Delays in making initial treatment contact after the first onset of mental health disorders in the Argentinean Study of Mental Health Epidemiology

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Aims. While there are effective treatments for psychiatric disorders, many individuals with such disorders do not receive treatment and those that do often take years to get into treatment. Information regarding treatment contact failure and delay in Argentina is needed to guide public health policy and planning. Therefore, this study aimed to provide data on prompt treatment contact, lifetime treatment contact, median duration of treatment delays and socio-demographic predictors of treatment contact after the first onset of a mental disorder.

Methods. The Argentinean Study of Mental Health Epidemiology (EAESM) is a multistage probability sample representative of adults (aged 18+) living in large urban areas of Argentina. A total of 2116 participants were evaluated with the World Mental Health Composite International Diagnostic Interview to assess psychiatric diagnosis, treatment contact and delay.

Results. Projections of cases that will make treatment contact by 50 years taken from a survival curve suggest that the majority of individuals with a mood (100%) or anxiety disorder (72.5%) in Argentina whose disorder persist for a sufficient period of time eventually make treatment contact while fewer with a substance disorder do so (41.6%). Timely treatment in the year of onset is rare (2.6% for a substance disorder, 14.6% for an anxiety disorder and 31.3% of those with a mood disorder) with mean delays between 8 years for mood disorders and 21 years for anxiety disorders. Younger cohorts are more likely to make treatment contact than older cohorts, whereas those with earlier ages of disorder onset are least likely to make treatment contact. Those with anxiety disorders and major depressive disorder are more likely to make treatment contact when they have comorbid disorders, whereas those with substance use disorders are less likely.

Conclusions. Argentina needs to implement strategies to get individuals with substance use disorders into treatment, and to reduce treatment delays for all, but particularly to target early detection and treatment among children and adolescents.

Introduction

Psychiatric disorders are important contributors to the global burden of disease (Global Burden of Disease Study Collaborators, 2013), and while effective treatments exist for psychiatric disorders, many individuals with such disorders do not receive treatment (Wang *et al.* 2007a) and those that do often take years before

getting into treatment (Borges *et al.*, 2007; Wang *et al.* 2007b; Ten Have *et al.* 2013; Chapman *et al.* 2015). Treatment delay is a problem for several reasons. Individual disorders can progress to more complex disorders or to the development of comorbid disorders which are more difficult to treat, and untreated disorders tend to become more frequent and treatment refractory (Post & Weiss, 1998; Goi *et al.* 2015; Kvitland *et al.* 2016). Dual pathology, defined as the comorbidity of a mental health problem with a substance abuse disorder, is common in Latin American countries (Borruel *et al.* 2010; Marín-Navarrete *et al.* 2016) and creates a public health challenge. Dual

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pathology is difficult to treat and more likely to recur than less complex conditions (Serfaty, 2001). Additionally, timely treatment might mitigate or diminish the many deleterious social consequences of psychiatric disorders such as educational truncation, employment and marital instability, violence, accidents and suicide death (Kessler *et al.* 1995, 1998; Cameron *et al.* 2006; Boulos & Zamorski, 2015; GBD 2013 Mortality and Causes of Death Collaborators, 2015; Erskine *et al.* 2016; Kendler *et al.* 2017).

The World Mental Health (WMH) Surveys in 15 countries reported that failure to make treatment contact and treatment delays were greater in developing countries, older cohorts, men, those with earlier ages of disorder onset and for substance use and anxiety disorders *v.* mood disorders (Wang *et al.* 2007*b*). Prompt treatment contact in the year of disorder onset in these countries ranged from 6.0 to 52.1% for mood disorders, 0.8 to 36.4% for anxiety disorders and 0.9 to 18.6% for substance use disorders. For those who made contact, median delays varied from 1–14 years for mood disorders, 3–30 years for anxiety disorders and 6–18 years for substance use disorders (Wang *et al.* 2007*b*).

Colombia and Mexico, two Latin American countries participating in the WMH Surveys showed results emphasizing failure and delay in treatment (Borges *et al.* 2007; Wang *et al.* 2007*b*). Only 3.6 and 2.9% in Mexico and Colombia, respectively, of those with an anxiety disorder, made treatment contact in the year of disorder onset, of those with a substance use disorder only 0.9 and 3.6%, and of those with a mood disorder 16.0 and 18.7%. In terms of age, by 50 years, 53.2 and 41.6% had made lifetime treatment contact for anxiety disorders, 22.1 and 23.1% for substance use disorders, and 69.9 and 66.6% for mood disorders in Mexico and Colombia, respectively. Median delays ranged from 10 years for substance use disorders to 30 years for anxiety disorders in Mexico and 9 years for mood disorders to 26 years for anxiety disorders in Colombia (Borges *et al.* 2007; Wang *et al.* 2007*b*). Argentina, while sharing certain cultural similarities with other Latin American countries, has the highest Human Development Index of Latin American countries (United Nations Development Programme, 2013) and the greatest number of psychologists per capita in the world (World Health Organization, 2005). Whether treatment contact for mental disorders and delay is similar or dissimilar to the other Latin American countries for which data are available is unknown. Information regarding treatment contact failure and delay in Argentina is needed to guide public health policy, clinical practice and planning. The objective of this report is to provide such data for Argentina, with a focus on the proportions of cases making prompt treatment contact, lifetime treatment contact, median duration of treatment delays and socio-demographic predictors of treatment contact after the first onset of a mental disorder.

Methods

Sample

The Argentinean Study of Mental Health Epidemiology (Cía *et al.* 2018) consists of a complex multistage probability survey designed to represent the non-institutionalised adult population (18 years and older) with stable residence in one of the eight largest urban areas of Argentina (i.e. the metropolitan areas of Buenos Aires, Córdoba, Corrientes-Resistencia, Mendoza, Neuquén, Rosario, Salta and Tucumán). A total of 3997 participants responded to the first phase of the survey, representing a response rate of 77%. This phase of the survey included a screening for psychiatric disorders and some disorder-specific sections. All respondents who were positive for at least one of the core disorders assessed in part I and a random subsample of those who were not responded to phase II of the survey which asked about service use and treatment. The analyses for this report are based on this part II subsample of 2116 participants.

Instrument

The instrument used in the survey was the World Health Organization Composite International Diagnostic Interview (CIDI; Kessler & Üstün, 2004), a structured diagnostic interview consisting of DSM-IV (American Psychiatric Association, 1994) diagnoses as well as information on treatment contact and treatment delay. The CIDI has been used previously in other WMH Surveys conducted in Latin American countries as well as in other Spanish-speaking countries (Kessler & Üstün, 2008).

Psychiatric disorders

Lifetime diagnoses were assessed for those meeting DSM-IV criteria for mood disorders (major depressive disorder, bipolar disorder (I or II) and dysthymia), anxiety disorders (panic disorder, generalised anxiety disorder, social phobia and specific phobia) and substance use disorders (alcohol and drug abuse and dependence). Blinded clinical reappraisal studies have shown generally adequate concordance between DSM-IV diagnoses based on the CIDI and clinician-based diagnoses (Haro *et al.* 2006). The age of onset of each disorder was assessed by using a series of questions that have been shown experimentally to

provide more accurate reports than in standard questioning (Knauper *et al.* 1999). The series began with a question designed to emphasise the importance of accurate responses: 'Can you remember your exact age the first time you had the symptoms?' Respondents who answered 'No' were asked to bound their uncertainly by reporting the earliest age they could 'clearly remember' an episode (e.g. 'before you first started school?', 'before you became a teenager?'). Age of onset was set at the upper end of the range of uncertainty. The ages of onset of disorders from this survey range from a median of 19 for anxiety disorders, 21 for substance use disorders to 29 for mood disorders, but showed variability within disorder classes especially for mood and anxiety disorders, which range from a median age of onset of 11 for specific phobia to 46 for generalised anxiety disorder (Cía *et al.* 2018).

Treatment contact

At the end of each CIDI diagnostic section, respondents were asked whether they ever talked to a general medical doctor or other professionals about the disorder in question and, if so, how old they were when they first did so. The response to this latter question was used to define age of first treatment contact. The term 'other professionals' was specified to apply broadly to include psychologists, counsellors, spiritual advisors, herbalists, acupuncturists and any other healing professionals.

Predictors

Age of disorder onset, age at interview, number of lifetime disorders and sex were used as predictors of lifetime treatment contact. Age of disorder onset was coded into four categories corresponding to the distribution of each disorder (categorised into early onset, up to the 25th percentile, early-average onset, the 50th percentile, late-average onset, the 75th percentile and late onset above the 75th percentile). Number of lifetime disorders was categorised as exactly one disorder (in other words no comorbid disorder), exactly two disorders, exactly three disorders and four to nine disorders.

Procedures

Fieldwork was conducted from February to June 2015 and coordinated by the Applied Statistics Research Center (CINEA) of the National University of *Tres de Febrero* (UNTREF). Interviews were administered by extensively trained experienced non-clinician interviewers and conducted at the respondents' households after providing information describing the purpose of

the study and obtaining informed consent from the selected participants. These research procedures were approved by the Ethics Committee of the School of Medicine of the National University of Buenos Aires.

Analysis

The data analysed in this study were obtained from a stratified multistage sample and were subsequently weighted to adjust for differential probabilities of selection and non-response. Post-stratification to the total Argentinean population according to the year 2010 Census in the target age range and sex was also performed. Data from part I were weighted to adjust for differential probabilities of selection within and between households, and to match sample distributions to population distributions for socio-demographic and geographic data. The part II sample was also weighted for the undersampling of part I respondents without core disorders. As a result of this complex sample design and weighting, estimates of standard errors for proportions were obtained by the Taylor Series Linearization Method using the SUDAAN release 8.0.1 for Windows (Research Triangle Institute, 2002). We estimated ages of disorder onset and first use of mental health services with a two-part actuarial survival method, implemented in SAS version 9.4 (SAS Institute, 2001). We used the actuarial method rather than the more familiar Kaplan–Meier method because it provides a more accurate estimate of disorder onset and service use within a given year (Efron, 1988). Survival curves were used to estimate the proportion of cases that made treatment contact in the year of first onset of the disorder and the median delay among people who eventually made treatment contact after the year of first onset. Discrete time multivariate survival analysis with person-year as the unit of analysis was used to examine correlates of treatment contact for each disorder. Predictors included both time-invariant predictors (i.e. age at onset of the disorder, cohort, sex and number of disorders) and a time-varying predictor (i.e. number of years since first onset of the disorder). Multivariate significance of predictor sets was evaluated with Wald χ^2 tests derived from design-corrected coefficient variance–covariance matrices. Statistical significance was evaluated with two-tailed tests, with $\alpha = 0.05$.

Results

Delays and first treatment contacts

Table 1 shows the estimates from survival curves of the proportion of respondents making treatment contact in the same year as the disorder onset, the proportion

Table 1. *Proportional treatment contact in the year of disorder onset and by 50 years, and median duration of delay among cases that subsequently made treatment contact*

	N	% Making treatment contact in year of onset	% Making treatment contact by 50 years	Median duration of delay (years)
		Anxiety disorders		
Panic disorder	67	43.21	85.72	1
Generalised anxiety disorder	219	31.05	92.14	11
Specific phobia	284	2.43	41.46	29
Social phobia	107	5.81	75.85	23
Any anxiety disorder	556	14.57	72.52	21
		Mood disorders		
Major depressive disorder	446	32.21	100.00	8
Dysthymia	81	24.00	91.83	15
Bipolar disorder (broad)	143	31.16	100.00	9
Any mood disorder	528	31.33	100.00	8
		Substance disorders		
Alcohol abuse with/without dependence	238	2.01	22.43	16
Alcohol abuse without dependence	205	1.99	9.77	24
Alcohol dependence with/without abuse	35	2.93	38.54	11
Drug abuse with/without dependence	128	3.21	43.23	10
Drug abuse without dependence	89	2.31	19.01	4
Drug dependence with/without abuse	44	20.24	73.26	6
Any substance disorder	311	2.55	41.62	16

making treatment contact by 50 years and the median duration of delay among cases that eventually established treatment contact. The proportion of persons with a disorder who made prompt treatment contact in the year of disorder onset ranged from 2.0% for individuals with alcohol abuse to 43.2% for those with panic disorder. Considering groups of disorders, those with a mood disorder had the highest proportion making timely treatment contact (31.3%), whereas timely treatment contact was made by only 14.6% of those with an anxiety disorder and 2.6% of those with a substance use disorder.

The estimated proportion of persons with a disorder who made treatment contact by 50 years is taken as an indicator of lifetime treatment contact. While 100% of those with a mood disorder made lifetime treatment contact, the proportion was only 72.5% of those with anxiety disorders and 41.6% of those with any substance use disorder. A total of four individual disorders, for which lifetime treatment contact was greater than 85% included: (1) major depressive disorder, (2) generalised anxiety disorder, (3) dysthymia and (4) panic disorder. Additionally, the three individual disorders, for which lifetime treatment contact was made by <25% comprised of: (1) alcohol abuse without dependence, (2) alcohol abuse with dependence and (3) drug abuse without dependence.

Median years of delay also differed greatly across disorders with anxiety disorders having the longest delays (median of 21 years), followed by substance use disorders (median delay of 16 years) and lastly mood disorders (median of 8 years). Some large differences were seen within disorder categories. For example, among those with anxiety disorders, the shortest was 1 year for panic disorder to the longest 29 years for specific phobia, or among those with substance use disorders, the shortest was 4 years for drug abuse and the longest 24 years for alcohol abuse without dependence. Figure 1 presents the typical durations of delay in the cumulative lifetime probability of treatment contact among patients who eventually made treatment contact.

Predictors of lifetime treatment contact

Results from the discrete-time multivariate survival models of lifetime treatment contact for each disorder and group of disorders are shown in Tables 2–5. The multivariate models include sex, age cohort, age of onset and number of lifetime disorders to predict lifetime treatment contact specific to each disorder. For ease of presentation, results from these models are shown across four tables (see Tables 2–5). We found no sex differences in lifetime treatment contact for any disorder or disorder category (Table 2). The most consistent predictors of lifetime treatment contact among people with a mental disorder were age at interview (cohort), age of disorder onset and number
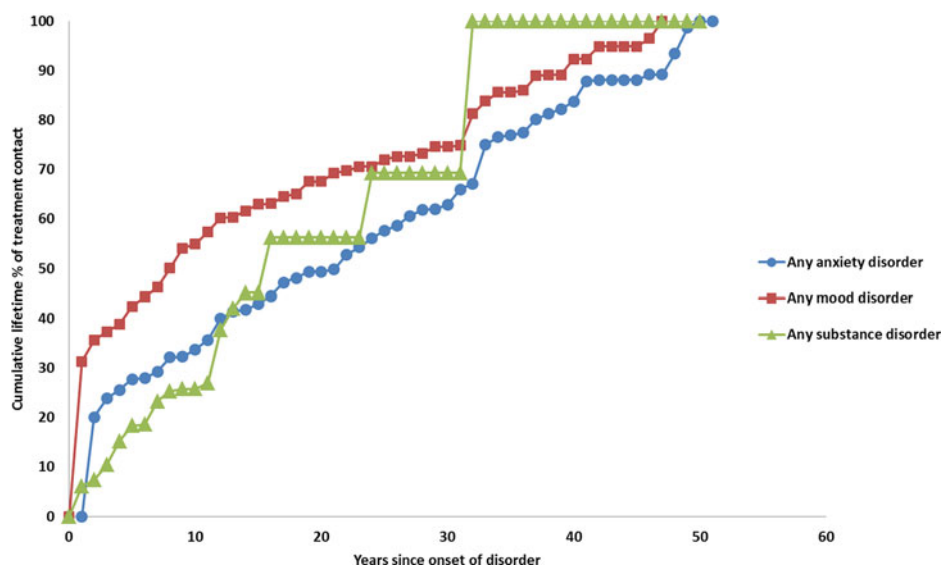
Fig. 1. Percentage of respondents who received initial treatment contact since the first onset of a mental or substance use disorder, by group of disorders, Argentinean Mental Health Epidemiologic Study, 2015.

of lifetime disorders. There were significant, monotonic relationships between being in younger cohorts and higher probabilities of treatment contact for any anxiety disorder (OR 3.66 for ages 18–34), bipolar disorder (OR 9.17 for ages 18–34; OR 3.32 for ages 50–64) and drug abuse (OR 7.95 for ages 35–49) (Table 3). The only disorder for which younger cohorts had decreasing odds of treatment contact was social phobia (OR 0.23 for ages 35–49 and 0.13 for ages 50–64). Age of onset was significantly related to treatment contact in 12 of 16 comparisons with a consistent pattern of decreasing odds of treatment contact with earlier ages of disorder onset. For example, compared with the group with a late age of onset of the disorder, those with earliest ages of onset had 0.11 of the odds of making treatment contact for anxiety disorders and 0.28 of the odds of making contact for mood disorders. There were no differences between late- and earlier onset individuals with substance use disorders overall (Table 4).

Table 5 shows the number of lifetime disorders as a predictor of lifetime treatment contact. Having a greater number of disorders was associated with greater odds of treatment contact for those with any anxiety disorder (ORs from 2.76 for exactly two disorders to 2.78 for four or more disorders), and more specifically, specific phobia (OR 2.69 for exactly three disorders) and social phobia (OR 3.11 for three disorders to 4.67 for four or more disorders). Greater odds were also found for any mood disorder (OR 1.81 for four or more disorders) and major depressive disorder (OR 2.01 and 2.00 for two and four or more disorders, respectively). Inversely, a greater number of disorders

was associated with lesser odds of treatment contact for any substance disorder (OR 0.10 for two disorders; OR 0.23 for three disorders) and drug abuse with or without dependence (OR 0.03 for two disorders; OR 0.21 for three disorders).

Discussion

While the majority of individuals with a psychiatric disorder in Argentina eventually make treatment contact if their disorder persists long enough, especially those with a mood or anxiety disorder, prompt treatment is the exception and delays between one and three decades the rule. These pervasive treatment delays are not only a burden for the Argentinean mental health system, but also for the individuals suffering from these disorders, their families and society as a whole. Anxiety disorders have particularly long delays, probably because these disorders have the earliest ages of onset (Kessler *et al.* 2007; Cía *et al.* 2018). Our results also suggest that having comorbid disorders has the greatest impact upon treatment contact for anxiety disorders such that those with anxiety disorders may not seek treatment until they have developed comorbidity thus contributing to the treatment delay for these disorders. On the other hand, substance use disorders are those that are less likely to ever make treatment contact; this may be due to cultural norms around substance use that make substance use disorders more difficult to recognise, stigma regarding substance use disorders or the lack of availability of services to treat these disorders as well as low

Table 2. *Sex as a predictor of lifetime treatment contact for specific DSM-IV/WMH-CIDI disorders*

	Sex		
	Female		
	OR	95% CI	χ^{2a}
Anxiety disorders			
Panic disorder	0.83	(0.33–2.13)	0.16
Generalised anxiety disorder	1.11	(0.56–2.21)	0.10
Specific phobia	0.61	(0.27–1.35)	1.62
Social phobia	0.58	(0.22–1.52)	1.33
Any anxiety disorder	1.07	(0.60–1.90)	0.05
Mood disorders			
Major depressive disorder	1.07	(0.79–1.45)	0.22
Dysthymia	0.70	(0.28–1.74)	0.64
Bipolar disorder (broad)	1.05	(0.69–1.62)	0.06
Any mood disorder	1.12	(0.81–1.55)	0.51
Substance disorders			
Alcohol abuse with/without dependence[a]	0.61	(0.09–4.17)	0.28
Alcohol abuse without dependence[a]	[b]	[b]	[b]
Alcohol dependence with/without abuse[a]	1.33	(0.07–24.72)	0.04
Drug abuse with/without dependence[a]	1.05	(0.36–3.07)	0.01
Drug abuse without dependence[a]	1.57	(0.18–13.91)	0.18
Drug dependence with/without abuse[a]	0.50	(0.07–3.51)	0.53
Any substance disorder[a]	0.57	(0.19–1.71)	1.08

Abbreviations: OR, odds ratio; CI, confidence interval.

None of the estimates were significant at the 0.05 level, two-sided test.

[a]Assessed in the part II sample.

These estimates control for cohort, age of onset of disorder and number of disorders.

Reference category is male sex.

[b]Variable was dropped from the model due to insufficient sample size.

All models used part II sample.

perceived need for treatment (Blanco *et al.* 2013; Haughwout *et al.* 2016). Those with substance use disorders may not seek treatment until their disorders have become highly debilitating or until a family member insists on treatment. The inverse relationship between number of disorders and treatment contact for substance use disorders is puzzling; perhaps the unfortunate division of psychiatric and substance use services and the exclusion of patients with substance problems from general mental health services and *vice versa* might explain this; though this finding should be interpreted with caution due to the low frequency of participants with substance use disorders and no comorbidity.

Age at interview, as a predictor, represents generational or cohort effects upon treatment seeking. One encouraging finding is that younger cohorts (18–49 years) are more likely to make treatment contact than was true at the same ages of cases in older cohorts, perhaps reflecting changing attitudes, reduced stigma and increased mental health awareness among younger

generations. On the other hand, the earlier age of onset of a disorder, for mood and anxiety disorders, the less likely individuals were to make treatment contact. This is likely due to a failure of early detection of mental disorders among children and adolescents. Detection and opportune treatment for minors is a challenge given that children and adolescents cannot detect a problem and take themselves to treatment but rather depend upon a third party (teacher, parent or paediatrician) to identify the problem and a parent's willingness and ability to take them for treatment. However, detection and appropriate treatment for minors can be facilitated by joint endeavours between health, school and social justice systems. The lack of association between age of onset and substance use disorders may be due to a more restricted range of age of onset for these disorders (interquartile range 18–29).

The overall finding that younger cohorts are more likely to make treatment contact and those with early-onset disorders less likely is consistent with the findings of other WMH Surveys. In a comparison of

Table 3. *Cohort as a predictor of lifetime treatment contact for specific DSM-IV/WMH-CIDI disorders*

	Cohort (age at interview)						
	Age 18–34		Age 35–49		Age 50–64		χ^2_{1-3}
	OR	95% CI	OR	95% CI	OR	95% CI	
Anxiety disorders							
Panic disorder	2.89	(0.31–26.64)	0.40	(0.05–3.58)	0.36	(0.06–2.05)	23.66*
Generalised anxiety disorder	1.88	(0.49–7.18)	1.12	(0.35–3.56)	0.97	(0.29–3.21)	1.93
Specific phobia	1.64	(0.31–8.64)	0.46	(0.11–1.92)	0.47	(0.12–1.87)	5.41
Social phobia	0.40	(0.12–1.36)	0.23*	(0.09–0.62)	0.13*	(0.03–0.68)	10.77*
Any anxiety disorders	3.66*	(1.32–10.14)	1.41	(0.58–3.45)	1.19	(0.50–2.81)	15.62*
Mood disorders							
Major depressive disorder	1.91	(0.70–5.21)	1.01	(0.53–1.93)	0.98	(0.44–2.17)	4.33
Dysthymia	1.69	(0.15–19.68)	2.29	(0.26–19.94)	0.97	(0.20–4.78)	5.02
Bipolar disorder (broad)	9.17*	(2.26–37.20)	2.07	(0.92–4.64)	3.32*	(1.34–8.25)	11.09*
Any mood disorders	2.13	(0.83–5.47)	1.05	(0.56–1.98)	1.07	(0.53–2.16)	6.89
Substance disorders							
Alcohol abuse with/without dependence[a]	0.30	(0.05–1.89)	0.24	(0.02–2.36)	0.63	(0.09–4.50)	2.57
Alcohol abuse without dependence[a]	0.06*	(0.00–1.12)	0.34	(0.03–4.46)	1.22	(0.08–18.64)	8.46*
Alcohol dependence with/without abuse[a]	2.02	(0.66–6.19)	0.39	(0.03–5.89)	0.07	(0.00–1.65)	5.42
Drug abuse with/without dependence[a]	3.90	(0.38–39.55)	7.95*	(1.49–42.31)	1.00	–	7.37*
Drug abuse without dependence[a]	3.10	(0.24–40.65)	6.78	(0.72–63.82)	1.00	–	3.11
Drug dependence with/without abuse[a]	1.53	(0.52–4.49)	1.00	–	1.00	–	0.66
Any substance disorders[a]	0.29	(0.04–1.91)	0.48	(0.07–3.37)	0.13	(0.01–1.34)	3.91

*Significant at the 0.05 level, two-sided test.

[a]Assessed in the part II sample.

These estimates control for sex, age of onset of disorder and number of disorders.

Reference categories are: age 65+, unless otherwise indicated with 1.00, –.

The degree of freedom for each χ^2 is based upon the number of groups available in each main category.

All models used part II sample.

15 WMH countries, a monotonic relationship between younger cohorts and greater probability of treatment contact existed in 13, ten and eight countries for anxiety, mood and substance use disorders, respectively. Earlier ages of onset of anxiety, mood and substance use disorders was associated to a lower probability of treatment contact in 14, 13 and eight of the 15 countries. Similar to our lack of a significant association of sex with treatment contact, a minority of these 15 countries found sex differences (four, three and one for anxiety, mood and substance use disorders).

Our findings should be considered in light of some limitations of the research. The cross-sectional retrospective design is subject to recall bias. We attempted to improve the accuracy of dating onset and first treatment contact by asking questions that focused on memory search and bounded recall uncertainty (Blanco *et al.* 2013). Nevertheless, some bias is likely to remain with greater error in more distant events and potentially underestimating treatment delays. Additionally, a limited number of predictors of service

contact were included. For example, educational level, income level, health insurance and access to services were not included because their values were not known for all years of life. These variables are likely to have played important roles in treatment contact that we were unable to investigate. Treatment seeking also depends on illness perception, stigma-related barriers, perceptions of family and friends regarding help seeking, health literacy and neighbourhood communicativeness, none of which were assessed in the survey (Andrade *et al.* 2014; Dockery *et al.* 2015; Suka *et al.* 2016). Finally, other questions regarding service utilisation remain to be examined in order to provide a broad understanding of how mental and substance use disorders are treated in Argentina, such as questions about treatment adequacy, treatment sector (e.g. we didn't distinguish between healthcare and non-health care sectors), cost-effectiveness, and structural barriers and determinants.

Despite these limitations, this study provides novel information useful for public health planning and

Table 4. *Age of disorder onset as a predictor of lifetime treatment contact for specific DSM-IV/WMH-CIDI disorders*

	Age of onset						χ^2_{2-3}
	Early[a]		Early-average[b]		Late-average[c]		
	OR	95% CI	OR	95% CI	OR	95% CI	
Anxiety disorders							
Panic disorder	0.11*	(0.03–0.38)	0.27	(0.05–1.63)	0.60	(0.15–2.39)	15.54*
Generalised anxiety disorder	0.32*	(0.11–0.91)	1.06	(0.41–2.74)	0.83	(0.30–2.30)	8.69*
Specific phobia	0.20*	(0.08–0.50)	0.14*	(0.04–0.46)	0.17*	(0.05–0.61)	17.48*
Social phobia	0.46	(0.14–1.56)	0.29	(0.06–1.48)	1.64	(0.59–4.57)	12.21*
Any anxiety disorders	0.11*	(0.05–0.22)	0.17*	(0.10–0.29)	0.36*	(0.22–0.59)	55.81*
Mood disorders							
Major depressive disorder	0.31*	(0.16–0.62)	0.34*	(0.20–0.58)	0.65	(0.33–1.28)	29.63*
Dysthymia	0.08*	(0.02–0.32)	0.11*	(0.04–0.32)	0.48	(0.19–1.25)	23.31*
Bipolar disorder (broad)	0.09*	(0.02–0.37)	0.08*	(0.02–0.34)	0.23*	(0.06–0.86)	15.66*
Any mood disorders	0.28*	(0.14–0.53)	0.31*	(0.19–0.51)	0.62	(0.32–1.19)	37.17*
Substance disorders							
Alcohol abuse with/without dependence[d]	0.26	(0.06–1.14)	0.54	(0.06–4.65)	0.54	(0.10–2.93)	6.00
Alcohol abuse without dependence[d]	**0.20**	**(0.02–2.02)**	**0.20**	**(0.02–2.02)**	0.70	(0.12–4.23)	2.05
Alcohol dependence with/without abuse[d]	**0.29**	**(0.01–9.81)**	**0.29**	**(0.01–9.81)**	1.30	(0.05–34.98)	6.45*
Drug abuse with/without dependence[d]	0.46	(0.08–2.63)	0.78	(0.14–4.44)	0.50	(0.06–4.20)	1.33
Drug abuse without dependence[d]	0.00*	(0.00–0.17)	0.29*	(0.09–0.89)	0.26	(0.02–3.64)	10.61*
Drug dependence with/without abuse[d]	0.69	(0.10–4.94)	0.77	(0.07–8.10)	3.05	(0.69–13.44)	7.99*
Any substance disorders[d]	0.52	(0.18–1.53)	0.45	(0.14–1.47)	0.54	(0.15–1.96)	2.46

*Significant at the 0.05 level, two-sided test.
[a]The 25th percentile for age of onset for each disorder.
[b]The 50th percentile for age of onset for each disorder.
[c]The 75th percentile for age of onset for each disorder.
[d]Assessed in the part II sample.
These estimates control for sex, cohort and number of disorders; reference category is late age of onset.
Numbers in bold indicate that groups were collapsed.
The degree of freedom for each χ^2 is based upon the number of group available in each main category.
All models used part II sample.

policy. Latin American countries have important mental health treatment gap challenges, particularly in terms of treatment delay. While lifetime treatment contact is greater in Argentina than in Mexico or Colombia, the treatment delays are relatively comparable. For Argentina in particular, this study documents that strategies are needed to get individuals with substance use disorders into treatment and to reduce treatment delays for all through screening and outreach programmes. Early detection and treatment among children and adolescents should be a high priority given the early onset of many mental disorders and the pervasiveness of treatment delays among cases with early-onset mental and substance disorders.

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Conflict of interest

In the past 3 years, Dr Kessler received support for his epidemiological studies from Sanofi Aventis; was a consultant for Johnson & Johnson Wellness and Prevention, Sage Pharmaceuticals, Shire, Takeda; and served on an advisory board for the Johnson & Johnson Services Inc. Lake Nona Life Project. Kessler

Table 5. *Number of lifetime disorders as a predictor of lifetime treatment contact for specific DSM-IV/WMH-CIDI disorders*

	Number of disorders						χ^2_{2-3}
	Exactly two		Exactly three		Four to nine		
	OR	95% CI	OR	95% CI	OR	95% CI	
Anxiety disorders							
Panic disorder	0.76	(0.09–6.25)	0.48	(0.15–1.55)	1.49	(0.34–6.63)	3.95
Generalised anxiety disorder	1.49	(0.63–3.53)	1.93	(0.76–4.87)	1.87	(0.77–4.54)	3.47
Specific phobia	1.94	(0.78–4.85)	2.69*	(1.03–7.05)	1.29	(0.37–4.47)	4.48
Social phobia	2.16	(0.48–9.76)	3.11*	(1.08–8.95)	4.67*	(1.33–16.38)	8.32*
Any anxiety disorders	2.76*	(1.47–5.18)	2.12*	(0.97–4.61)	2.78*	(1.30–5.93)	13.14*
Mood disorders							
Major depressive disorder	2.01*	(1.13–3.56)	1.32	(0.76–2.30)	2.00*	(1.17–3.43)	9.93*
Dysthymia	1.42	(0.18–11.13)	2.72	(0.45–16.54)	6.40	(0.91–45.00)	9.17*
Bipolar disorder (broad)	0.83	(0.27–2.56)	0.86	(0.40–1.84)	1.01	(0.41–2.44)	0.22
Any mood disorders	1.64	(0.93–2.89)	1.45	(0.94–2.24)	1.81*	(1.00–3.28)	7.07
Substance disorders							
Alcohol abuse with/without dependence[a]	b	b	b	b	b	b	b
Alcohol abuse without dependence[a]	0.09	(0.02–0.49)	0.31	(0.07–1.32)	1.00	(1.00–1.00)	9.17*
Alcohol dependence with/without abuse[a]	b	b	b	b	b	b	b
Drug abuse with/without dependence[a]	0.03*	(0.00–0.64)	0.21*	(0.07–0.64)	0.38	(0.06–2.39)	10.61*
Drug abuse without dependence[a]	b	b	b	b	b	b	b
Drug dependence with/without abuse[a]	1.00	–	0.84	(0.02–28.65)	1.12	(0.08–16.51)	0.23
Any substance disorders[a]	0.10*	(0.02–0.49)	0.23*	(0.05–1.06)	0.63	(0.14–2.91)	22.85*

*Significant at the 0.05 level, two-sided test.
[a]Assessed in the part II sample.
Reference category is exactly one disorder, unless otherwise indicated with 1.00, –.
[b]Variable was dropped from the model due to insufficient sample size.
The degree of freedom for each χ^2 is based upon the number of group available in each main category.
All models used part II sample.

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Ethical standards

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

Availability of data and materials

Public access to the diagnostic instrument, including diagnostic algorithms, should be requested via: http://www.hcp.med.harvard.edu/wmh. However, there are limitations on the availability of raw data due to ethical restrictions related to sensitive information and to the signed agreement with the WHO World Mental Health Survey Initiative to limit comparative analyses to those carried out within the consortium.

Requestors wishing to access a de-identified minimal dataset necessary for only monitoring purposes of our published analyses can apply to Dr Alfredo Cia: alfredocia@gmail.com.

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