, social phobia and dysthymia were comorbid with OCD. Women also sought help from priests and natural healers, when agoraphobia and generalizad anxiety were present. Men only sought help from mental health specialists.

DISCUSSION

Although rates from the Cross National Collaborative Group (12) were standardized to the age and sex distribution of the United States ECA population and included only persons aged 26 to 64 years, compared to data from that report, lifetime prevalence of OCD in Mexico City was relatively low (1.4/100), only close to data from Korea (1.9/100), while the 12-month prevalence rate (1.0/100), was similar to that of Korea and New Zealand (1.1/100). As seen in some other studies, lifetime prevalence of OCD was more frequent in women, with a 2.2 female/male ratio, which was higher than for most reports, exception being a 3.8 for New Zealand (12).

Considering the OCD symptom profiles, the results obtained in Mexico City were similar to those found in Korea, where cases presenting only obsessions were considerably less, 21%, to those cases with only compulsions, 48%, and 26% presenting both kinds of symptoms (12). On the rest of the sites, OCD cases with only obsessions were more frequently reported, except in Munich and Taiwan where both profiles were similar.

The mean age of onset was the earlier twenties (22.2 $\pm$ 9.8 years), similar to Edmonton (21.9 $\pm$ 7.2 years)(12), and the mean age (22.7 years) on the ECA five-site studies (6). Also, our finding is consistent with a previous study in a specialized clinical setting in Mexico City where the mean age of onset was 22.6 $\pm$ 9.1 years (10).

Comorbidity was found to be high among OCD cases but with notably gender differences: males almost exclusively showed comorbidity with substance use disorders. Also, our results indicated that alcohol abuse, but not dependency, and cannabis dependency preceded OCD onset in males, while dependency to tranquilizers preceded OCD onset in females. These results seem to be in the opposite direction from those reported in the ECA study, where substance abuse/dependency tended to have their onset after OCD (6). However, it is important to consider alcohol abuse and dependency as different developmental stages. Studies have shown that criteria for abuse is usually met at an earlier age than criteria for dependency (8,9), and most males with OCD in our sample were young. Culturally, in Mexico men do not easily accept anxiety symptoms, and as results from the present report have shown consistency with other studies in the literature highlighting the reluctance of subjects with OCD to

TABLE 4
Comorbid disorders as related to OCD onset

ICD-10	*First comorbid disorder*				*Second comorbid disorder*				*Third comorbid disorder*			
Diagnoses	*Males*		*Females*		*Males*		*Females*		*Males*		*Females*	
Onset	*Previous* (n=8138)	*After or same time* (n=636)	*Previous* (n=9204)	*After or same time* (n=7157)	*Previous* (n=1312)	*After or same time*	*Previous* (n=6673)	*After or same time* (n=7157)	*Previous*	*After or same time*	*Previous* (n=6673)	*After or same time* (n=2950)
Agoraphobia	—	—	—	19.6	—	—	—	39.2	—	—	—	—
Other phobias	—	—	23.6	—	—	—	—	—	—	—	—	26.2
Specific phobias	—	—	44.3	10.8	—	—	44.2	—	—	—	—	—
Social phobia	4.4	—	—	—	—	—	—	30.4	—	—	—	—
Generalized Anxiety	—	—	—	—	—	—	—	—	—	—	55.8	—
Panic	—	—	—	10.8	—	—	21.0	—	—	—	—	26.2
Depressive episode	—	—	—	58.8	—	—	34.8	—	—	—	—	—
Dysthymia	—	—	32.1	—	—	—	—	30.4	—	—	—	47.5
Alcohol dependence	24.2	100	—	—	—	—	—	—	—	—	—	—
Alcohol abuse	71.5	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers dependence	—	—	—	—	—	—	—	—	—	—	44.2	—
Cannabis dependence	—	—	—	—	100	—	—	—	—	—	—	—

disclose their symptoms, it is possible that substance abuse could be at the service of denial and consequently, the OCD onset is reported later.

As expected, depressive disorders more frequently followed OCD onset, although in our sample they were only reported by women. Depressive episode was the most frequent first comorbid disorder, while dysthymia was reported as a second and third comorbidity.

As in the Cross National OCD study (13), our results have shown that anxiety disorders are more likely comorbid with OCD than depression. Also, it is worth noting that in most cases comorbid anxiety disorders preceded OCD onset, while depressive episodes, but not dysthymia, for the OCD cases always followed a previous disorder. The pattern of observed comorbidity, as related to the mean age of onset for other psychiatric disorders (4,5), did not seem to be peculiar. Same conclusions emerged from the ECA study (6).

Help seeking among OCD cases was the lowest compared to all psychiatric disorders included in the study (2), and without gender differences. As health professionals were mainly consulted, this could indicate that symptoms are clearly recognized as health problems, but disclosure of them seems to be very difficult as documented in other studies (12).

Methodological limitations of the analysis include: First, lay interviewers rather than clinical interviews determined the diagnostic assessments, leading to potential discrepancies in classifying respondents' disorders as clinically significant. Second, the results are based on cross-sectional data using retrospective reports and, thus, the possibility of recall error. However, within the context of these limitations, lifetime prevalences of the different psychiatric disorders included in our study have been found to be comparable with other general population surveys using the same methodology (13).

CONCLUSIONS

The study has documented the estimated lifetime and 12-month prevalence of OCD in the general population of Mexico City being, to our knowledge, only the second report about this problem in a Latin American country. The younger groups were more affected, notably males, and most characteristics of the affected subjects were consistent with other reports. Comorbidity was higher in women, and in men it was associated mainly with substance use disorders. Help-seeking for OCD was considerably low and was mainly sought for comorbid disorders. Results are expected to be useful for other ongoing studies about OCD, specially in Mexico and Latin America, and to promote awareness of the problem both among the general population and health professionals.

Acknowledgments

This study was supported by CONACYT grant no. 2077-H9302.

REFERENCES

1. CANINO GJ, BIRD HR, SHROUT PE, RUBIO-STIPEC M, BRAVO M, MARINEZ R, SESMAN M, GUEVARA LM: The prevalence of specific psychiatric disorders in Puerto Rico. *Arch Gen Psychiatry*, 44:727-735, 1987.
2. CARAVEO AJ, COLMENARES BE, SALDIVAR HG: Morbilidad psiquiátrica en la Ciudad de México: prevalencia y comorbilidad en la vida. *Salud Mental*, 22 (especial):62-67, 1999.
3. CARAVEO AJ, MARTINEZ N, RIVERA E: Un modelo para estudios epidemiológicos sobre la salud mental y la morbilidad psiquiátrica. *Salud Mental*, 21(1):48-57, 1998.
4. CARAVEO AJ, COLMENARES BE: Prevalencia de los trastornos de ansiedad fóbica en la población adulta de la Ciudad de México. *Salud Mental*, 23(5):10-19, 2000.
5. CARAVEO AJ, COLMENARES BE, SALDIVAR G: Estudio clínico-epidemiológico de los trastornos depresivos. *Salud Mental*, 22(2):7-17, 1999.
6. KARNO M, GOLDING JM, SORENSON SB, BURNAM A: The epidemiology of obsessive-compulsive disorder in five US communities. *Arch Gen Psychiatry*, 45:1094-1099, 1988.
7. LANGENBUCHER JW, CHUNG T: Onset and staging of DSM-IV alcohol dependence using mean age and survival-hazard methods. *J Abnor Psychol*, 104(2):346-354, 1995.
8. NELSON CB, LITTLE RAJ, HEATH AC, KESSLER RC: Patterns of DSM-III-R alcohol dependence symptom progression in a general population survey. *Psychological Medicine*, 26:449-460, 1996.
9. NICOLINI H, MEJIA JM, MERINO J, SANCHEZ DE CARMONA M: Estudio del paciente obsesivo compulsivo en una muestra mexicana. Experiencia del Instituto Mexicano de Psiquiatría. *Salud Mental*, 15(4):1-11, 1992.
10. NICOLINI H, OROZCO B, GIUFFRA L, PAEZ F, MEJIA J, CARMONA M S, SIDENBERG D, DE LA FUENTE JR: Age of onset, gender and severity in obsessive-compulsive disorder. A study on a Mexican population. *Salud Mental*, 20(2):1-4, 1997.
11. SASSON Y, ZOHAR J, CHOPRA M, LUSTIG M, IANCU I, HENDLER T: Epidemiology of obsessive-compulsive disorder: A world view. *J Clin Psychiatry*, 58(suppl 12):7-10, 1997.
12. WEISSMAN MM, BLAND RC, CANINO GJ, GREENWALD S, HWU HG, LEE CK, NEWMAN SC, OAKLEY-BROWNE MA, RUBIO-STIPEC M, WICKRAMARATNE PJ, WITTCHEN H-U, YEH E-K: The cross national epidemiology of obsessive compulsive disorder. *J Clin Psychiatry*, 55(3 suppl):5-10, 1994.
13. WHO: International consortium in psychiatric epidemiology. Cross-national comparisons of the prevalences and correlates of mental disorders. *Bulletin World Health Organization*, 78(4):413-426, 2000.
14. WORLD HEALTH ORGANIZATION: *The ICD-10 Classification of Mental and Behavioural Disorders: Diagnostic Criteria for Research*. WHO, Geneva, 1993.
15. WORLD HEALTH ORGANIZATION: *Composite International Diagnostic Interview*. WHO, Geneva, 1993.