Theme Papers

Cross-national comparisons of the prevalences and correlates of mental disorders

WHO International Consortium in Psychiatric Epidemiology¹

The International Consortium in Psychiatric Epidemiology (ICPE) was established in 1998 by WHO to carry out crossnational comparative studies of the prevalences and correlates of mental disorders. This article describes the findings of ICPE surveys in seven countries in North America (Canada and USA), Latin America (Brazil and Mexico), and Europe (Germany, Netherlands, and Turkey), using a version of the WHO Composite International Diagnostic Interview (CIDI) to generate diagnoses. The results are reported using DSM-III-R and DSM-IV criteria without diagnostic hierarchy rules for mental disorders and with hierarchy rules for substance-use disorders.

Prevalence estimates varied widely — from >40% lifetime prevalence of any mental disorder in Netherlands and the USA to levels of 12% in Turkey and 20% in Mexico. Comparisons of lifetime versus recent prevalence estimates show that mental disorders were often chronic, although chronicity was consistently higher for anxiety disorders than for mood or substance-use disorders. Retrospective reports suggest that mental disorders typically had early ages of onset, with estimated medians of 15 years for anxiety disorders, 26 years for mood disorders, and 21 years for substance-use disorders. All three classes of disorder were positively related to a number of socioeconomic measures of disadvantage (such as low income and education, unemployed, unmarried). Analysis of retrospective age-of-onset reports suggest that lifetime prevalences had increased in recent cohorts, but the increase was less for anxiety disorders than for mood or substance-use disorders. Delays in seeking professional treatment were widespread, especially among early-onset cases, and only a minority of people with prevailing disorders received any treatment.

Mental disorders are among the most burdensome of all classes of disease because of their high prevalence and chronicity, early age of onset, and resulting serious impairment. There is a need for demonstration projects of early outreach and intervention programmes for people with early-onset mental disorders, as well as quality assurance programmes to look into the widespread problem of inadequate treatment.

Keywords: mental disorders, epidemiology; psychiatric status rating scales; cross-cultural comparison; cross-sectional studies; North America; Latin America; Europe.

Voir page 423 le résumé en français. En la página 424 figura un resumen en español.

Introduction

Community epidemiological surveys of mental disorders have been carried out in many parts of the world since the end of the Second World War (e.g. 1–3) but, in the absence of a common format for diagnostic interviews, no cross-national syntheses or compar-

Ref. No. 00-0552

isons of the results of these surveys could be made. However, in the early 1980s a fully structured research diagnostic interview — the Diagnostic Interview Schedule (DIS) which could be used by trained lay interviewers — was developed (4) and quickly became the standard instrument for community epidemiological surveys of mental disorders. The DIS was first used in the Epidemiologic Catchment Area (ECA) Study (5), a landmark survey of the prevalences and correlates of mental disorders in the USA. The widespread dissemination of the ECA results led to a number of similar studies in other countries (6–12). These surveys were subsequently brought together in a series of important cross-national comparative analyses of specific disorders (13–15).

Beginning in the mid-1980s, WHO, in collaboration with the US Public Health Service, encouraged further cross-national collaboration by developing a fully structured research diagnostic interview, similar to the DIS, which could generate reliable and valid diagnoses in many different languages. This new instrument, known as the WHO

¹ Contributing ICPE authors: Laura Andrade (University of São Paulo, São Paulo, Brazil); J.J. Caraveo-Anduaga (Mexican Institute of Psychiatry, Mexico City, Mexico); Patricia Berglund (University of Michigan, Ann Arbor, MI, USA); R. Bijl (Netherlands Institute of Mental Health and Addiction, Utrecht, Netherlands); R.C. Kessler, Olga Demler, and Ellen Walters (Harvard Medical School, Boston, MA, USA); C. Kýlýç (Hacettepe University Medical School, Ankara, Turkey); D. Offord (Chedoke-McMaster Hospital, Hamilton, Canada); T. B. Üstün (WHO, Geneva, Switzerland); and H-U. Wittchen (Max Planck Institute of Psychiatry, Munich, Germany). Correspondence should be sent to either R.C. Kessler, Department of Health Care Policy, Harvard Medical School, 180 Longwood Avenue, Boston, MA 02115, USA, (email: kessler@hcp.med.harvard.edu or T.B. Ustun, Assessment, Classification and Epidemiology (ACE), World Health Organization, 1211 Geneva 27, Switzerland (email: ustunt@who.ch). More information on ICPE can be obtained from its web page at the following URL: www.hcp.med.harvard.edu/icpe

Composite International Diagnostic Interview (CIDI), was created by an international WHO working group which elaborated and refined the DIS to include ICD (International Classification of Diseases) criteria (16), and carried out extensive cross-national field trials to guarantee that the instrument was reliable and valid cross-nationally (17). Version 1.0 of CIDI was released in 1990 (18) and was subsequently revised to include Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria (19).

In the 10 years since it first became available, the CIDI has been used in a number of large-scale community epidemiological surveys throughout the world (20–26). In 1998, in recognition of this wide use, WHO created a research consortium — WHO International Consortium in Psychiatric Epidemiology (ICPE) — to coordinate comparative analyses of the

results from these surveys. This article presents some findings from the first generation of ICPE surveys.

Methods

Samples

The results of CIDI surveys in seven countries — in North America (Canada and the USA), Latin America (Brazil and Mexico), and Europe (Germany, Netherlands, and Turkey) — are presented in this article. The total sample size was 29 644 persons. All the surveys were based on general population probability samples and not on patient samples or quota samples of the general population. The interviews were all carried out face to face and not by telephone or by post. As shown in Table 1, the age

Table 1. Sample characteristics of the ICPE surveys in the seven study countries

Country	Name and type	Sample characteristics	Field dates	Age range (years)	Sample size	Response rate (%)
Brazil	The Epidemiological Catchment Area Study in the city of São Paulo (ECA–SP) WHO–CIDI with DSM–III–R	Stratified area probability sample of the catchment area of the University of São Paulo Medical Centre. Oversampling of ages 18–24 years and ≥59 (ref. 20)	1994–96	≥18	1464	65.2
Canada	The Mental Health Supplement to the Ontario Health Survey (MHS–OHS) UM–CIDI with DSM–III–R	Stratified subsample of residents of households that participated in the Ontario Health Survey (OHS). The OHS was based on a stratified, multistage clustered area probability sample representative of the Ontario household populations (ref. 61)	1990–91	18–54 ^a	6261	67.4
Germany	Early Developmental Stages of Psychopathology Study (EDSP) M—CIDI with DSM—IV	Stratified one-stage sample representative of residents of Munich. The sample was drawn from the official population registry of the Greater Munich area and the stratification was based on demographic characteristics available in the registry (ref. <i>26</i>)	1995	18–25 ^a	1626	71.1
Mexico	Epidemiology of Psychiatric Comorbidity Project (EPM) UM—CIDI with DSM—III—R	Stratified multistage clustered area probability sample of household residents in a subsample of the 16 political divisions of Mexico City (ref. <i>22</i>)	1995	18–54	1734	60.4
Netherlands	Netherlands Mental Health Survey and Incidence Study (NEMESIS) WHO CIDI with DSM—III—R	Nationally representative stratified multistage clustered area probability sample of household residents (ref. 21)	1996	18–64	7076	70.0
Turkey	Mental Health Profile of Turkey WHO CIDI with DSM–III–R	Nationally representative stratified multistage clustered area probability sample of household residents that included interviews with all adul respondents in each sample household (ref. 24)	t	18–54	6095	72.6
USA	US National Comorbidity Survey (NCS) UM—CIDI with DSM—III—R	Nationally representative stratified multistage clustered area probability sample of household residents with a supplemental sample of stude living in campus group housing (ref. 23)		18–54ª	5388	82.4

^a The full sample has a wider age range, but only respondents in the age range reported here are included in this article. The reported sample size is for the restricted sample, while the reported response rate is for the full sample.

range of the pooled sample was ≥18 years and the response rates in separate surveys were 60.4–82.4%. A description of the sampling design for each survey is presented below. The data sets in Canada, Germany, the Netherlands, and the USA were weighted to adjust for differences between the sociodemographic characteristics of the samples and the populations from which they were selected. These adjustments were not possible in the other data sets owing to lack of population data.

Measures

The surveys used either the WHO-CIDI (in Brazil, Netherlands, Turkey) or one of the following modifications thereof to assess the lifetime and recent prevalences of mental disorders: the UM-CIDI (27), which was used in Canada, Mexico, and the USA; and the M-CIDI (28) in Germany. The UM-CIDI added a series of commitment and clarification probes to the original CIDI in order to increase the accuracy of the response. It also included a review of lifetime diagnostic stem questions at the beginning of the interview in order to facilitate active memory search. Experimental evidence shows that the stem question review led to a substantial increase in lifetime prevalence estimates (27). Compared with the original CIDI, the expanded questions in the M-CIDI helped to investigate disorder subtypes, to increase the accuracy when assessing complex criteria, and to assess DSM-IV criteria. Diagnoses in the other surveys were based on DSM-III-R. Retrospective reports were used to estimate the age of onset. The core disorders included in the surveys were anxiety disorders (panic disorder, agoraphobia, social phobia, simple phobia, generalized anxiety disorder), mood disorders (major depression, dysthymia, mania), and substance-use disorders (alcohol and drug abuse and dependence). CIDI organic exclusion rules were imposed in making all diagnoses. Diagnostic hierarchy rules were used for substanceuse disorders but not for mental disorders. Methodological evidence gathered in the WHO CIDI Field Trials showed that all the lifetime DSM/CIDI disorders considered here were assessed with acceptable reliability and validity in the WHO-CIDI (17). Clinical reappraisal studies, carried out in conjunction with the NCS (U.S. National Comorbidity Survey) (27) and the EDSP (early developmental stages of psychopathology study) (29), documented acceptable reliability and validity for lifetime diagnoses based on the UM-CIDI and M-CIDI. No validity data were available for the 12-month or 30-day prevalence estimates.

Statistical methods

Data are reported here on prevalences, demographic correlates, cohort effects, age-of-onset distributions, speed of initial treatment contact, and patterns of 12-month service use. Simple cross-tabulations were used to calculate prevalences and patterns of 12-month service use. Logistic regression analysis

(30) was used to study demographic correlates. The Kaplan–Meier method (31) was used to generate age-of-onset curves. Discrete time survival analysis (32) was used to study cohort effects and predictors of speed of initial treatment contact.

Owing to the complex sample designs and weighting of the surveys, standard errors of the various descriptive statistics were estimated using the Jacknife Repeated Replications (JRR) method (33) implemented in an SAS macro. The JRR estimates adjust for the clustering and weighting of cases. The logistic regression and survival coefficients were made exponents and are reported below in the form of odds ratios. The 95% confidence intervals of these coefficients are also reported and have been adjusted for design effects. Multivariate tests are based on Wald χ² tests computed from coefficient variance covariance matrices that were adjusted for design effects using JRR. When the results given below are said to be "significant", they refer to statistical significance based on two-sided design-based tests evaluated at the 0.05 level.

Results

Demographic characteristics of the samples

The demographic distributions of the samples are presented in Table 2. As noted above, the results were weighted to approximate the population census distribution in four of the samples (Canada, Germany, Netherlands, and USA), but were unweighted in the other samples. It is therefore not legitimate to compare the patterns across all the samples. Nonetheless, some general observations are worth noting. The age distributions varied considerably owing to differences in the age restrictions of sample participation. The sex distributions were all fairly evenly divided between female and male. The education distributions varied dramatically because of cross-national differences in schooling. The majority of respondents in most surveys were married at the time of the interview, although this was not the case in Germany owing to the restricted (young) age range of this sample. Similarly, although the majority of respondents were employed in most of the surveys, most respondents in Germany were students at the time of being interviewed. The ruralurban distributions were predominantly urban in all the surveys but were 100% urban, by definition, in the surveys carried out in São Paulo and Mexico City. Although the Munich sample was also largely urban, non-urban areas on the outskirts of the city were included in the sampling frame. The income distributions were constructed to divide the continuous measures included in the surveys into four categories as close as possible to equal size. This was done because of difficulties in making meaningful comparisons on incomes across countries owing to variations in exchange rates and the purchasing power of equivalent incomes. Income data were not obtained in Brazil, Germany, or Turkey.

Table 2. Distributions of sociodemographic variables in the ICPE surveys

	Brazil		Canada		Germany		Mex	xico	Netherlands		Turkey		USA	
Age group (years)														
18–24	15.5	$(0.8)^{a}$	18.0	(0.7)	99.7	(0.2)	28.0	(1.0)	14.1	(0.6)	20.3	(0.6)	18.1	(8.0)
25–34	23.8	(1.3)	33.7	(1.3)	0.3	(0.2)	34.3	(1.3)	26.1	(0.6)	33.0	(8.0)	33.4	(8.0)
35–44	21.9	(1.1)	28.4	(0.9)	0.0		23.1	(8.0)	24.1	(0.6)	30.3	(8.0)	30.1	(8.0)
≥45	38.8	(1.5)	20.0	(1.2)	0.0		14.5	(1.0)	35.6	(0.7)	16.5	(0.5)	18.4	(0.9)
Sex														
Female	57.4	(1.5)	50.8	(1.3)	51.0	(1.3)	56.8	(1.0)	49.3	(0.6)	55.8	(0.5)	50.0	(1.2)
Male	42.6	(1.5)	49.2	(1.3)	49.0	(1.3)	43.2	(1.0)	50.7	(0.6)	44.2	(0.5)	50.0	(1.2)
Education														
0-11	39.4	(1.4)	24.1	(0.9)	41.3	(1.3)	60.8	(1.7)	43.5	(1.0)	78.5	(1.1)	14.9	(8.0)
12	4.8	(0.5)	27.7	(8.0)	8.4	(0.7)	18.4	(1.1)	28.8	(0.6)	13.9	(0.7)	37.9	(1.2)
13–15	20.0	(1.3)	30.1	(8.0)	48.9	(1.4)	6.9	(0.7)	19.0	(0.6)	0.0	(0.0)	25.2	(1.1)
≥16	36.0	(1.8)	18.0	(0.7)	1.6	(0.4)	13.9	(1.1)	8.7	(0.7)	7.6	(0.7)	22.2	(1.1)
Marital status														
Divorced/single	52.9	(1.9)	30.4	(1.1)	95.1	(0.5)	42.8	(1.1)	30.8	(8.0)	18.9	(0.6)	41.3	(1.1)
Married	47.1	(1.9)	69.6	(1.1)	4.9	(0.5)	57.2	(1.1)	69.2	(8.0)	81.1	(0.6)	58.7	(1.1)
Employment														
Unemployed	0.0	(0.0)	7.2	(0.5)	10.0	(8.0)	8.7	(1.0)	13.4	(0.5)	6.4	(0.4)	8.0	(0.6)
Student	6.0	(0.6)	8.8	(0.7)	56.0	(1.4)	7.8	(1.0)	7.3	(0.5)	2.3	(0.3)	3.7	(0.4)
Homemaker	0.0	(0.0)	11.1	(0.6)	2.0	(0.4)	25.3	(1.1)	28.3	(0.7)	40.0	(0.7)	6.4	(0.4)
Employed	94.0	(0.6)	72.9	(0.9)	31.9	(1.4)	58.2	(1.3)	50.9	(0.7)	51.3	(0.9)	81.9	(8.0)
Urbanicity														
Rural	0.00	(0.0)	12.4	(0.5)	23.7	(1.1)	0.0	(0.0)	16.9	(1.1)	29.3	(0.9)	21.3	(3.2)
Urban	100.0	(0.0)	87.6	(0.5)	76.3	(1.1)	100.0	(0.0)	83.1	(1.1)	70.7	(0.9)	78.7	(3.2)
Family income														
0–25%	_	_b	22.3	(1.0)	_	_b	24.3	(1.6)	25.8	(0.9)	_	_b	23.4	(1.3)
26-50%	_	_	18.3	(8.0)	_	_	27.5	(1.6)	27.8	(0.6)	_	_	12.0	(0.6)
51-75%	_	_	26.0	(8.0)	_	_	26.4	(1.1)	10.3	(0.4)	_	_	35.8	(1.2)
76–100%	_	_	33.4	(1.1)	_	_	21.8	(2.3)	27.7	(1.0)	_	_	28.8	(1.6)
Sample size	14	64	62	261	1626		17	34	70	76	60	95	53	888

^a Figures in parentheses are the standard errors (SE).

Prevalences of mental disorders

Estimates of disorder prevalence are presented in Table 3 for each of three broad classes of disorders: anxiety, mood, and substance-use. As might be expected in the light of differences in the various versions of the CIDI used in the surveys, the *lifetime prevalence* estimates varied widely across countries. Focusing first on the lifetime prevalences of any disorder, the highest estimates suggest that more than one-third of the sample experienced at least one disorder at some time in their life in Brazil (36.3%), Canada (37.5%), Germany (38.4%), Netherlands (40.9%), and the USA (48.6%). Lifetime prevalence estimates were considerably lower in Mexico (20.2%) and Turkey (12.2%).

All three broad classes of disorders are important in making up the total estimated disorder

prevalences. Anxiety disorders were found in at least one-third of individuals with any estimated lifetime disorder in all countries except Mexico and Germany. Mood disorders were found in at least one-third of individuals with any estimated lifetime disorder in all countries except Canada. Substanceuse disorders were found in at least one-third of individuals with any estimated lifetime disorder in all six countries where substance-use disorders were assessed (substance-use disorders were not assessed in Turkey). Anxiety disorders were estimated to be the most prevalent of the three broad classes of disorders in four countries (Brazil, Canada, Netherlands, and Turkey), while substance-use disorders were estimated to be the most prevalent in the other three countries (Germany, Mexico, and USA).

^b Family income was not assessed in Brazil, Germany and Turkey.

Table 3. Percentage prevalences of DSM-III-R^a disorders in the ICPE surveys^b

	Brazil		Canada		Germany		Mexico		Netherlands		Turkey		USA	
1. Lifetime estimates														
Any anxiety ^c	17.4	(1.0) ^d	21.3	(8.0)	9.8	(8.0)	5.6	(8.0)	20.1	(8.0)	7.4	(0.5)	25.0	(8.0)
Any mood ^e	15.5	(1.0)	10.2	(8.0)	17.1	(1.0)	9.2	(1.2)	18.9	(0.6)	7.3	(0.5)	19.4	(0.7)
Any substance ^f	16.1	(1.2)	19.7	(0.7)	21.5	(1.1)	9.6	(0.7)	18.7	(0.7)	0.0	(0.0)	28.2	(0.9)
Any study disorder ^g No. of disorders	36.3	(1.5)	37.5	(1.1)	38.4	(1.2)	20.2	(1.4)	40.9	(1.1)	12.2	(0.7)	48.6	(0.9)
1	21.2	(1.3)	21.2	(1.1)	25.5	(1.0)	14.8	(1.2)	23.0	(0.7)	7.9	(0.5)	21.3	(0.6)
2	8.8	(0.9)	9.3	(0.3)	8.1	(0.7)	4.0	(0.6)	9.3	(0.4)	3.0	(0.3)	13.1	(0.4)
≥3	6.3	(0.7)	7.0	(0.5)	4.8	(0.6)	1.4	(0.3)	8.6	(0.4)	1.3	(0.2)	14.3	(0.6)
2. 12-month estimates														
Any anxiety ^c	10.9	(8.0)	12.4	(0.6)	7.1	(0.7)	4.0	(0.6)	12.7	(0.7)	5.8	(0.4)	17.0	(0.6)
Any mood ^e	7.1	(0.7)	4.9	(0.5)	9.6	(8.0)	4.8	(8.0)	7.7	(0.4)	4.2	(0.4)	10.7	(0.6)
Any substance ^f	10.5	(1.0)	7.9	(0.5)	13.2	(0.9)	5.8	(0.6)	8.9	(0.5)	0.0	(0.0)	11.5	(0.5)
Any study disorder ^g No. of disorders	22.4	(1.3)	19.9	(8.0)	24.4	(1.2)	12.6	(1.1)	23.0	(0.9)	8.4	(0.6)	29.1	(0.7)
1	15.3	(1.1)	13.1	(0.6)	17.6	(1.0)	9.8	(1.0)	15.2	(0.7)	5.7	(0.4)	16.7	(0.4)
2	4.3	(0.6)	4.5	(0.4)	4.3	(0.5)	1.9	(0.4)	4.4	(0.3)	1.8	(0.2)	6.6	(0.4)
≥3	2.8	(0.4)	2.4	(0.3)	2.5	(0.3)	0.9	(0.2)	3.4	(0.2)	0.8	(0.2)	5.7	(0.3)
3. 30-day estimates														
Any anxiety ^c	8.7	(0.7)	6.2	(0.4)	2.7	(0.4)	2.3	(0.4)	9.8	(0.6)	5.0	(0.4)	10.3	(0.6)
Any mood ^é	4.9	(0.6)	2.6	(0.4)	3.6	(0.5)	2.3	(0.6)	4.0	(0.3)	3.7	(0.4)	5.1	(0.4)
Any substance ^f	8.0	(0.9)	3.8	(0.3)	6.2	(0.6)	2.6	(0.4)	5.8	(0.4)	0.0	(0.0)	5.7	(0.3)
Any study disorder ^g	17.2	(1.1)	10.4	(0.6)	10.9	(0.7)	6.7	(0.7)	16.3	(0.8)	7.4	(0.5)	17.1	(0.7)
No. of disorders														
1	11.8	(1.0)	7.3	(0.4)	8.8	(0.6)	5.7	(0.6)	11.5	(0.6)	5.1	(0.4)	11.1	(0.4)
2	3.6	(0.6)	1.9	(0.2)	1.5	(0.3)	0.8	(0.3)	2.7	(0.2)	1.7	(0.2)	3.7	(0.3)
≥ 3	1.9	(0.3)	1.1	(0.3)	0.6	(0.2)	0.2	(0.1)	2.1	(0.2)	0.7	(0.1)	2.3	(0.2)

^a DSM–IV criteria were used in Germany.

Table 3 also presents the 12-month prevalence estimates. Indirect estimates of the chronicity of the disorders can be obtained by comparing the ratios of 12-month to lifetime prevalence. These ratios were >33% in all 21 comparisons and >50% for all but six comparisons, suggesting that mental disorders were often chronic. The ratios were highest for anxiety disorders in all seven countries, indirectly suggesting that such disorders were more chronic than either mood disorders or substance-use disorders. The same general pattern holds for the 30-day prevalence estimates shown in Table 3. In six of the seven countries the ratios 30-day prevalence: lifetime prevalence were higher for anxiety disorders than either mood or substance-use disorders.

Table 3 also presents data on the distribution of the number of disorders within the lifetime, 12-day, and 30-day estimates. These data provide general information on comorbidity. USA was the only country where lifetime comorbidity (i.e. where two or more lifetime disorders were present) was estimated

to be more common (56.3% of lifetime cases) than having a single disorder. Lifetime comorbidity was nonetheless estimated to be quite common in the other countries, with prevalence ratios ranging from 26.7% of lifetime cases in Mexico to 43.8% of lifetime cases in the Netherlands. Comorbidity among the 12-month and 30-day estimates made up a smaller proportion of cases than lifetime cases in all seven countries.

Distribution of age of onset

Age of onset curves were generated using the Kaplan–Meier method (31). Country-specific results are shown graphically for anxiety disorders (Fig. 1), mood disorders (Fig. 2), and substance-use disorders (Fig. 3). The distributions were similar across countries. Anxiety disorders were estimated to have the youngest ages of onset, with a median of 15 years (range: 12 years in Canada to 18 years in the Netherlands). Mood disorders were estimated to

^b Some of the results reported in this table previously appeared in the papers cited in Table 1.

^c Any anxiety = panic disorder, agoraphobia, simple phobia, social phobia, and/or generalized anxiety disorder.

^d Figures in parentheses are standard errors.

^e Any mood = depression, dysthymia, and/ or mania.

f Any substance = alcohol and/or drug abuse or dependence.

^g Any disorder = any anxiety, mood, and/or substance disorder.

Fig. 1. Age of onset distributions of any anxiety disorders in the ICPE surveys (data for Germany were omitted because of the narrow age range of the sample)

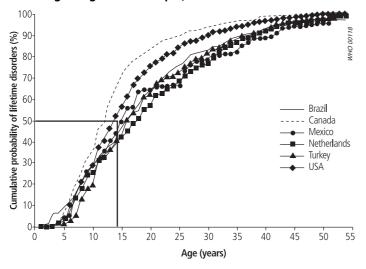


Fig. 2. Age of onset distributions of any mood disorders in the ICPE surveys (data for Germany were omitted because of the narrow age range of the sample)

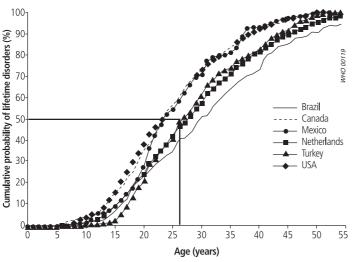
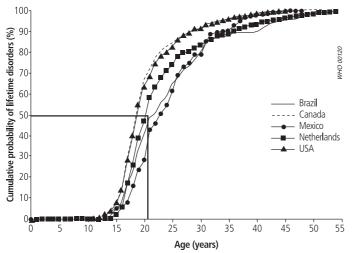


Fig. 3. Age of onset distributions of any substance use disorders in the ICPE surveys (data for Germany were omitted because of the narrow age range of the sample)



have the oldest ages of onset, with a median of 26 years (range: 23 years in Canada, Mexico, and the USA to 30 years in Brazil). Substance-use disorders were estimated to have a distribution between the above two, with a median of 21 years (range: 18 years in Canada and the USA to 22 years in Mexico).

Sociodemographic correlates of disorder prevalences

We examined the sociodemographic correlates of estimated lifetime, 12-month and 30-day prevalences. As the patterns were similar across the different time frames and disorders, we present here only illustrative results for one outcome, i.e. 12-month comorbid (i.e. two or more) disorders. As shown in Table 4, there is a generally monotonic inverse relationship between age and estimated prevalence across all countries except Mexico and Turkey.

The results also show that women were estimated to have a significantly higher prevalence of 12-month comorbidity than men in three countries (Netherlands, Turkey, and USA), while there was no significant sex difference in the other four countries (Brazil, Canada, Germany and Mexico). This was the one occasion where systematic differences existed across the three broad classes of disorders, since women were estimated to have consistently higher prevalences of anxiety and mood disorders than men, while men were estimated to have consistently higher prevalences of substance-use disorders than women.

The patterns of comorbidity as a function of education are also shown in Table 4. The highest estimated prevalences were found among respondents at the lowest level of educational attainment in six of the seven surveys, Germany being the exception (with an insignificant relationship). However, no meaningful monotonic relationship was found throughout the rest of the range of education distributions other than in the USA. This means that the pattern was largely determined by low education in association with a high estimated prevalence rather than by high education in association with a low prevalence.

The patterns of comorbidity as a function of income show a significant inverse relationship in three of the four countries where income was measured (Table 4), Mexico being the exception (with an insignificant relationship). Evidence for monotonicity was somewhat stronger than in the associations involving education, although the monotonic pattern was not entirely consistent in any of the countries other than the Netherlands and USA.

Married respondents reported lower rates of 12-month comorbidity than unmarried respondents in all seven surveys (Table 4). However, this relationship was not significant in Germany, Mexico, or Turkey.

In five of the seven countries employment status was related to 12-month estimated comorbidity (Table 4). Unemployed respondents reported the highest prevalences in five of six countries (Turkey being the exception); there were no

Table 4. Sociodemographic correlates of 12-month comorbidity in the ICPE surveys in the seven study countries

	Brazil	Canada	Germany	Mexico	Netherlands	Turkey	USA	
	OR	OR	OR	OR	OR	OR	OR	
Age group (years) 15–24 25–34 35–44 ≥45	2.3° $(1.3-3.9)^b$ 1.4 $(0.7-2.8)$ 0.8 $(0.3-2.0)$ 1.0 $\chi^2_3 = 15.5^a$	3.9° (2.4–6.3) 3.0° (1.8–5.1) 2.5° (1.5–4.1) 1.0 $\chi^2_3 = 34.4°$	c 	0.9 (0.3–2.8) 1.0 (0.3–3.0) 1.3 (0.4–4.6) 1.0 $\chi^2_3 = 0.5$	1.8° (1.4–2.3) 1.2° (1.0–1.5) 1.3° (1.0–1.7) 1.0 $\chi^2_3 = 18.2^a$	1.0 (0.6–1.7) 1.1 (0.7–1.6) 1.0 (0.6–1.6) 1.0 $\chi^2_3 = 0.1$	2.0° (1.5–2.7) 1.3 (0.9–1.8) 1.0 (0.8–1.4) 1.0 $\chi^2_3 = 36.9$ °	
Sex Female Male	1.2 (0.7–2.0) 1.0 $\chi^2_1 = 0.4$	1.2 (0.9–1.6) 1.0 $\chi^2_1 = 0.9$	1.3 (0.9–2.0) 1.0 $\chi^2_1 = 1.9$	0.7 (0.3–1.3) 1.0 $\chi^2_1 = 1.4$	1.7 ^a (1.4–2.1) 1.0 $\chi^2_1 = 21.2^a$	3.3° (2.2–4.9) 1.0 $\chi^2_1 = 34.8°$	1.5° (1.2–1.9) 1.0 $\chi^2_1 = 9.8$ °	
Education 0-11 12 13-15 ≥ 16	1.3 (0.8–2.0) 0.4 (0.1–1.4) 1.2 (0.6–2.3) 1.0 $\chi^2_3 = 5.6$	1.9° (1.3–2.7) 1.1 (0.7–1.7) 1.1 (0.7–1.9) 1.0 $\chi^2_3 = 31.2$ °	0.6 (0.3–1.0) 0.3° (0.1–0.8) 0.5* (0.3–0.8) 1.0 $\chi^2_3 = 3.4$	2.6 (0.8–8.8) 0.5 (0.2–1.2) 0.4 (0.1–2.6) 1.0 $\chi^2_3 = 18.3$	1.9° (1.3–2.8) 1.3 (0.8–1.9) 0.9 (0.6–1.4) 1.0 $\chi^2_3 = 40.4$ °	1.3 (0.6–2.6) 0.9 (0.4–2.0) 0.0 1.0 $\chi^2_2 = 0.0$	3.8° (2.9–4.9) 2.3° (1.7–3.0) 2.0° (1.9–2.7) 1.0 $\chi^2_3 = 94.9$ °	
Family income 0-25% 26-50% 51-75% 76-100%	d 	1.6° (1.1–2.2) 1.9° (1.4–2.6) 0.9 (0.7–1.3) 1.0 $\chi^2_3 = 26.2°$	d 	1.2 (0.4–3.7) 1.0 (0.3–3.3) 2.0 (0.7–6.1) 1.0 $\chi^2_3 = 3.7$	3.3° (2.7–4.1) 1.9° (1.5–2.5) 1.0 (0.7–1.5) 1.0 $\chi^2_3 = 116.8$ °	d 	2.4° (1.8–3.0) 1.7° (1.2–2.4) 1.4° (1.0–1.8) 1.0 $\chi^2_3 = 47.9$ °	
Marital status Divorced/never Married	2.0° (1.3–3.3) 1.0 $\chi^2_1 = 8.8$ °	2.1° (1.7–2.7) 1.0 $\chi^2_1 = 38.0$	3.3 (0.7–15.6) 1.0 $\chi^2_1 = 2.2$	1.5 (0.8–2.8) 1.0 $\chi^2_1 = 1.7$	2.2° (1.8–2.6) 1.0 $\chi^2_1 = 73.8$ °	1.1 (0.7–1.6) 1.0 $\chi^2_1 = 0.1$	1.8° (1.5–2.1) 1.0 $\chi^2_1 = 35.8$ °	
Employment Unemployed Student Homemaker Employed	$ \begin{array}{c} -e \\ 1.1 (0.4-2.8) \\ -e \\ 1.0 \\ \chi^{2}_{1} = 0.1 \end{array} $	2.7° (1.7–4.4) 1.6° (1.1–2.6) 1.4° (1.0–1.9) 1.0 $\chi^2_3 = 39.2$ °	1.9° (1.0–3.6) 1.4 (0.9–2.3) 0.4 NC 1.0 $\chi^2_2 = 4.8$	1.7 (0.7-4.3) 0.7 (0.3-1.9) 0.5 (0.2-1.2) 1.0 $\chi^2_3 = 5.2$	2.5° (1.8–3.3) 2.1° (1.4–3.2) 1.7° (1.3–2.1) 1.0 $\chi^2_3 = 39.7$ °	1.4 (0.7–3.0) 1.6 (0.5–4.8) 2.1 ^a (1.6–2.9) 1.0 $\chi^2_3 = 22.6^a$	3.3° (2.6–4.3) 2.0° (1.2–3.4) 2.4° (1.7–3.5) 1.0 $\chi^2_3 = 107.4$ °	
Urbanicity Rural Urban	f 	1.0 (0.8–1.3) 1.0	0.7 (0.4–1.2) 1.0 $\chi^2_1 = 1.5$	f 	0.7 ^a (0.5–0.9) 1.0 $\chi^2_1 = 5.5^a$	0.8 (0.5–1.3) 1.0 $\chi^2_1 = 0.5$	0.9 (0.7–1.3) 1.0 $\chi^2_1 = 0.2$	

^a Significant at the P = 0.05 level, two-sided test.

unemployed respondents in Brazil. Employed respondents had the lowest estimated prevalence in five of the seven countries (Germany and Mexico being the exceptions).

The results in Table 4 show a weak, but consistent, pattern of lower estimated prevalences in rural than urban areas across four of the five countries

where both urban and rural sample segments were included.

Increasing prevalences in recent cohorts

The inverse relationship between age and 12-month comorbidity shown in Table 4 could be due, at least in part, to a cohort effect rather than to an age effect.

^b Figures in parentheses are 95% confidence intervals.

^c Respondents in Germany were all in the age range 13–25 years.

^d Family income was not assessed in Brazil, Germany and Turkey.

^e No respondents were in this demographic category.

f Respondents in Brazil and Mexico were all urban. The probability model did not converge in Canada because of the absence of 12—month comorbidity among rural respondents.

By "cohort effect" we mean an increase in the lifetime prevalence of mental disorders across successive generations. This possibility was evaluated by using retrospective age-of-onset reports to estimate a series of survival models for lifetime prevalence as a function of age at interview. The results are presented in Table 5, which shows consistent evidence for increasing estimated lifetime prevalences of anxiety, mood, and substance-use disorders in more recent cohorts across all six of the countries in which cohort effects were estimated

(Germany was excluded from this part of the analysis because of the restricted age range in this sample).

It is noteworthy that the cohort effects for mood disorders were consistently stronger than for anxiety disorders across all countries, with 17 of the 18 coefficients comparing time trends being larger for mood than anxiety disorders. There was also great variation across countries in the cohort effects for substance-use disorders. The time trends for substance-use disorders were smallest in Mexico,

Table 5. The effect of cohort in predicting lifetime disorder in the ICPE surveys in six study countries^a

Country/		Anxiety		Mood	Su	ıbstance		Any
age group (years)	OR		OR		OR		OR	
Brazil								
18–24	3.3 ^b	$(2.3-4.5)^{c}$	3.9 ^b	(2.4-6.8)	12.5 ^b	(8.1-31.3)	5.6 ^b	(3.7-6.6)
25-34	3.1 ^b	(2.1-4.7)	3.7 ^b	(2.0-6.5)	6.7 ^b	(4.1-12.5)	4.2 ^b	(3.1-5.5)
35–44	1.8 ^b	(1.2-2.6)	2.9 ^b	(1.7-4.2)	3.4 ^b	(2.1-5.4)	2.7	(2.1-3.6)
≥45	1.0		1.0		1.0		1.0	
χ^2_3		64.4 ^b		40.1 ^b		74.2 ^b		204.6 ^b
Canada								
18-24	1.9 ^b	(1.4-2.7)	3.8 ^b	(2.4-5.8)	4.2 ^b	(3.2-6.4)	2.3 ^b	(1.9-3.0)
25-34	1.7 ^b	(1.3–2.2)	2.2 ^b	(1.3–3.3)	3.0 ^b	(2.1–4.2)	1.9 ^b	(1.5–2.4)
35-44	1.4 ^b	(1.0–1.8)	1.6 ^b	(1.1–2.3)	1.7 ^b	(1.2–2.2)	1.4 ^b	(1.2–1.7)
≥45	1.0	,	1.0	,	1.0	,	1.0	,
χ^2_3		20.7 ^b		66.5 ^b		122.2 ^b		80.5 ^b
Mexico								
18–24	2.1	(1.0-6.1)	6.3 ^b	(2.4-19.8)	1.9	(0.8-3.5)	2.1 ^b	(1.3-3.8)
25–34	2.0	(0.7–5.3)	2.7 ^b	(1.1–6.5)	1.2	(0.9–2.0)	1.3	(0.9–1.9)
35–44	2.0	(1.0–4.7)	1.7	(0.8–3.2)	1.2	(0.8–1.9)	1.2	(0.9–1.9)
≥45	1.0	(,	1.0	(===,	1.0	(212 112)	1.0	(=== , == ,
χ^2 3		2.3		15.7 ^b		4.4		15.5 ^b
Netherlands								
18-24	2.2^{b}	(1.6-2.9)	7.8 ^b	(6.0-10.7)	9.1 ^b	(7.1-13.0)	4.4 ^b	(3.8-5.5)
25-34	1.8 ^b	(1.6–2.2)	4.4 ^b	(3.6–5.4)	3.4 ^b	(2.7–4.3)	2.6 ^b	(2.2–2.9)
35-44	1.5 ^b	(1.4–1.7)	2.7 ^b	(2.3–3.2)	2.4 ^b	(2.1–3.0)	2.0 ^b	(1.7–2.2)
≥45	1.0		1.0		1.0		1.0	
χ^2 3		88.4 ^b		300.9 ^b		423.6 ^b		434.6 ^b
Turkey								
18–24	1.8 ^b	(1.3-2.7)	7.2 ^b	(4.6-12.8)	_	_d	2.6 ^b	(1.8-3.4)
25–34	1.7 ^a	(1.3–2.4)	2.1 ^b	(1.4–3.2)	_	_	1.8 ^b	(1.3–2.3)
35-44	1.3	(0.9–1.9)	1.9 ^b	(1.2–2.9)	_	_	1.6 ^b	(1.1–2.0)
≥45	1.0		1.0		_	_	1.0	
χ^2_3		18.0 ^b		66.3 ^b				46.3 ^b
USA								
18–24	1.8 ^b	(1.4-2.2)	3.7 ^b	(2.9-5.3)	3.2 ^b	(2.5-4.2)	2.3 ^b	(1.8-2.6)
25–34	1.4	(1.0–1.6)	2.0 ^b	(1.5–2.6)	2.4 ^b	(1.8–3.1)	1.7 ^b	(1.4–2.0)
35–44	1.1	(0.8–1.4)	1.3	(1.0–1.6)	1.5 ^b	(1.1–2.0)	1.2	(1.0–1.5)
≥45	1.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1.0		1.0	,	1.0	
χ^2_3		27.9 ^b	•	135.5 ^b		187.5 ^b		145.6 ^b

^a Results are based on discrete—time survival analysis. Data were right censored after age 54 in Brazil and the Netherlands. Germany was not included in the analysis because of the limited age range of the respondents.

^b Significant at the P = 0.05 level.

^c Figures in parentheses are 95% confidence intervals.

^d Substance data were not assessed in Turkey.

intermediate in Canada and the USA, and very strong in Brazil and the Netherlands.

Speed of initial treatment contact

The CIDI does not include a module on service use. As a result, it was impossible to compare the rates of treatment across all seven countries. However, several of the surveys asked questions about service use that are sufficiently similar to allow limited comparisons of two types. The first dealt with the speed of initial treatment contact after the first onset of mental disorder. This comparison was possible because the surveys in Canada and the USA both included an expanded assessment of disorderspecific treatment contact which asked for the age when a professional was first informed about each of five types of disorders: depression (major depression or dysthymia), generalized anxiety disorder, panic disorder, phobia (specific, social, or agoraphobia), and substance-use disorders.

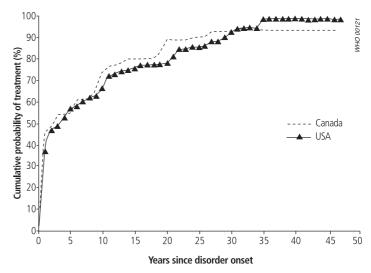
Previous analyses of these data compared the age-of-onset reports to age-of-contact reports and revealed that delays lasting several years or longer were the norm for all these disorders other than panic disorder in both Canada and the USA (34). The pattern for generalized anxiety disorder is presented for illustrative purposes in Fig. 4. As shown there, approximately 40% of respondents reported that they sought professional help in the same year as that of their first onset. However, delays of more than 10 years were common among respondents who did not seek help in the year of onset.

Further analysis of these data showed that the speed of initial treatment contact was inversely related to the age of onset for all disorders and both countries (34, 35). This is an important result because it suggests that early-onset cases, which are often more persistent and severe than later-onset cases, have the longest delays in obtaining treatment. We were able to obtain some limited information about the generalizability of this pattern by including questions about the age of onset and speed of initial treatment contact in a recent cross-national survey of lifetime help-seeking among members of patient advocate groups in eleven countries around the world. This survey was carried out by the Global Alliance of Mental Illness Advocacy Networks (GAMIAN), an international consortium of patient advocacy groups. Consistent with the results reported in Fig. 4, a strong inverse relationship between age of onset and speed of initial treatment contact was found across all countries in the GAMIAN survey (36).

Twelve-month service use

The second comparison of treatment patterns that can be made in the ICPE surveys dealt with 12-month service use. Three of the seven surveys (in Canada, Netherlands, and the USA) asked comparable questions about service use that could be used for this analysis. As shown in Table 6, approximately

Fig. 4. Kaplan-Meier speed-of-contact curves for the probability of first treatment contact for generalized anxiety disorder in the USA and Canada



Sources: Psychiatric disorder onset and first treatment contact in the United States and Ontario, M. Olfson et al., 1998.

Table 6. Percentage prevalences of 12-month treatment^a for mental disorders in three ICPE surveys

	Canada	Netherlands	USA
Respondents with any 12-month disorder Respondents with no 12-month disorder		31.7 (1.4) 7.6 (0.4)	
Total sample	, ,	13.4 (0.5)	, ,

^a Treatment was defined as "any treatment" by a physician, a mental health professional, another health care professional, a religious or spiritual advisor, or a human services professional for problems with emotions, mental health, or substance-use disorders. Data reprinted with permission from *Income differences in persons seeking outpatient treatment for mental disorders: a comparison of the US with Ontario and the Netherlands* by M. Alegria et al., *Archives of General Psychiatry*, in press.

one-fifth of the respondents in Canada (21.8%) and the USA (22.3%) who were estimated to have a 12-month disorder reported receiving treatment in the 12 months prior to the interview, while close to one-third of respondents in the Netherlands (31.7%) who were estimated to have a 12-month disorder received treatment.

In a more detailed analyses of these data, Alegria et. al. found a monotonic relationship between number-recency of disorders and probability of 12-month treatment in all three of these countries (37). They also found, in the subsample of people receiving treatment, that a composite variable for number of recent disorders was significantly related to the probability that treatment was obtained in the specialty mental health sector of the treatment system. Separate analyses of the data in Canada and the USA, which collected information on the number of visits, found that number-recency of disorders was also related to treatment intensity (38).

^b Figures in parentheses are the standard errors.

Discussion

Caution is needed in interpreting the results reported here because of limited evidence on the reliability and validity of the different versions of the CIDI in the countries where the surveys were carried out. The lifetime estimates obtained in the surveys in the USA (UM-CIDI) and Germany (M-CIDI) are similar to those obtained in research diagnostic re-interviews administered by independent clinicians (27, 29). However, similar clinical calibration study results are not available for the other study countries. It is conceivable that prevalence estimates based on the original WHO-CIDI are less accurate than those in the modified versions of the instrument or that the CIDI diagnoses are less consistent with clinical diagnoses for other time frames (12-month and 30-day prevalences). Retrospective age-of-onset reports are especially suspect because of the strong possibility of recall failure.

Furthermore, it is important to recognize that agreement of the CIDI prevalence estimates with independent clinical diagnoses in Germany and the USA does not guarantee that either set of prevalence estimates is accurate. It is likely that some respondents in community surveys consciously fail to disclose information about mental disorders or substance-use disorders both to lay interviewers and to clinical interviewers because of embarrassment or concerns about discrimination (39). Also, this type of bias could be stronger in some countries than others, which could account for between-country differences in prevalence estimates.

Within the context of these limitations, the results reported here are consistent with those of other recent community epidemiological surveys in suggesting that mental disorders are highly prevalent in most countries throughout the world (6, 7, 11, 40). The results of our indirect evaluation of persistence are consistent with long-term prospective studies (41–43) in suggesting that mental disorders persist throughout the life course. Our analysis of retrospective age-of-onset reports suggests that these disorders have very early age-of-onset distributions. Taken together, the results on chronicity and age of onset suggest that a substantial proportion of people with mental disorders actively manifest the illness during the total life course.

This substantial life-course burden is especially important since mental disorders often have a devastating effect on role-functioning and the quality of life (44–46). Thus, Wells et al. have shown that the effects of major depression, one of the most common mental disorders, on a wide range of quality-of-life outcomes are comparable to, and in some cases greater than, the effects of such chronic physical disorders as hypertension, diabetes, and arthritis, to name but a few (47). Furthermore, because of their early age of onset, mental disorders have powerful adverse effects on critical life-course transitions such as educational attainment (48),

teenage childbearing (49), and marital instability and violence (50).

One would expect that lifetime prevalences of mental disorders would increase with age. However, the results of the studies analysed here show a different pattern, with the highest prevalences typically occurring among the youngest age groups. This pattern is broadly consistent with the results of other recent epidemiological surveys (5, 13). Methodological factors, such as age-related differential recall or differential willingness to disclose the disorder, could play an important part in accounting for this pattern (51, 52). However, more subtle subpatterns (not discussed here) are also consistent with there being a genuine increase in the prevalences of mental disorders in recent cohorts (53, 54).

For the most part, the sociodemographic correlates reported here are consistent with previous investigations in suggesting that there are more anxiety and mood disorders among women, more substance-use disorders among men, higher rates of most disorders among people with lower socioeconomic status (with regard to income, education and employment), and lower rates among married than unmarried people (6-12). This general pattern suggests that mental disorders are most likely to occur in disadvantaged sectors of society. However, the causal dynamics are less clear because this pattern could be due to cumulative effects of environmental adversity or to selection processes, or to some combination of social causation and selection. A main focus of current research in analytic epidemiology is on the investigation of these contending etiological possibilities.

The evidence on the patterns of treatment is discouraging owing to widespread occurrence of delays in first seeking help for single episodes and low rates of treatment among 12-month cases. There is evidence that more severe cases have a higher probability of treatment than less severe cases. However, it is nonetheless discouraging to find that the vast majority of recent cases, even those who report substantial impairment associated with their disorders, are not receiving treatment.

The finding that treatment delays are longer for retrospectively reported early-onset cases is an issue of special importance in light of the evidence concerning the adverse effects of early-onset disorders on critical life-course transitions. Importantly, the vast majority of early-onset cases experience these adverse effects prior to obtaining any professional treatment (35). There is very little systematic information on the effectiveness of early outreach and treatment of childhood-onset or adolescentonset disorders. As a result, it is not known whether early treatment would be effective in preventing the adverse life-course effects of early-onset mental disorders. It is critically important that serious efforts should be made to refine, implement, and evaluate the effects of early outreach treatment of such disorders in the future. It is therefore important to consider the issue of adequacy of treatment. There is

now good evidence that modern therapies are effective in treating the most commonly occurring mental disorders (e.g. 55–57). However, a number of recent studies carried out in Canada and the USA have shown that only a minority of mental patients receive adequate treatment (58–60). These results show that it is not enough to develop systems that will encourage mentally ill people to seek treatment. It is also critical that system changes be implemented to improve the quality of care for these people.

Future directions

In this first report based on analysis of the ICPE data, we have only touched on a few general patterns. Future investigations are planned to study individual disorders and disorder subtypes, to investigate detailed patterns of temporal sequencing in the onset of comorbid disorders, and to evaluate cross-cultural similarities and differences in the predictors and consequences of mental disorders. Interested readers can follow the progress of our work by referring to the ICPE Web page at the following URL: www.hcp.med.harvard.edu/icpe

In addition, ICPE is helping to coordinate the WHO World Mental Health 2000 (WMH2000) initiative, a series of general population surveys in nearly two dozen countries around the world which are being carried out in the year 2000. Unlike the first generation of ICPE surveys reported here, extensive validity data based on clinical reappraisal interviews will be obtained in the WMH2000 surveys. In addition, detailed data will be collected on recent persistence and impairment of disorders, allowing us to evaluate the clinical significance of disorders in individual cases.

As in the earlier ICPE surveys, the WMH2000 surveys will use the WHO-CIDI as the core instrument for diagnosis. However, unlike the current ICPE surveys, the WMH2000 surveys will include common questions on risk factors, social conse-

quences, help-seeking, and barriers to help-seeking. We anticipate that this expanded set of core questions will dramatically improve our ability to glean practical information from the surveys for the benefit of mental health policy analysts and programme planners. As with the reports from earlier ICPE surveys, interested readers will be able to monitor the progress of WMH2000 on the ICPE Web page.

Acknowledgements

The International Consortium in Psychiatric Epidemiology (ICPE) is supported by a grant from the US Public Health Service RO1 DA11121 and by a grant from the US National Institute of Drug Abuse (RO1 DA11121). Data from seven surveys are presented in this report. The MAPSS is supported by grant MH 51192 and NIH grant TW 000611. The EDSP is funded by the German Ministry of Research and Education (BMBF) as part of the Addiction Research Initiative (01EB94056). The EPM is funded by grant 2077-H9302 of the National Council of Science and Technology (CONACYT). NEMESIS is funded by the Netherlands Institute of Mental Health and Addiction (Trimbosinstituut) in Utrecht. Financial support has been received from the Netherlands Ministry of Health, Welfare and Sport (VWS), the Medical Sciences Department of the Netherlands Organization of Scientific Research (NWO), and the National Institute for Public Health and Environment (RIVM). The MHS-OHS is supported by funds from the Ontario Ministry of Community and Social Services. The ECA-IPq-SP study is funded by FAPESP, a funding agency of the State of São Paulo (Projecto Temático no. 93/0501-4). The Mental Health Profile of Turkey is funded by the Turkish Ministry of Health. The NCS is supported by the US National Institute of Mental Health (RO1 MH46376 and RO1 MH 49098), W.T. Grant Foundation (90135190), and a Research Scientist Development Award (KO5 MH00507).

Résumé

Comparaisons transnationales de la prévalence et des variables corrélées des troubles mentaux : étude de l'ICPE

Les données sur la prévalence et les variables corrélées des troubles mentaux proviennent d'enquêtes générales sur les populations effectuées dans sept pays participant au Consortium international OMS d'épidémiologie psychiatrique (ICPE): Amérique du Nord (Canada et Etats-Unis d'Amérique), Amérique latine (Brésil et Mexique), Europe (Allemagne, Pays-Bas et Turquie). Chaque enquête a fait appel au CIDI (WHO Composite International Diagnostic Interview), un outil de diagnostic et de recherche complètement structuré permettant d'obtenir des diagnostics fiables et valables dans de nombreuses langues différentes. Les diagnostics des troubles de l'anxiété, de l'humeur et de ceux liés à l'utilisation de substances toxiques reposaient sur les

critères du DSM-III-R et du DSM-IV sans règle de classement hiérarchique des diagnostics.

Selon les estimations, la prévalence varie beaucoup d'une enquête à l'autre: elle dépasse 40 %, tous troubles mentaux confondus et vie entière prise en considération, aux Pays-Bas et aux Etats-Unis d'Amérique mais se limite à 12 % en Turquie ou à 20 % au Mexique. La comparaison de la prévalence sur la vie entière par rapport à la prévalence récente donne à penser que les troubles mentaux sont souvent de nature chronique, même si la chronicité est toujours plus élevée pour les troubles de l'anxiété que pour les troubles de l'humeur ou ceux liés à la consommation de substances toxiques. La comorbidité sur la vie entière est semblable

dans tous les pays (26,7 à 43,8 % des cas), bien que les Etats-Unis d'Amérique se soient révélés le seul pays où elle était plus courante que le trouble simple (55,3 %). Les troubles mentaux apparaissent le plus souvent à un âge précoce, avec des médianes à 15 ans pour les troubles de l'anxiété, 26 ans pour les troubles de l'humeur et 21 ans pour l'utilisation de substances toxiques. La répartition de l'âge d'apparition des troubles est très semblable d'un pays à l'autre.

Il existe des différences systématiques entre les sexes pour les trois sortes de pathologie, les femmes ayant une plus forte prévalence des troubles de l'anxiété et de l'humeur, à l'inverse des troubles liés à la consommation de substances toxiques, plus fréquents chez les hommes. Une relation a été établie pour les trois sortes de trouble avec un certain nombre de paramètres socio-économiques (faiblesse des revenus et de l'éducation, chômage, célibat). L'analyse rétrospective de l'âge d'apparition évoque une augmentation de la prévalence sur la vie entière dans les cohortes récentes, moins importante toutefois pour les troubles de l'anxiété que pour ceux de l'humeur ou pour la consommation de substances toxiques.

Les enquêtes au Canada et aux Etats-Unis d'Amérique donnent des informations sur la première consultation, toujours retardée quel que soit le trouble, notamment en cas d'apparition à un âge précoce. De plus, les enquêtes du Canada, des Etats-Unis d'Amérique et des Pays-Bas ont révélé que, parmi toutes les personnes présentant les pathologies étudiées, seule une minorité était sous traitement (21,8-31,7 %).

Ces résultats concordent avec ceux d'autres enquêtes épidémiologiques récentes dans des communautés qui montrent que les troubles mentaux ont une forte prévalence dans la plupart des pays du monde. Cette forte prévalence, l'apparition à un âge précoce, la chronicité élevée et les déficiences importantes qu'ils entraînent les rangent parmi les pathologies les plus lourdes, toutes classes confondues. Comme les troubles mentaux ont la plus forte probabilité de survenir dans les secteurs défavorisés de la société, il convient de cibler les interventions en conséquence. De nouvelles recherches sont nécessaires pour préciser si ce schéma est imputable aux effets cumulés de l'adversité liée au milieu, à des processus de sélection ou à une association quelconque de la causalité sociale et de la sélection.

Il est très préoccupant de constater que la présentation initiale en milieu médical est très retardée dans les cas où la pathologie apparaît à un âge précoce. Bien que certains faits donnent à penser que les cas les plus graves aient une plus grande chance d'être traités, dans leur immense majorité les cas récents n'étaient pas sous traitement. Des projets pilotes sont nécessaires pour favoriser une prise de contact rapide avec le milieu médical et instaurer des programmes d'intervention pour les personnes atteintes de troubles apparaissant à un âge précoce. Il faut également des programmes d'assurance de la qualité pour s'attaquer au problème omniprésent de l'insuffisance des traitements.

On trouvera sur Internet, à la page d'accueil www.hcp.med.harvard.edu/icpe, des renseignements sur les nouvelles enquêtes qui sont prévues et feront appel aux données de l'ICPE pour étudier les classes et sous-classes de troubles individuels, la séquence d'apparition de troubles concomitants, les similitudes et différences interculturelles dans les facteurs prédictifs et les conséquences des troubles mentaux.

Resumen

Comparación transnacional de la prevalencia de los trastornos mentales y los factores con ellos correlacionados: estudio del ICPE

Se presentan aquí diversos datos sobre la prevalencia de los trastornos mentales y los factores con ellos correlacionados, procedentes de estudios de la población general llevados a cabo en siete países participantes en el Consorcio Internacional de la OMS en Epidemiología Psiguiátrica (ICPE), repartidos del siguiente modo: América del Norte (Canadá y los Estados Unidos), América Latina (Brasil y México) y Europa (Alemania, Países Bajos y Turquía). En cada uno de esos estudios se utilizó la Composite International Diagnostic Interview (CIDI) de la OMS, una entrevista diagnóstica de investigación totalmente estructurada que permite obtener diagnósticos fiables y válidos en muchas lenguas. Los diagnósticos de los trastornos de ansiedad, los trastornos del estado de ánimo y los problemas de consumo de sustancias se basaron en los criterios establecidos en los manuales DSM-III-R y DSM-IV, sin reglas jerárquicas de diagnóstico.

Las estimaciones de la prevalencia variaron ampliamente de un estudio a otro, desde valores máximos de más del 40% para la prevalencia de todos los trastornos mentales a lo largo de la vida en los Países

Bajos y los Estados Unidos, hasta valores mínimos del 12% en Turquía y el 20% en México. La comparación de las prevalencias de tiempo de vida y las prevalencias recientes lleva a pensar que los trastornos mentales son a menudo crónicos, aunque la cronicidad es sistemáticamente mayor en el caso de los trastornos de ansiedad que en los trastornos del estado de ánimo o relacionados con el abuso de sustancias. La comorbilidad de tiempo de vida fue común en todos los países (26,7%-43,8% de los casos en que se consideró todo el tiempo de vida), si bien los Estados Unidos fue el único país en que la comorbilidad durante toda la vida fue más frecuente que la presentación de un solo trastorno puro (55,3%). Los trastornos mentales aparecen normalmente a edad temprana, con medianas de 15 años para los trastornos de ansiedad, 26 años para los trastornos del estado de ánimo, y 21 años para el abuso de sustancias. Las distribuciones de la edad de aparición fueron muy parecidas en todos los países.

Se observaron diferencias sistemáticas por sexos en los tres tipos de trastornos, con mayores prevalencias de ansiedad y de trastornos del estado de ánimo en las mujeres que en los hombres, y con mayores prevalencias de consumo de sustancias entre estos últimos. Se observó que los tres tipos de trastornos estaban positivamente relacionados con varios indicadores socioeconómicos de las situaciones de privación (personas con pocos ingresos y educación, desempleados, solteras). El análisis de los informes retrospectivos sobre la edad de aparición indica que las prevalencias de tiempo de vida han aumentado en las cohortes recientes, si bien menos para los trastornos de ansiedad que para los trastornos del estado de ánimo y el consumo de sustancias.

Los estudios realizados en el Canadá y en los Estados Unidos no contenían ningún dato sobre el contacto de prescripción del tratamiento inicial. La demora en la búsqueda de tratamiento profesional es un hecho generalizado en todos los trastornos, sobre todo entre los casos de aparición precoz. Además, sólo una minoría de las personas afectadas por trastornos en los estudios del Canadá, los Estados Unidos y los Países Bajos había recibido algún tipo de tratamiento (21,8%-31,7%).

Estos resultados coinciden con los de otros estudios epidemiológicos comunitarios recientes, que muestran también una alta prevalencia de trastornos mentales en la mayoría de los países en todo el mundo. Las prevalencias altas, la aparición a edades tempranas, la alta cronicidad y el marcado impedimento de las funciones normales hacen de los trastornos mentales uno de los grupos de enfermedades más onerosos en

cuanto a morbilidad. Puesto que estos trastornos tienden a afectar sobre todo a los sectores desfavorecidos de la sociedad, es necesario enfocar bien las intervenciones. Hacen falta nuevas investigaciones para aclarar si esa distribución de la presentación se debe a los efectos acumulativos de factores ambientales adversos, a procesos de selección, o a algún tipo de combinación de causas sociales y selección.

El dato de las prolongadas demoras en la búsqueda de tratamiento inicial entre los casos de aparición precoz es especialmente preocupante. Aunque los datos disponibles indican que los casos más graves tienen una mayor probabilidad de recibir tratamiento que los menos graves, la gran mayoría de los casos recientes no estaba recibiendo tratamiento. Se requieren proyectos de demostración de programas de divulgación e intervención tempranas para las personas con trastornos mentales de aparición precoz. Se requieren asimismo programas de aseguramiento de la calidad para abordar un problema generalizado como es el del tratamiento inadecuado.

En la página web del ICPE, www.hcp.med. harvard.edu/icpe, se pueden seguir los progresos de las nuevas investigaciones planeadas a partir de los datos del ICPE para estudiar determinadas enfermedades y los subtipos de las enfermedades, así como la secuencia temporal de aparición de la morbilidad asociada, y las semejanzas y diferencias interculturales en lo que respecta a las variables predictivas y las consecuencias de los trastornos mentales.

References

- Comstock GW, Helsing KJ. Symptoms of depression in two communities. *Psychological Medicine*, 1976, 6: 551–563.
- Helgason T. Epidemiology of mental disorders in Iceland. Acta Psychiatrica Scandinavica, 1964, 40 (suppl. 173): 115–132.
- 3. **Lin TY.** A study of incidence of mental disorders in Chinese and other cultures. *Psychiatry*, 1953, **16**: 315–335.
- Robins LN et al. National Institute of Mental Health Diagnostic Interview Schedule: its history, characteristics and validity. *Archives of General Psychiatry*, 1981, 38: 381–389.
- Robins LN, Regier DA. eds. Psychiatric disorders in America: the Epidemiologic Catchment Area Study. New York, Free Press, 1991.
- Bland RC, Orn H, Newman SC. Lifetime prevalence of psychiatric disorders in Edmonton. *Acta Psychiatrica Scandinavica*, 1988, 77 (Suppl. 338): 24–32.
- Canino GJ et al. The prevalence of specific psychiatric disorders in Puerto Rico. *Archives of General Psychiatry*, 1987, 44: 727–735.
- Hwu HG, Yeh EK, Chang LY. Prevalence of psychiatric disorders in Taiwan defined by the Chinese diagnostic interview schedule. *Acta Psychiatrica Scandinavica*, 1989, 79: 136–147.
- Lee CK et al. Psychiatric epidemiology in Korea. Part I. Gender and age differences in Seoul. *Journal of Nervous and Mental Disease*, 1990, 178: 247–252.
- Lépine JP et al. Anxiety and depressive disorders in a French population: methodology and preliminary results. *Psychiatric Psychobiology*, 1989, 4: 267–274.
- Wittchen H-U et al. Lifetime and six-month prevalence of mental disorders in the Munich Follow-up Study. European Archives of Psychiatry and Clinical Neuroscience, 1992, 241: 247–258.

- Wells JE et al. Christchurch Psychiatric Epidemiology Study. Part I. Methodology and lifetime prevalence for specific psychiatric disorders. Australian and New Zealand Journal of Psychiatry, 1989. 23: 315–326.
- Cross-National Collaborative Group. The changing rate of major depression. *Journal of the American Medical Association*, 1992, 268: 3098–3105.
- Weissman MM et al. Cross-national epidemiology of major depression and bipolar disorder. *Journal of the American Medical Association*, 1996, 276: 293–299.
- Weissman MM et al. The cross-national epidemiology of panic disorder. Archives of General Psychiatry, 1997, 54: 305–309.
- Robins LN et al. The Composite International Diagnostic Interview: an epidemiologic instrument suitable for use in conjunction with different diagnostic systems and in different cultures. Archives of General Psychiatry, 1988, 45: 1069–1077.
- Wittchen H-U. Reliability and validity studies of the WHO-Composite International Diagnostic Interview (CIDI): a critical review. *Journal of Psychiatric Research*, 1994, 28: 57–84.
- World Health Organization. Composite International Diagnostic Interview (CIDI, Version 1.0). Geneva, World Health Organization. 1990.
- World Health Organization. Composite International Diagnostic Interview (CIDI, Version 2.1). Geneva, World Health Organization, 1997.
- Andrade L et al. Lifetime prevalence of mental disorders in a catchment area in São Paulo, Brazil. Paper presented at: VII Congress of the International Federation of Psychiatric Epidemiology, Santiago, Chile, August 1996.

- Bijl RV et al. The Netherlands Mental Health Survey and Incidence Study (NEMESIS): objectives and design. Social Psychiatry Psychiatric Epidemiology, 1998, 33: 581–586.
- Caraveo J, Martinez J, Rivera B. A model for epidemiological studies on mental health and psychiatric morbidity. *Salud Mental*, 1998, 21: 48–57 (in Spanish).
- Kessler RC et al. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: results from the National Comorbidity Survey. Archives of General Psychiatry, 1994 51: 8–19
- Kýlýç C. Mental health profile of Turkey: main report. Ankara, Ministry of Health Publications, 1998.
- Vega WA et al. Lifetime prevalence of DSM-III-R psychiatric disorders among urban and rural Mexican Americans in California. Archives of General Psychiatry, 1998, 55: 771–778.
- Wittchen H-U. Early developmental stages of psychopathology study (EDSP): objectives and design. European Addiction Research, 1998, 4: 18–27.
- Kessler RC et al. Methodological studies of the Composite International Diagnostic Interview (CIDI) in the US National Comorbidity Survey. *International Journal of Methods* in Psychiatric Research, 1998, 7: 33–55.
- Wittchen H-U et al. Reliability and procedural validity of UM-CIDI DSM-III-R phobic disorders. *Psychological Medicine*, 1996, 26: 1169–1177.
- 29. Reed V et al. To what degree does the Composite International Diagnostic Interview (CIDI) correctly identify DSM-IV disorders? Testing validity issues in a clinical sample. *International Journal* of Methods in Psychiatric Research, 1998, 7 (3): 142–155.
- 30. **Hosmer DW, Lemeshow S.** *Applied logistic regression.* New York, J.Wiley & Son, 1989.
- Kaplan EL, Meier P. Nonparametric estimation from incomplete observations. *Journal of the American Statistical Association*, 1958. 53: 281–284.
- Efron B. Logistic regression, survival analysis, and the Kaplan-Meier curve. *Journal of the American Sociological Association*, 1988, 83: 414–425.
- Kish L, Frankel MR. Inferences from complex samples. *Journal of the Royal Statistical Society*, 1974, 36: 1–37.
- Olfson M et al. Psychiatric disorder onset and first treatment contact in the United States and Ontario. *American Journal* of *Psychiatry*, 1998, 155: 1415–1422.
- Kessler RC, Olfson M, Berglund PA. Patterns and predictors of treatment contact after first onset of psychiatric disorders. *American Journal of Psychiatry*, 1998, 155: 62–69.
- Christiana JM et al. Speed of seeking professional help after first onset of a psychiatric disorder: an international survey of members of mental health patient advocate groups. *Psychological Medicine*, in press.
- Alegria M et al. Income differences in persons seeking outpatient treatment for mental disorders: a comparison of the US with Ontario and the Netherlands. Archives of General Psychiatry, in press
- 38. **Kessler RC et al.** Differences in the use of psychiatric outpatient services between the United States and Ontario. *New England Journal of Medicine*, 1997, **336**: 551–557.
- Turner CF et al. Adolescent sexual behavior, drug use, and violence: increased reporting with computer survey technology. *Science*, 1998, 280: 867–873.
- Oakley-Browne MA et al. Christchurch Psychiatric Epidemiology Study. Part II. Six month and other period prevalences of specific psychiatric disorders. Australian and New Zealand Journal of Psychiatry, 1989, 23: 327–340.
- Hagnell O, Grasbeck A. Comorbidity of anxiety and depression in the Lundby 25-year prospective study: the pattern of subsequent episodes. In: Maser JD, Cloninger CR, eds. Comorbidity of mood and anxiety disorders. Washington, DC, American Psychiatric Press, 1990: 139–152.

- Murphy JM et al. Diagnosis and outcome: depression and anxiety in a general population. *Psychological Medicine*, 1986. 16: 117–126.
- Steinhausen HC, Meier M, Angst J. The Zurich long-term outcome study of child and adolescent psychiatric disorders in males. *Psychological Medicine*, 1998, 28: 375–383.
- Kessler RC, Frank RG. The impact of psychiatric disorders on work loss days. *Psychological Medicine*, 1997, 27: 861–873.
- Rice DP et al. The economic costs of alcohol and drug abuse and mental illness: 1985. Rockville, MD, Alcohol, Drug Abuse, and Mental Health Administration, 1990.
- Wohlfarth TD et al. The relationship between social dysfunctioning and psychopathology among primary care attenders. *British Journal of Psychiatry*, 1993, 163: 37–44.
- Wells K et al. The functioning and well-being of depressed patients: results from the Medical Outcomes Study. *Journal of* the American Medical Association, 1989, 262: 914–919.
- Kessler RC et al. Social consequences of psychiatric disorders.
 Educational attainment. *American Journal of Psychiatry*, 1995, 152: 1026–1032.
- Kessler RC et al. Social consequences of psychiatric disorders.
 II. Teenage parenthood. *American Journal of Psychiatry*, 1997, 154: 1405–1411.
- Kessler RC, Walters EE, Forthofer MS. The social consequences of psychiatric disorders. III. Probability of marital stability. *American Journal of Psychiatry*, 1998, 155: 1092–1096.
- Giuffra LA, Risch N. Diminished recall and the cohort effect of major depression: a stimulation study. *Psychological Medicine*, 1994, 24: 375–383.
- Simon GE, VonKorff M. Recall of psychiatric history in cross-sectional surveys: implications for epidemiologic research. *Epidemiologic Reviews*, 1995, 17: 221–227.
- Kessler R.C. Gender differences in major depression: epidemiologic findings. In: Frank E, ed. Gender and its effect on psychopathology. Washington, DC, American Psychiatric Press, 2000: 61–84.
- Kessler RC et al. Sex and depression in the National Comorbidity Survey. II. Cohort effects. *Journal of Affective Disorders*, 1994, 30: 15–26.
- Agency for Health Care Policy and Research. Depression in primary care. Vol.2. Treatment of major depression. Rockville, MD, US Department of Health and Human Services, 1993.
- American Psychiatric Association. Practice guideline for treatment of patients with panic disorder. Washington, DC, American Psychiatric Association Press, 1998.
- Elkin I et al. National Institute of Mental Health Treatment of Depression Collaborative Research Program: general effectiveness of treatments. *Archives of General Psychiatry*, 1989, 46: 971–982.
- Katz SJ et al. Medication management of depression in the United States and Ontario. *Journal of General Internal Medicine*, 1998, 13: 77–85.
- Wang PS, Berglund P, Kessler RC. The recent care of common mental disorders in the US population. *Journal of General Internal Medicine*, in press.
- Wells KB et al. Use of minor tranquilizers and antidepressant medications by depressed outpatients: results from the Medical Outcomes Study. *American Journal of Psychiatry*, 1994, 151: 694–700.
- Offord DR et al. Mental health in Ontario: selected findings from the Mental Health Supplement to the Ontario Health Survey. Toronto, Queen's Printer for Ontario, 1994.