Population prevalence of psychiatric disorders in Chile: 6-month and 1-month rates[†]

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Background Few South American studies have examined current prevalence rates of psychiatric disorders.

Aims To examine prevalence rates in a nationally representative adult population from Chile.

Method The Composite International Diagnostic Interview was administered to a stratified random sample of 2978 individuals from four provinces representative of the country's population. Six-month and 1-month prevalence rates were estimated. Demographic correlates, comorbidity and service use were examined.

Results Nearly a fifth of the Chilean population had had a psychiatric disorder during the preceding 6 months. The 6-month and 1-month prevalence rates were 19.7% and 16.7% respectively. For the 6-month prevalence the five most common disorders were simple phobia, social phobia, agoraphobia, major depressive disorder and alcohol dependence. Less than 30% of those with any psychiatric diagnosis had a comorbid psychiatric disorder and the majority of them had sought treatment from mental health services.

Conclusions Current prevalence studies are useful indicators of service needs. People with comorbid psychiatric conditions have high rates of service use. The low rate of comorbidity in Chile merits further study.

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[†]See editorial, pp. 289–290, this issue.

Mental disorders are a growing public health concern in Latin America, as elsewhere in the world. By the year 2020, the proportion of the contribution of neuropsychiatric conditions to overall disability is expected to be about 20%, compared with only 9% in 1990 (Murray & Lopez, 1996). This increasing burden in Latin America may be the result of an epidemiological transition, emergent disorders and changing population structure. In addition, the population of the region is anticipated to increase by 28% in the next 15 years (World Bank, 2002). Without epidemiological data available to government public health officials there is little support for the 'epidemiological basis for a call to action' made over a decade ago (Levav *et al*, 1989). The availability of human resources and medications is inadequate to meet even current demands of those with serious mental illness in South America (Larrobla & Botega, 2001).

The objective of the Chile Psychiatric Prevalence Study (CPPS), based on a nationally representative sample, was to investigate the prevalence and risk factors for mental illness in Spanish-speaking South America. This report focuses on the 6-month and 1-month prevalence rates of disorders, and their association with socio-demographic correlates, comorbidity and service use. One-month prevalence identifies individuals who have an acute episode of a disorder (both incident cases and relapses), as well as those with chronic disorders. Six-month prevalence includes people who have recently recovered from an episode of mental illness or whose condition is subclinical, but are still in need of services.

METHOD

Sample selection

The CPPS was based on a household-stratified sample of people defined by the health service system to be adults (aged 15 years and older). The study was designed to represent the whole population of the country. Chile is composed of 51 provinces, grouped into 13 regions, and has a population of approximately 14 million. The study sample was selected from four geographically distinct provinces, chosen as being representative of the distribution of the national population: Santiago, Concepción, Iquique and Cautin.

The capital city, Santiago, accounts for one-third of the nation's population. Concepción is located in the central region of Chile and is its second largest city. Iquique is in the north of the country and is a desert region, with isolated towns. The province of Cautin, in the south, is a sparsely populated rural area. The population of Chile are mainly urban dwellers.

In Chile provinces are subdivided into *comunas*, then into districts, and finally into blocks, each of which were selected randomly. The number of households available on each block was counted. Using the 1992 national census the number of households required on each block was determined. The households were chosen clockwise, starting with the first one on the northern corner of each block. Subsequent households were selected on the basis of a number obtained by dividing the census estimates into the number of residences on the block. A list of inhabitants aged 15 years and older in descending order by age, with males listed first, was then generated. Using 12 randomly pre-assigned Kish tables (Kish, 1965), one person per household was selected from the list to be interviewed.

The survey was conducted by the University of Concepción Department of Psychiatry between July 1992 and June 1999. The sites were completed in the following order as funding was secured: Concepción, Santiago, Iquique and Cautin. A total of 2987 individuals participated in the survey, with a response rate of 90.3%. Weighting was used to account for the probability of the *comuna*, district, block, household and respondent being selected. The data were adjusted to the 1992 national census, based on age, gender and marital status, using a second weighting.

Diagnostic assessment

The structured diagnostic interview schedule used to generate the diagnoses

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was the Composite International Diagnostic Interview (CIDI) versions 1.0 and 1.1 (Robins *et al*, 1988), conducted by well-trained lay interviewers. The DSM–III–R diagnostic criteria were employed (American Psychiatric Association, 1987). As these versions of the CIDI did not include post-traumatic stress disorder (PTSD) and antisocial personality disorder, the corresponding sections of the Diagnostic Interview Schedule (DIS; Robins *et al*, 1981) were included in the interview, in all study areas except Cautin. A section on health service use in the 6 months prior to the interview was also included in the interview schedule.

The translation into Spanish was conducted using the protocol outlined by the World Health Organization (WHO; Sartorius & Kuyken, 1994). The translated CIDI underwent a validation study and was found to have kappa values ranging from 0.52 for somatisation to 0.94 for affective disorders (Vielma *et al*, 1992). The DIS sections were similarly translated and validated (Rioseco *et al*, 1992) with κ of 0.72 for antisocial personality disorder and 0.63 for PTSD.

Diagnoses were generated after double data entry and verification for logical inconsistencies using the CIDI computer programs for versions 1.0 and 1.1. The DSM–III–R diagnoses included in the CPPS were major depression, mania, dysthymia, panic disorder, agoraphobia, alcohol abuse, alcohol dependence, drug abuse, drug dependence, nicotine dependence, antisocial personality disorder, somatisation disorder and non-affective psychosis. Non-affective psychosis is a summary category consisting of schizophrenia, schizophreniform disorder and schizoaffective disorder. The CIDI sections for eating disorders, obsessive–compulsive disorder, simple phobia and social phobia were not included in the first two sites and therefore are not represented in the overall rates of anxiety disorders nor in the 'any disorder' category.

Service use, both private and public sector, in the past 6 months was investigated for both specialist and non-specialist mental health services: 'specialist mental health services' were defined as out-patient treatment by a mental health care professional, or psychiatric hospitalisation, with a sub-category of treatment for substance misuse; 'non-specialist mental health services' were defined as psychiatric care delivered by the formal health care system that was not provided by a mental health care professional.

Interviewers and training

The interviewers were all university students in their senior year studying social sciences. Medical students were excluded in case respondents might misinterpret questions about last seeing a health care professional. Training was conducted following WHO protocol at the University of Concepción (a CIDI training and reference centre), and it consisted of over 80 h of instruction and practice sessions. Each interviewer had to conduct practice interviews with adult volunteers (with and without psychiatric disorders) selected from local clinics, as well as a pilot interview on an individual in a non-selected household in the community, as part of the training. These interviews were audiotaped and reviewed with the trainers. Of the 163 students originally trained, only 64 (39%) were accepted as interviewers.

Approximately 80% of the interviews were audiotaped, with the interviewee's consent. About one in five of the audiotapes were randomly reviewed to maintain quality control, in addition to recordings of the first three sessions conducted by each interviewer. Audiotapes were used to correct missing and unclear responses, as well as to confirm the accuracy of the interviews. Interviews were edited according to the guidelines in the CIDI trainers' manual. If edit issues and inconsistencies in the interview could not be clarified, the interviewer was asked to contact the respondents again. In addition, households were randomly selected by the field supervisors for checking to verify that the interview had been conducted in full. This resulted in a number of respondents being interviewed a second time.

Informed consent

The University of Concepción's institutional review board approved the study. Informed consent was obtained from all respondents. Names of the respondents were not included on the interview schedule, to ensure anonymity during data processing. Respondents were given an opportunity to obtain the results of their CIDI.

Statistical analysis

The SUDAAN statistical package (Shah *et al*, 1997), Taylor series linearisation method, was used to estimate the standard errors due to the sample design and the need for weighting. The analysis was conducted using procedures without replacement for non-respondents. The region, province, *comuna* and district selected were used as the defined strata. Logistic regression with the corresponding 95% confidence interval was used to examine the association with demographic risk factors. All results, unless otherwise stated, are presented as weighted data.

RESULTS

Prevalence rate of psychiatric disorders

Table 1 lists the 6-month and 1-month prevalence rates of the disorders evaluated in the CPPS. The prevalence estimates are presented without exclusion criteria based on the DSM–III–R hierarchy rules. Nearly a fifth (19.7%) of the study population had had a psychiatric disorder during the past 6 months. The 1-month prevalence rate was 16.7%. For 6-month prevalence the five most common disorders were simple phobia (6.1%), social phobia (5.9%), agoraphobia (5.1%), major depressive disorder (4.7%) and alcohol dependence (4.3%). Alcohol dependence was more common than major depressive disorder for 1-month prevalence. 'Any substance use disorder' was the most prevalent group of psychiatric conditions in the population. If nicotine dependence is excluded, the anxiety disorders, followed by the affective disorders, overtake substance use disorders. Affective disorders as a group were found in 7.9% in the past 6 months and 6.5% in the past month.

Socio-demographic correlates of disorders

Bivariate risk factor associations are reported for broad 6-month diagnostic categories in Table 2, and for 1-month prevalence in Table 3. Affective disorders were twice as common and anxiety disorders over five times as common among women; however, substance use disorders were more than twice as common in men. No increased risk for women was noted in the overall rates.

In comparison with individuals aged 65 years or more, differential risks by age were noted. Most notably, age was not predictive of substance use disorders. For 6-month prevalence, those less than 35 years old were at increased risk of affective disorders, whereas those aged 35–64 years

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Table 1 Six-month and 1-month prevalence rates of mental disorders in Chile

DSM–III–R diagnosis	Six-month prevalence						One-month prevalence					
	Male		Female		Total		Male		Female		Total	
	%	s.e.	%	s.e.	%	s.e.	%	s.e.	%	s.e.	%	s.e.
Affective disorders												
Major depressive episode	3.0	0.5	6.2	0.6	4.7	0.4	2.3	0.4	4.5	0.5	3.4	0.4
Manic episode	0.7	0.3	1.9	0.5	1.3	0.3	0.5	0.3	1.3	0.4	1.0	0.2
Dysthymia	1.5	0.5	4.8	1.1	3.2	0.6	1.5	0.5	4.2	1.1	2.9	0.6
Any affective disorder	4.9	0.7	10.7	1.2	7.9	0.8	4.2	0.6	8.6	1.1	6.5	0.7
Anxiety disorders												
Panic disorder	0.4	0.2	1.0	0.4	0.7	0.3	0.3	0.2	0.8	0.4	0.6	0.3
Agoraphobia without panic	1.5	0.5	8.5	1.4	5.1	0.8	1.2	0.5	7.3	1.3	4.4	0.7
Generalised anxiety disorder	0.4	0.2	2.0	0.5	1.2	0.3	0.3	0.2	1.5	0.4	0.9	0.2
Social phobia	2.4	1.0	8.8	1.9	5.9	1.4	0.8	0.1	7.7	1.5	4.5	0.9
Simple phobia	3.1	1.3	8.8	1.4	6.1	1.3	2.7	1.4	7.4	1.1	5.2	1.2
Obsessive–compulsive disorder	0.7	0.4	1.6	0.8	1.2	0.6	0.7	0.4	1.6	0.8	1.2	0.6
Post-traumatic stress disorder	0.7	0.4	3.1	0.6	1.9	0.3	0.6	0.3	2.8	0.6	1.7	0.3
Any anxiety disorder[1]	2.6	0.7	12.8	1.3	7.9	0.8	2.2	0.6	11.0	1.2	6.8	0.7
Substance use disorders												
Alcohol abuse	3.5	0.7	0.7	0.3	2.0	0.3	2.6	0.6	0.6	0.3	1.6	0.3
Alcohol dependence	7.6	1.1	1.4	0.5	4.3	0.6	6.5	1.1	1.3	0.5	3.8	0.6
Drug abuse	0.5	0.3	0.1	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Drug dependence	1.0	0.5	1.7	0.6	1.3	0.4	0.9	0.5	1.5	0.5	1.2	0.4
Nicotine dependence	2.8	0.7	3.0	0.8	2.9	0.5	2.7	0.7	2.8	0.8	2.7	0.5
Any alcohol or drug use disorder	12.0	1.3	3.5	0.6	7.6	0.7	9.6	1.3	3.2	0.6	6.3	0.7
Any substance use disorder	13.8	1.5	6.2	1.1	9.8	1.0	11.5	1.5	5.7	1.1	8.5	1.0
Other disorders												
Non-affective psychosis[2]	0.2	0.1	0.8	0.2	0.5	0.1	0.2	0.1	0.8	0.2	0.5	0.1
Somatisation disorder	1.8	0.6	3.8	0.7	2.8	0.5	1.7	0.6	3.1	0.7	2.4	0.5
Eating disorder	0.0	0.0	1.8	0.9	1.0	0.5	0.0	0.0	0.8	0.8	0.4	0.4
Antisocial personality	1.5	0.4	0.5	0.3	1.0	0.2	1.4	0.4	0.5	0.3	0.9	0.2
Any CPPS disorder[3]	17.9	1.7	21.3	1.8	19.7	1.4	14.9	1.7	18.3	1.6	16.7	1.2

CPPS, Chile Psychiatric Prevalence Study.
1. 'Any anxiety disorder' does not include social phobia, simple phobia or obsessive–compulsive disorder.
2. 'Non-affective psychosis' includes schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder and atypical psychosis.
3. 'Any CPSS disorder' does not include eating disorders, social phobia, simple phobia, obsessive–compulsive disorder, nicotine dependence or cognitive disorder.

were at increased risk of anxiety disorders. For 1-month prevalence, those aged 45–54 years were at increased risk of affective disorders, and those aged 35–54 years of anxiety disorders. For each of the prevalence periods, those under the age of 54 years were at increased risk of antisocial personality disorder, and an increased risk of any disorder was found among those 25–54 years old.

An inverse relationship between educational attainment and overall rates of disorder was not found. Antisocial personality disorder, however, was less prevalent among those without education. An inverse relationship with 6-month prevalence of anxiety disorders and any diagnosis was noted for income, and only for any diagnosis for 1-month prevalence.

Those who were separated, had had their marriages annulled or were never married had the highest rate of affective disorders. For the anxiety disorders, those who were separated or whose marriage had been annulled had significantly higher prevalence rates than respondents who were married, for both 6-month and 1-month prevalence periods. Antisocial personality disorder was more common among those in a common-law relationship.

Comorbidity

Only about a quarter of individuals with a psychiatric disorder had a comorbid disorder (Table 4). Of those with a disorder, two disorders were present in 14.4% for 6-month prevalence, and 13.9% for 1-month prevalence. Three or more disorders were found in less than 11.6% of those with a disorder. Comorbidity for three or more disorders was significantly higher among women and those under the age of 64 years. Having only basic education was associated with increased comorbidity for 6-month prevalence. For 6-month prevalence, those whose marital status

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Table 2 Socio-demographic correlates of 6-month prevalence rates of mental disorders

	Affective disorder		Anxiety disorder		Substance disorder		Antisocial personality		Any diagnosis		Three or more disorders	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
Gender												
Male	1.00		1.00		1.00		1.00		1.00		1.00	
Female	2.31*	(1.66–3.23)	5.40*	(2.99–9.76)	0.42*	(0.27–0.63)	0.36	(0.11–1.17)	1.25	(0.94–1.66)	4.98*	(2.52–9.87)
Age (years)												
15–24	2.36	(0.96–5.79)	1.80	(0.75–4.32)	1.13	(0.34–3.77)	50.86*	(17.39–148.74)	1.74	(0.89–3.38)	29.19*	(8.71–97.82)
25–34	2.48	(1.00–6.15)	2.19	(0.97–4.89)	1.53	(0.50–4.70)	84.86*	(43.56–165.31)	1.89*	(1.02–3.50)	33.74*	(10.85–104.87)
35–44	2.89*	(1.11–7.52)	2.71*	(1.21–6.05)	1.52	(0.55–4.18)	24.88*	(4.09–151.51)	2.10*	(1.08–4.11)	69.46*	(19.77–243.96)
45–54	2.98*	(1.17–7.58)	2.58*	(1.24–5.35)	1.68	(0.48–5.79)	40.06*	(13.52–118.63)	2.69*	(1.25–5.78)	50.49*	(13.93–183.04)
55–64	2.44	(0.96–6.22)	2.49*	(1.09–5.66)	1.20	(0.36–4.03)	1.00	(0.92–1.08)	1.70	(0.87–3.32)	46.44*	(10.52–204.93)
⩾65	1.00		1.00		1.00		1.00		1.00		1.00	
Level of education												
No education	1.00		1.00		1.00		1.00		1.00		1.00	
Basic	3.17	(0.71–14.24)	1.44	(0.41–5.14)	0.84	(0.18–3.88)	29.45*	(11.48–75.53)	1.15	(0.41–3.24)	6.22	(0.68–57.24)
Medium	4.91*	(1.17–20.59)	1.36	(0.40–4.63)	0.77	(0.18–3.23)	22.50*	(11.83–42.83)	1.12	(0.45–2.80)	9.16*	(1.20–70.09)
High	2.51	(0.57–11.02)	0.74	(0.22–2.55)	0.48	(0.10–2.24)	11.78*	(2.82–49.27)	0.52	(0.19–1.38)	3.29	(0.36–29.85)
Income (US$)												
100–400	1.00		1.00		1.00		1.00		1.00		1.00	
401–800	1.32	(0.88–1.98)	0.79	(0.49–1.27)	1.23	(0.69–2.22)	1.49	(0.17–1.42)	1.18	(0.85–1.64)	0.62	(0.26–1.51)
801–1500	0.57*	(0.36–0.90)	0.38*	(0.20–0.74)	1.46	(0.92–2.30)	1.47	(0.22–9.63)	0.66*	(0.49–0.88)	1.12	(0.47–2.68)
⩾1501	0.82	(0.45–1.48)	0.38*	(0.17–0.86)	1.64*	(1.07–2.53)	1.44	(0.21–9.77)	0.59*	(0.40–0.87)	1.07	(0.49–2.34)
Marital status												
Married	1.00		1.00		1.00		1.00		1.00		1.00	
Widowed	1.33	(0.62–2.85)	1.04	(0.47–2.30)	0.85	(0.32–2.25)	0.03*	(0.02–0.07)	0.83	(0.49–1.40)	1.38	(0.34–5.52)
Separated/ annulled	2.71*	(1.52–4.84)	2.61*	(1.28–5.32)	1.52	(0.82–2.84)	2.39	(0.27–21.49)	1.91*	(1.09–3.34)	5.52*	(1.94–15.73)
Never married	1.87*	(1.31–2.68)	0.85	(0.51–1.42)	1.07	(0.55–2.10)	1.01	(0.28–3.63)	1.00	(0.70–1.41)	2.84*	(1.05–7.65)
Common law	1.35	(0.63–2.88)	1.20	(0.57–2.51)	1.25	(0.63–2.48)	7.04*	(2.06–24.00)	1.20	(0.69–2.08)	3.58*	(1.10–11.65)

*$P < 0.05$ (two-tailed).

was 'separated or annulled' and those who had never been married had more co-morbidity than those who were married, whereas those who were widowed had lower rates of comorbidity. For 1-month prevalence, those living in common-law relationships had more comorbidity than those who were married. All those diagnosed with PTSD also had generalised anxiety disorder, agoraphobia or panic disorder.

Service use

About 30% of people who had a single psychiatric disorder had sought some type of mental health care in this study. Of those who had three or more disorders, the majority had sought mental health treatment. Less than 12% of individuals with any psychiatric disorder received treatment from a specialist. A sizeable number of individuals without any psychiatric disorder according to the CPPS also had sought services for mental health care (Table 5).

DISCUSSION

A fifth of the Chilean population surveyed was found to have had a psychiatric disorder in the preceding 6 months and nearly 17% met criteria for a current psychiatric disorder. The five most common disorders were simple phobia, social phobia, agoraphobia, major depressive disorder and alcohol dependence. Among men, alcohol misuse and dependence was the most common disorder, whereas anxiety disorders were the most prevalent in women. Less than a third were found to have a comorbid disorder. Over 60% of those with a current psychiatric diagnosis failed to obtain any form of medical attention for their disorder, and less than 12% received specialist care.

Limitations

The results of this study should be evaluated in the context of its limitations. The CIDI, although widely used, is administered by lay interviewers and does not allow clinical interpretation or probing beyond its structured format. The sample size, although larger than in most Latin American studies, might have been insufficient to yield the power needed to examine risk factors of low-prevalence disorders. This may in part account for the limited findings on the role of socio-economic status variables. Interviews were not conducted simultaneously in the four catchment areas, but over 7 years, owing to the major social

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Table 3 Socio-demographic correlates of 1-month prevalence rates of mental disorders

	Affective disorder		Anxiety disorder		Substance disorder		Antisocial personality		Any diagnosis		Three or more disorders	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
Gender												
Male	1.00		1.00		1.00		1.00		1.00		1.00	
Female	2.14*	(1.49–3.07)	5.42*	(2.82–10.40)	0.46*	(0.29–0.74)	0.39	(0.12–1.28)	1.28	(0.91–1.81)	4.45*	(2.05–9.63)
Age (years)												
15–24	1.87	(0.73–4.79)	1.84	(0.65–5.22)	1.46	(0.51–4.24)	51.84*	(17.72–151.62)	2.02*	(1.13–3.59)	25.14*	(7.00–90.25)
25–34	1.80	(0.72–4.54)	2.00	(0.79–5.04)	2.21	(0.80–6.07)	77.32*	(38.38–155.75)	2.14*	(1.17–3.92)	24.06*	(7.58–76.33)
35–44	2.36	(0.87–6.36)	2.51*	(1.02–6.16)	2.11	(0.75–5.93)	25.36*	(4.16–154.48)	2.39*	(1.25–4.58)	51.35*	(12.92–204.10)
45–54	3.01*	(1.15–7.90)	2.43*	(1.10–5.37)	2.28	(0.71–7.35)	40.83*	(13.78–120.93)	3.35*	(1.97–5.70)	49.80*	(18.63–181.90)
55–64	2.25	(0.83–6.1)	2.33	(0.90–6.06)	1.82	(0.52–6.33)	1.00	(0.93–1.08)	2.06*	(1.20–3.52)	42.36*	(8.62–208.08)
⩾65	1.00		1.00		1.00		1.00		1.00		1.00	
Level of education												
No education	1.00		1.00		1.00		1.00		1.00		1.00	
Basic	6.03*	(1.05–34.6)	1.77	(0.43–7.31)	0.65	(0.13–3.23)	31.01*	(12.11–79.45)	1.09	(0.33–3.63)	6.15	(0.66–56.87)
Medium	8.22*	(1.66–40.67)	1.56	(0.40–6.01)	0.66	(0.16–2.63)	21.61*	(11.15–41.88)	1.05	(0.37–3.00)	7.24	(0.94–55.99)
High	3.68	(0.68–19.87)	0.88	(0.23–3.34)	0.42	(0.09–1.97)	12.40*	(2.98–51.60)	0.49	(0.17–1.42)	2.09	(0.23–19.19)
Income (US$)												
100–400	1.00		1.00		1.00		1.00		1.00		1.00	
401–800	0.92	(0.60–1.41)	0.84	(0.46–1.54)	1.20	(0.60–2.37)	0.49	(0.17–1.42)	1.05	(0.79–1.40)	0.49	(0.18–1.35)
801–1500	0.49*	(0.29–0.81)	0.42*	(0.20–0.88)	1.39	(0.85–2.29)	1.47	(0.22–9.63)	0.60*	(0.43–0.84)	1.24	(0.51–3.05)
⩾1501	0.54	(0.29–1.02)	0.40	(0.14–1.13)	1.67	(0.99–2.80)	1.44	(0.21–9.77)	0.63*	(0.42–0.94)	0.26*	(0.09–0.77)
Marital status												
Married	1.00		1.00		1.00		1.00		1.00		1.00	
Widowed	1.41	(0.65–3.10)	0.94	(0.38–2.31)	0.98	(0.36–2.66)	0.03*	(0.02–0.07)	0.80	(0.45–1.43)	0.45	(0.36–5.84)
Separated/ annulled	1.64*	(1.06–2.54)	1.96*	(1.06–3.62)	1.58	(0.85–2.95)	2.39	(0.27–21.49)	1.58	(0.95–2.63)	2.97	(0.78–11.26)
Never married	1.75*	(1.24–2.48)	0.87	(0.48–1.57)	1.11	(0.58–2.13)	0.80	(0.20–3.17)	0.97	(0.70–1.35)	2.16	(0.69–6.76)
Common law	1.59	(0.77–3.29)	1.06	(0.53–2.11)	1.29	(0.64–2.59)	7.04*	(2.06–24.00)	1.17	(0.70–1.96)	3.63*	(1.08–12.28)

*$P < 0.05$ (two-tailed).

Table 4 Comorbidity in 6-month and 1-month prevalent disorders

Number of lifetime disorders	Proportion with 6-month diagnosis		Proportion with 1-month diagnosis	
	%	s.e.	%	s.e.
1	74.0	3.0	75.1	3.2
2	14.4	1.6	13.9	2.3
3 or more	11.6	2.0	11.0	1.9

and political changes that occurred during this time; this is a reflection of the funding difficulties of conducting research in a developing country.

Comparison with other Latin American studies

Overall, some consistency is found in the prevalence rates reported by studies conducted in Spanish-speaking Latin America (Table 6). For major depression, Colombia (Torres de Galvis & Montoya, 1997) and Puerto Rico (Canino *et al*, 1987) appeared to have considerably lower prevalence rates; the Puerto Rico rates could be explained by the country's geographical distance from South America and because the study was conducted a decade earlier using the DIS rather than the CIDI. The reason for the virtual absence of panic disorder in Colombia in contrast to the other countries in the region may be methodological. The low rate of dysthymia and generalised anxiety disorder in Mexico (Caraveo-Anduaga *et al*, 1996) compared with Chile is difficult to explain, especially since the Chilean rate is closer to other international studies (Kessler *et al*, 1994). The rate of comorbidity in Chile is low compared with studies in the USA (Kessler *et al*, 1994); however, it is unknown if this finding is generalisable to other Spanish-speaking countries in Latin America.

Perhaps the most intriguing comparisons with the current study come from another Chilean survey, by Araya *et al* (2001), restricted to the city of Santiago. This study used the Clinical Interview Schedule – Revised (CIS–R; Lewis *et al*, 1992) and obtained a sample representative

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Table 5 Use of mental health services

	No diagnosis		Any disorder		One disorder		Three or more disorders	
	%	s.e.	%	s.e.	%	s.e.	%	s.e.
Six-month prevalence								
Any mental health service	15.2	1.0	39.0	3.9	30.9	2.9	77.0	5.5
Non-specialist mental health service	13.1	1.0	35.0	3.1	28.9	2.7	61.6	7.6
Specialist mental health service	4.0	0.8	11.8	2.1	8.6	2.0	27.2	10.3
Substance misuse service	0.05	0.04	0.8	0.4	0.2	0.2	2.9	1.9
One-month prevalence								
Any mental health service	15.9	1.1	39.8	4.4	31.8	3.3	77.0	6.8
Non-specialist mental health service	13.9	1.1	35.4	3.5	29.8	3.2	59.0	8.4
Specialist mental health service	4.4	0.8	11.5	2.6	7.8	2.3	31.0	12.1
Substance misuse service	0.08	0.05	0.8	0.4	0.1	0.1	3.7	2.3

Table 6 Comparison of prevalence rates in Spanish-speaking Latin American countries

	CPPS[1]	Santiago[2]	Colombia[3]	Lima[4]	Mexico[5]	Mexico City[6]	Puerto Rico[7]
Major depressive disorder	4.7	5.5	1.9	5.2	3.2	4.4	2.3
Dysthymia	3.2			3.3		0.3	
Manic episode	1.3			0.1	0.5	0.7	0.3
Schizophrenia	0.5		0.6	0.6	0.7		1.7
Generalised anxiety disorder	1.2	5.1	1.3			0.6	
Panic disorder	0.7	1.3	0.1	1.6		1.6	1.1
Alcohol misuse/dependence	6.3		4.7	6.9		5.6	6.1

CIDI, Composite International Diagnostic Interview; CIS–R, Clinical Interview Schedule – Revised; CPPS, Chile Psychiatric Prevalence Study; DIS, Diagnostic Interview Schedule; PSE, Present State Examination.
1. Age range, 15+ years; diagnostic instrument, CIDI; prevalence period, 6 months.
2. Age range, 16–64 years; diagnostic instrument, CIS–R; prevalence period, current (Araya *et al*, 2001).
3. Age range, 12+ years; diagnostic instrument, CIDI; prevalence period, 1 year (Torres de Galvis & Montoya, 1997).
4. Age range, 18+ years; diagnostic instrument, DIS; prevalence period, 6 months (Hayashi *et al*, 1985).
5. Age range, 18–64 years; diagnostic instrument, PSE; prevalence period, current (Caraveo-Anduaga, 1995).
6. Age range, 18–64 years; diagnostic instrument, CIDI; prevalence period, 1 year (Caraveo-Anduaga *et al*, 1996).
7. Age range, 18+ years; diagnostic instrument, DIS; prevalence period, 6 months (Canino *et al*, 1987).

of the entire city of Santiago diagnosed using ICD–10 criteria (World Health Organization, 1992). The CPPS included Santiago as one of its sites, with a sampling of selected barrios, in which prevalence rates were similar to the overall national rates. These two studies have disparate prevalence rates. The most striking difference is for major depression and generalised anxiety disorders: the Santiago study has current prevalence rates of 5.5% and 5.1%, whereas the CPPS has 1-month prevalence rates of 3.4% and 0.9%, respectively. The differences are most probably methodological: first, the DSM and ICD systems do not necessarily yield the same prevalence rates (Andrews & Slade, 2002); second, the CIS–R is based on response to a set of symptom scales from which diagnosis is obtained based on established cut-off values, (a 'bottom-up' approach), whereas the CIDI is based on responses to specific diagnostic criteria that lead the interviewer to follow an algorithm that determines the presence of a disorder (a 'top-down' approach). The contrasting results in these two studies merit further investigation, as such widely different findings may lead policy planners to distrust the results of both studies.

The use of current prevalence *v.* 6-month prevalence rates also raises the issue of which rate is the most meaningful. Studies limited to 1-month prevalence data fail to ascertain a fully representative group of individuals with mental illness, in particular those at risk of relapse or those who have successfully responded to treatment but are still in need of services. One-month data in service planning would therefore underestimate future mental health needs.

Psychiatric epidemiological studies in Latin America need to evolve further. More data are needed from other countries in the region to facilitate planning. Measures of disability, service use and comorbidity need to be incorporated into future studies. In addition, longitudinal studies exploring remission and the risk of relapse are needed for this region. However, the research conducted so far supports the epidemiological call to action to address the growing burden of mental illness in Latin America.

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CLINICAL IMPLICATIONS

- More than two-thirds of people with a single psychiatric disorder failed to receive any treatment.
- In men, alcohol misuse and dependence were found to be the most common disorder.
- The growing burden of mental illness in Latin America must be addressed.

LIMITATIONS

- The four catchment areas were not studied simultaneously but over a 7-year period.
- The sample size might have been insufficient for low-prevalence disorders.
- The diagnostic interview was administered by lay investigators.

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