

# Treatment of mental disorders for adolescents in Mexico City

G Borges,<sup>a</sup> C Benjet,<sup>a</sup> ME Medina-Mora,<sup>a</sup> R Orozco<sup>b</sup> & PS Wang<sup>c</sup>

**Objective** This study describes the prevalence, adequacy and correlates of 12-month mental health service use among participants in the Mexican Adolescent Mental Health Survey.

**Methods** The authors conducted face-to-face household surveys of a probability sample of 3005 adolescents aged 12–17 years residing in the Mexico City metropolitan area during 2005. The prevalence of mental health disorders and the use of services were assessed with the computer-assisted adolescent version of the World Mental Health Composite International Diagnostic Interview. Correlates of service use and adequate treatment were identified in logistic regression analyses that took into account the complex sample design and weighting process.

**Findings** Less than one in seven respondents with psychiatric disorders used any mental health services during the previous year. Respondents with substance-use disorders reported the highest prevalence of service use and those with anxiety disorders the lowest. Approximately one in every two respondents receiving any services obtained treatment that could be considered minimally adequate.

**Conclusion** We found large unmet needs for mental health services among adolescents with psychiatric disorders in Mexico City. Improvements in the mental health care of Mexican youth are urgently needed.

Bulletin of the World Health Organization 2008;86:757–764.

Une traduction en français de ce résumé figure à la fin de l'article. Al final del artículo se facilita una traducción al español. الترجمة العربية لهذه الخلاصة في نهاية النص الكامل لهذه المقالة.

## Introduction

In Mexico,<sup>1</sup> as elsewhere, only a minority of adults with psychiatric disorders receive some form of treatment.<sup>2–5</sup> However, it is unclear to what extent this situation is similar for Mexican adolescents. Some studies of adult populations have shown that younger adult cohorts are more likely to receive care than older cohorts.<sup>6</sup> However, other studies, mostly conducted in developed countries, have begun to shed light on important shortfalls in the mental health care received by adolescents.<sup>7–12</sup>

In 2001–2002, the National Institute of Psychiatry in Mexico conducted the Mexico National Comorbidity Survey,<sup>1</sup> which is part of WHO's World Mental Health Survey Initiative.<sup>13,14</sup> Results for the urban Mexican adult population showed that fewer than one in five respondents with a 12-month prevalence of a psychiatric disorder used any service during the previous year and only one in every two respondents who used services received care that met minimal standards for adequacy.<sup>3</sup> In

2005, the National Institute of Psychiatry in Mexico conducted the Mexican Adolescent Mental Health Survey employing similar methodology.<sup>15</sup> We report here the rate of mental health service use in the previous year among these adolescents, the adequacy of treatments, and potential determinants of service use and treatment adequacy.

## Methods

### Participants

The survey was designed to be representative of the 1 834 661 adolescents aged 12–17 years that are permanent residents of private housing units in the Mexico City metropolitan area. The final sample included 3005 adolescent respondents selected from a stratified multistage area probability sample. In all strata, the primary sampling units were census count areas cartographically defined and updated by the Instituto Nacional de Estadística, Geografía e Informática.<sup>16</sup> All households within these city block units with adolescents aged 12–17 years were selected. One

eligible member from each of these households was randomly selected. The response rate of eligible respondents was 71%.

### Procedures

Fieldwork involving face-to-face interviews in the homes of the selected participants was carried out from March through August 2005 by interviewers who had received training in the Composite International Diagnostic Interview according to the WHO protocol stipulated for participating World Mental Health countries. A verbal and written explanation of the study was given to both parents and adolescents. Interviews were administered only to those participants for whom a signed informed consent from a parent and/or legal guardian and the adolescent was obtained. Although an adult had to be present in the home during the course of the interview, interviewers attempted to interview the adolescent privately, i.e. in another room. All study participants were given a mental health resources card with the contact information for

<sup>a</sup> Instituto Nacional de Psiquiatría, Calzada Mexico Xochimilco No 101- Col. San Lorenzo Huipulco, Mexico.

<sup>b</sup> Secretaría de Salud, Mexico City, Mexico.

<sup>c</sup> National Institute of Mental Health, Bethesda, MD, United States of America.

Correspondence to Guilherme Borges (e-mail: guibor@imp.edu.mx).

doi:10.2471/BLT.07.047696

(Submitted: 14 September 2007 – Revised version received: 30 January 2008 – Accepted: 26 February 2008 – Published online: 25 August 2008)

different institutions where they could seek services should they wish to do so. The Human Subjects Committee of the National Institute of Psychiatry approved the recruitment, consent and field procedures.

### Measures

Psychiatric disorders, service use and potential correlates were assessed in the Mexican Adolescent Mental Health Survey using the computer-assisted adolescent version of the World Mental Health Composite International Diagnostic Interview (WMH-CIDI-A).<sup>17</sup> The WMH-CIDI-A was adapted from the adult version WMH-CIDI 3.0 used in the Mexico National Comorbidity Survey and validated in diverse countries and cultures.<sup>18</sup> The diagnostic sections are similar to the adult version except that the language has been simplified to be more easily understood by younger respondents, examples were made more age appropriate (e.g. references to school instead of work), and criteria were changed to accommodate caveats made for adolescents in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV).

### Prevalence of mental disorders

The 12-month prevalence of the following categories of psychiatric disorders were recorded: affective disorders (major depressive disorder, bipolar I and II disorder and dysthymia with hierarchy); anxiety disorders (panic disorder, agoraphobia without panic disorder, social phobia, specific phobia, separation anxiety disorder, generalized anxiety disorder and posttraumatic stress disorder); impulse control disorders (intermittent explosive disorder, oppositional-defiant disorder, conduct disorder and attention-deficit/hyperactivity disorder); and substance use disorders (alcohol and drug abuse and dependence).

### Mental health service use

Information was collected about the use of mental health services, including the type of professionals visited, use of self-help, support groups or hotlines, and school-based programmes. The number of treatment visits made was also assessed and respondents could endorse as many professionals and treatment options as they had used in the previous 12 months.

Care received in the 12 months before the survey was categorized into the following sectors: (i) any mental health specialty provider, including psychiatrists, psychologists, counsellors, psychotherapists, mental health nurses and social workers in a mental health specialty setting; (ii) general medical practitioners, including family physicians and paediatricians; (iii) human services, including outpatient treatment with a religious or spiritual adviser or a social worker or counsellor in any setting other than a specialty mental health setting; (iv) complementary-alternative medicine and internet use, including self-help groups, any other healer, such as a herbalist, a chiropractor, or a spiritualist and other alternative therapy; and (v) school-based programmes that consisted of any special schools, special classes within a school and school-based therapies.

### Minimally adequate care

Available evidence-based treatment guidelines for primary care<sup>19</sup> and specialty mental health providers<sup>20–24</sup> were used to define minimally adequate treatment during the previous 12 months as receiving: (i) minimally adequate psychotherapy, consisting of four or more outpatient visits to any provider<sup>25,26</sup>; (ii) minimally adequate pharmacotherapy, consisting of two or more outpatient visits to any provider and treatment with any medication for any length of time;<sup>27</sup> or (iii) reporting still being “in treatment” at the time of the interview. Although this definition is broader than the one that we used previously,<sup>28</sup> it allowed us to obtain conservative estimates of minimally adequate treatment across sectors. In sensitivity analyses, a more stringent definition of minimally adequate treatment was also used in which we required: (i) eight or more visits to any service sector for psychotherapy, or (ii) four or more visits to any service sector and 30 or more days taking any medication for pharmacotherapy.

### Assessment of sociodemographic correlates

Information was collected on sex, age and family grouping, i.e. whether participants lived with both parents. Participants were considered students if currently enrolled. Adolescents were asked whether they worked during the

school year, whether they were ever married and whether they had children. All three conditions represent an additional social burden not typical of most adolescents; therefore, participants answering affirmatively to any of the three were categorized as having social burdens. Adolescents were asked about the educational attainment of each of their parents. Parental education was then categorized as none/primary ( $\leq 6$  years of education), secondary (7–9 years of education), high school (10–12 years of education) or college ( $\geq 13$  years of education) and the score of the parent with the highest level of education was used. Parent-reported family income was categorized into low, average and high.

### Analyses

The data were weighted to adjust for differential probabilities of selection and non-response. Post-stratification to the urban Mexican adolescent population according to the 2000 census in the target age and sex range was also performed. Standard errors for proportions were obtained by the Taylor series linearization method with SUDAAN software (RTI International, Research Triangle Park, NC, United States of America).<sup>29</sup> Logistic regression analysis<sup>30</sup> was performed to study demographic correlates. Two parallel analyses were performed, one for receiving any treatment among those with disorders and a second one for receiving minimally adequate treatment among those with disorders who received any treatment. Odds ratios and corresponding standard errors from logistic regression coefficients were also obtained with SUDAAN and 95% confidence intervals (CIs) were adjusted for design effects. Statistical significance was evaluated with two-sided design-based tests with the 0.05 level of significance.

### Findings

Table 1 shows that 9.1% of the adolescents used any service for emotional problems, with a higher use of services among those with a disorder (13.7%) compared to those with no disorder (6.1%). Respondents with a substance-use disorder reported the greatest use of services, and those with an anxiety disorder the lowest. For those with any disorder, the health-care sector was the most widely used for mental health

Table 1. Proportion of respondents to the Mexican Adolescent Mental Health Survey being treated by health-care professionals over 12 months<sup>a</sup>

Service provider/treatment		Disorder category						Total sample
		Any anxiety	Any mood	Any impulse control	Any substance use	Any disorder	No disorder	
Any mental health care provider	<i>n</i>	78	30	52	13	110	81	191
	% (SE)	8.4 (1.4)	12.5 (2.7)	11.3 (1.5)	13.3 (4.4)	9.0 (1.2)	4.2 (0.5)	6.1 (0.5)
General medical services	<i>n</i>	4	4	1	0	7	2	9
	% (SE)	0.5 (0.3)	1.7 (1.1)	0.2 (0.2)	0.0 (0.0)	0.6 (0.3)	0.1 (0.1)	0.3 (0.1)
Any health-care services	<i>n</i>	81	33	52	13	116	83	199
	% (SE)	8.7 (1.3)	13.7 (2.8)	11.3 (1.5)	13.3 (4.4)	9.5 (1.2)	4.3 (0.5)	6.3 (0.5)
Human services	<i>n</i>	13	3	2	2	13	8	21
	% (SE)	1.5 (0.4)	1.3 (0.9)	0.5 (0.1)	2.4 (1.7)	1.1 (0.3)	0.5 (0.2)	0.8 (0.2)
Complementary-alternative medicine	<i>n</i>	12	8	13	5	18	9	27
	% (SE)	1.7 (0.5)	4.6 (2.0)	3.4 (0.9)	7.1 (3.5)	1.8 (0.4)	0.5 (0.2)	1.0 (0.2)
Any non-health care service	<i>n</i>	25	11	15	7	31	15	46
	% (SE)	3.1 (0.7)	5.9 (2.1)	3.8 (0.9)	9.5 (4.3)	2.9 (0.6)	0.9 (0.3)	1.7 (0.3)
Special school/class	<i>n</i>	3	0	1	0	3	1	4
	% (SE)	0.3 (0.2)	0.0 (0.0)	0.2 (0.2)	0.0 (0.0)	0.2 (0.1)	0.0 (0.0)	0.1 (0.1)
Scholar therapy or counsellor	<i>n</i>	44	13	30	6	53	23	76
	% (SE)	4.7 (0.9)	5.6 (1.8)	6.2 (1.2)	5.6 (1.9)	4.3 (0.7)	1.2 (0.3)	2.4 (0.3)
Any school treatment	<i>n</i>	46	13	31	6	55	24	79
	% (SE)	4.9 (0.9)	5.6 (1.8)	6.5 (1.2)	5.6 (1.9)	4.4 (0.7)	1.3 (0.3)	2.5 (0.3)
Any treatment	<i>n</i>	122	43	77	20	165	115	280
	% (SE)	13.3 (1.5)	19.3 (3.1)	17.1 (1.6)	22.2 (5.6)	13.7 (1.2)	6.1 (0.7)	9.1 (0.7)

SE, standard error.

<sup>a</sup> *N* = 3005.

services (by 9.5%), with school-based treatments being next most frequent. Most services delivered by the health-care sector were provided by mental health specialists, with minimal participation of the general medical sector. The disorder with the highest level of treatment was drug abuse with dependence (38%, largely treated in the non-health care system), followed by conduct disorder (25%, largely treated in the health-care system; data not shown).

Among those with a psychiatric disorder, 80% used only one type of provider, 17% two types of providers, and 3% used three or more types of providers. Among those that used two providers, the most common combination was for health care and school-based providers. About 72% of those used both services simultaneously, while 18% used school services first and later reported the use of a health-care provider. In the health-care sector, the mean number of visits was 7.8 for those

with a psychiatric disorder and 6.2 for those without a disorder; for the non-health-care sector it was 19.1 and 16.5 visits respectively, and for school-based services it was 14.9 and 16.9 visits, respectively (results are not shown).

Table 2 presents the adequacy of treatment. Overall, 58.4% of those receiving any services obtained any treatment that could be considered minimally adequate, with anxiety disorders showing the lowest percentage and substance use disorders the highest. Those with a disorder were more likely to receive adequate treatment than those without a disorder and the health-care sector showed the lowest level of adequacy.

In sensitivity analyses using our more stringent definition, the proportion of respondents obtaining minimally adequate treatment among those with disorders receiving any services decreased to 27.2%; this proportion varied between 22.2% among respondents

with substance disorders to 36.8% among those with affective disorders. (The results are not shown but are available upon request from G Borges.)

Table 3 presents sociodemographic correlates of receiving any services, as well as receiving minimally adequate treatment, among respondents with 12-month prevalence of these disorders. Females and those whose parents had higher levels of education were more likely to use services. Those attending school and adolescents without any "social burden" had increased, but not significantly, odds ratios of receiving treatment. The only significant correlate of receiving adequate treatment among those with a psychiatric disorder receiving any treatment was those currently attending school.

The greater likelihood of service use and adequacy of services for those attending school may be related to school-based programmes being exclusively available for this group only. For

Table 2. Proportion of adolescents receiving minimally adequate treatment from professionals over 12 months<sup>a</sup>

Service provider/treatment		Disorder category						Total sample
		Any anxiety	Any mood	Any impulse control	Any substance use	Any disorder	No disorder	
Any health care services	<i>n</i>	49	21	35	9	68	41	109
	% (SE)	61.5 (4.6)	62.6 (8.1)	68.6 (6.4)	70.8 (11.5)	59.4 (4.3)	44.9 (5.7)	53.5 (3.5)
Any non-health care service	<i>n</i>	19	10	13	5	24	13	37
	% (SE)	74.9 (9.8)	89.7 (9.9)	85.4 (10.4)	71.0 (15.8)	75.7 (8.7)	90.2 (6.6)	80.4 (7.2)
Any school-based treatment	<i>n</i>	33	12	24	6	41	18	59
	% (SE)	72.3 (6.8)	88.7 (9.7)	78.0 (8.6)	100.0 (0.0)	75.6 (6.0)	80.6 (8.9)	77.2 (5.3)
Any treatment	<i>n</i>	73	29	51	15	98	65	163
	% (SE)	60.4 (3.6)	67.1 (8.7)	67.6 (5.5)	77.0 (10.2)	60.1 (3.8)	56.0 (5.0)	58.4 (3.4)

SE, standard error.

<sup>a</sup> *N* = 3005.

this reason, we refitted our models to obtain results for health care and non-health care services separately. In these analyses, respondents attending school were no more likely to get health care or non-health care services than those not attending school. Nevertheless, those attending school still had a significantly increased likelihood (odds ratio: 11.6; 95% CI: 3.5–38.2) of receiving adequate health care compared to those not attending school (data not shown).

## Discussion

### Main findings

Less than one in seven adolescents with any psychiatric disorder in the last 12 months used any services. Although this is the first time that representative service use data are available for adolescents in Mexico, prior research among adults in Mexico also showed that the majority of people with a recent psychiatric disorder did not receive recent treatment.<sup>3,31,32</sup> Comparable data from other developed countries confirms the large unmet need that adolescents face.<sup>8–12</sup> A study of another Latino population in Puerto Rico<sup>7</sup> showed that only 26% of adolescents affected by mental disorders used services. Our results reveal the even larger gap that adolescents in Mexico face, with only 14% of those with a disorder using any service in the prior 12 months. Data for comparison on service use in other Latin American countries are lacking, although the situation of scarce resources, as well as few services and

personnel for treating children having a mental disorder, is commonplace in the region.<sup>33</sup> The lack of resources in Mexico City may be similar to other less-developed countries, although more research is needed before we can generalize our findings. Respondents without a disorder comprised about 40% of the population using services, raising concern that scarce resources for mental health care may be misallocated. However, some services may be used by respondents with lifetime histories of disorders; other respondents without apparent disorders may also be using services appropriately for primary prevention, subthreshold symptoms that do not qualify as full-blown disorders or for disorders not assessed by our survey.

Our results on the percentages receiving minimally adequate care (58%) as well as a more stringent definition (27%) are very low and similar to rates reported among adults in Mexico,<sup>3</sup> suggesting that the entire system of care for mental disorders is in need of reform. The system for child mental health care in Latin America has been described as excessively focused on serious and rare disorders.<sup>33</sup> A recent evaluation of psychiatric care in Mexico<sup>34</sup> concluded that it is still mainly provided by large public psychiatric hospitals. Even though this study did not focus specifically on adolescents, these conclusions could well apply to youth.

There are many potential reasons for failure to receive minimally adequate care. Individuals with mental

disorders, especially those with the most serious and impairing forms, may suffer from considerable stigmatization and discrimination associated with their mental disorder<sup>32</sup> and may lack the ability and resources to consistently access mental health treatments.<sup>35</sup> Patients may also find prescribed treatments intolerable.<sup>36</sup> Providers may lack the training to recognize and properly diagnose mental disorders or lack the knowledge concerning optimal treatment regimens.<sup>37–39</sup> These results may not be surprising, given the dearth of mental health resources in Mexico.<sup>40</sup> It is noteworthy that there is only one child psychiatric hospital in the entire country, located in Mexico City.

Two sociodemographic characteristics predicted the use of mental health services among subjects with psychiatric disorders, being female and having more educated parents. Some studies find adolescent males to be more likely to receive services than females,<sup>41</sup> but others have failed to do so.<sup>8,10,11,42,43</sup> It is not clear why in this Mexican sample, females with psychiatric disorders were more likely to get services, but it is possible that the Mexican culture, that emphasizes protection of young females more so than males, could play a role or that deviant behaviour is tolerated more in males than females. More educated parents may be more likely to recognize symptoms of distress and mental disorders in their child and be able to seek treatment.<sup>44</sup> It is possible that these adolescents have more supportive environments

or more assistance in promoting treatment adherence. Although Mexico is a country with low socioeconomic status and the lack of financial resources may help explain the low rate of service use, we did not find an association between income and receiving any treatment or minimally adequate treatment – a lack of association also reported from other studies in developed countries,<sup>8</sup> but not all.<sup>42,43</sup>

### Limitations

The Mexican Adolescent Mental Health Survey is a household survey with a limited response rate (71%), representing adolescents living in one of the largest metropolitan areas in the world, where health services are more available and so these results may not be generalized to other urban or rural areas of Mexico. Furthermore, we did not interview institutionalized or homeless adolescents, we only assessed a limited subset of DSM-IV disorders, and those more affected by mental illness may be more likely to have been non-respondents. Although the WMH-CIDI-A was adapted from the adult version used in the Mexico National Comorbidity Survey and validated in another Spanish-speaking country,<sup>18</sup> the reliability and validity of the adolescent version used in this survey has not yet been established in Mexico. This set of limitations may have caused us to underestimate the unmet needs for mental health treatment and minimally adequate treatment.

In addition, we used a definition of minimally adequate treatment created for the adult population.<sup>5,13</sup> Although some investigators<sup>45–50</sup> have shown that treatments conforming to recommendations in evidence-based guidelines improve clinical outcomes, we are not aware of studies that validated our exact definition of minimally adequate treatment for this population.

Finally, we only examined relationships between a small number of patient or family factors<sup>44</sup> and service utilization, type and adequacy; we did not have the ability to investigate other potentially important variables, such as the characteristics of service providers. All variables assessed were subject to misclassification which, especially if differential, could have introduced bias.

Table 3. Sociodemographic predictors of treatment over 12 months<sup>a,b</sup>

Variable	Any treatment among any disorder		Any minimally adequate treatment among those with a disorder and receiving treatment	
	OR	(95% CI)	OR	(95% CI)
<b>Sex</b>				
Male	1.00		1.00	
Female	1.65	(1.06–2.57)	0.79	(0.39–1.60)
<b>Age group in years</b>				
15–17	1.00		1.00	
12–14	0.93	(0.68–1.28)	0.80	(0.21–3.08)
<b>Attending school</b>				
No	1.00		1.00	
Yes	1.26	(0.86–1.85)	2.68	(1.08–6.65)
<b>Living with both parents</b>				
No	1.00		1.00	
Yes	0.91	(0.63–1.31)	0.77	(0.36–1.66)
<b>Adolescent social burden<sup>c</sup></b>				
No	1.75	(0.97–3.15)	0.31	(0.02–3.94)
Yes	1.00		1.00	
<b>Parental education</b>				
None/primary (≤ 6 years)	1.00		1.00	
Secondary (7–9 years)	1.78	(1.05–3.01)	1.20	(0.40–3.59)
High school (10–12 years)	1.83	(1.06–3.15)	0.54	(0.23–1.25)
College (≥ 13 years)	2.20	(1.04–4.67)	1.03	(0.28–3.75)
<b>Income</b>				
Low	1.00		1.00	
Average	0.81	(0.55–1.20)	1.42	(0.75–2.70)
High	0.74	(0.51–1.07)	0.96	(0.18–5.21)

CI, confidence interval; OR, odds ratio.

<sup>a</sup> *N* = 3005.

<sup>b</sup> All models were adjusted by any mood, anxiety, impulse and substance disorder over 12 months.

<sup>c</sup> Adolescents social burden were those participants answering affirmatively to any of the three conditions: worked during the school year, ever married and had children.

Finally, we cannot conclude that factors associated with receiving any treatment, or minimally adequate treatment, are related causally because of the study's cross-sectional nature.

### Conclusions

Improvement in the mental health care of Mexican youth is urgently needed and should not depend only on additional services and resources. Our results shed light on an enormous public health problem facing Mexico. The large majority of those with needs received no treatment from any sector. The negative public health consequences of such unmet needs for treatment in adolescents are likely to be

large. In this context, the development of additional mental health resources is sorely needed and an essential first step. However, reallocation of services and providers will be needed to take advantage of the resources that are made available. Active outreach, school-based programmes employing brief screens may be needed for the accurate identification of children with mental disorders. Interventions to train non-health care professionals to recognize children with mental health conditions and make referrals for health care may also be useful. Finally, even among Mexican youth with mental disorders from families with financial means, addressing out-of-pocket costs and other economic barriers may also be

critical for increasing the generally low intensity and widespread inadequacy of mental health treatments. ■

### Acknowledgements

The authors thank the staff of WHO's World Mental Health Survey Initiative

for assistance with instrumentation, fieldwork and data analysis.

**Funding:** The Mexican Adolescent Mental Health Survey, Corina Benjet PI, was supported by the National Council on Science and Technology in conjunc-

tion with the Ministry of Education (grant No. CONACYT-SEP-SSEDF-2003-CO1-22) and by the National Institute of Psychiatry Ramon de la Fuente Muñiz (DIES- 4845).

**Competing interests:** None declared.

## Résumé

### Traitement des troubles mentaux chez les adolescentes de Mexico

**Objectif** La présente étude décrit la prévalence, l'adéquation aux besoins et les corrélats du recours aux services de santé mentale sur 12 mois chez les sujets de l'Enquête sur la santé mentale des adolescents de Mexico.

**Méthodes** Les auteurs ont mené une enquête en face-à-face dans les ménages sur un échantillon probabiliste de 3005 adolescents de 12 à 17 ans, résidant dans la zone métropolitaine de Mexico en 2005. Ils ont évalué la prévalence des troubles mentaux et le recours aux services de santé mentale à l'aide de la version Adolescents et assistée par ordinateur du World Mental Health Composite International Diagnostic Interview. Des corrélations entre le recours aux services de santé mentale et l'adéquation du traitement ont été identifiées à l'aide d'analyses par régression logistique prenant en compte le mode de constitution de l'échantillon complexe et les processus de pondération.

**Résultats** Parmi les adolescents interrogés souffrant de troubles psychiatriques, moins d'un sur sept avaient fait appel aux services de santé mentale au cours de l'année précédente. Ce sont les adolescents interrogés présentant des troubles toxicomaniaques qui ont mentionné la plus forte prévalence du recours à ces services et dont les troubles anxieux étaient les plus faibles. Parmi les adolescents interrogés ayant bénéficié de services de santé mentale, environ un sur deux avait reçu un traitement pouvant être considéré comme très peu adapté.

**Conclusion** Nous avons relevé d'importants besoins non satisfaits en matière de santé mentale chez les adolescents de Mexico souffrant de troubles psychiatriques. Il est urgent d'améliorer les soins de santé mentale dispensés aux jeunes de cette ville.

## Resumen

### Tratamiento de los adolescentes con trastornos mentales en México D.F.

**Objetivo** Se describen aquí la prevalencia, la idoneidad y los factores correlacionados del uso de servicios de salud mental a lo largo de 12 meses entre los participantes en la Encuesta de Salud Mental de Adolescentes de México.

**Métodos** Los autores llevaron a cabo encuestas de hogares personales con una muestra probabilística de 3005 adolescentes de 12 a 17 años residentes en el área metropolitana de México D.F. durante 2005. La prevalencia de trastornos de salud mental y el uso de los servicios correspondientes se evaluaron con la versión computadorizada para adolescentes de la Entrevista CIDI (Composite International Diagnostic Interview) sobre Salud Mental Mundial. Los factores correlacionados con la utilización de los servicios y el tratamiento adecuado se determinaron mediante análisis de regresión logística adaptados al complejo proceso de diseño y ponderación de muestras.

**Resultados** Menos de uno de cada siete encuestados con trastornos psiquiátricos habían usado algún tipo de servicio de salud mental durante el año precedente. Los encuestados con trastornos de consumo de sustancias son los que declararon la máxima prevalencia de uso de servicios, y la prevalencia más baja correspondió a los afectados por trastornos de ansiedad. Entre quienes usaron algún tipo de servicio, alrededor de uno de cada dos encuestados recibieron un tratamiento mínimamente adecuado.

**Conclusión** Se han detectado importantes necesidades no atendidas de servicios de salud mental entre los adolescentes con trastornos psiquiátricos de México D.F. Es preciso mejorar urgentemente la atención de salud mental de los jóvenes mexicanos.

## ملخص

معالجة الاضطرابات النفسية التي تصيب المراهقين في مكسيكو سيتي

7

الموجودات:

الغرض:

12

الطريقة:

17 12

3005

.2005

الاستنتاج:

## References

- Medina-Mora ME, Borges G, Lara C, Benjet C, Blanco J, Fleiz C, et al. Prevalence, service use, and demographic correlates of 12-month DSM-IV psychiatric disorders in Mexico: results from the Mexican National Comorbidity Survey. *Psychol Med* 2005;35:1773-83. PMID:16300691 doi:10.1017/S0033291705005672
- Alonso J, Codony M, Kovess V, Angermeyer MC, Katz SJ, Haro JM, et al. Population level of unmet need for mental healthcare in Europe. *Br J Psychiatry* 2007;190:299-306. PMID:17401035 doi:10.1192/bjp.bp.106.022004
- Borges G, Medina-Mora ME, Wang PS, Lara C, Berglund P, Walters E. Treatment and adequacy of treatment of mental disorders among respondents to the Mexico National Comorbidity Survey. *Am J Psychiatry* 2006;163:1371-8. PMID:16877649 doi:10.1176/appi.ajp.163.8.1371
- Kessler RC, Zhao S, Katz SJ, Kouzis AC, Frank RG, Edlund M, et al. Past-year use of outpatient services for psychiatric problems in the National Comorbidity Survey. *Am J Psychiatry* 1999;156:115-23. PMID:9892306
- Wang PS, Lane M, Olsson M, Pincus HA, Wells KB, Kessler RC. Twelve-month use of mental health services in the United States: results from the National Comorbidity Survey Replication. *Arch Gen Psychiatry* 2005;62:629-40. PMID:15939840 doi:10.1001/archpsyc.62.6.629
- Wang PS, Aguilar-Gaxiola S, Alonso J, Angermeyer MC, Borges G, Bromet G, et al. Use of mental health services for anxiety, mood, and substance disorders in 17 countries in the WHO world mental health surveys. *Lancet* 2007;370:807-8. PMID:17826169
- Canino G, Shrout PE, Rubio-Stipec M, Bird HR, Bravo M, Ramirez R, et al. The DSM-IV rates of child and adolescent disorders in Puerto Rico: prevalence, correlates, service use, and the effects of impairment. *Arch Gen Psychiatry* 2004;61:85-93. PMID:14706947 doi:10.1001/archpsyc.61.1.85
- Kataoka SH, Zhang L, Wells KB. Unmet need for mental health care among U.S. children: variation by ethnicity and insurance status. *Am J Psychiatry* 2002;159:1548-55. PMID:12202276 doi:10.1176/appi.ajp.159.9.1548
- Leaf PJ, Alegria M, Cohen P, Goodman SH, Horwitz SM, Hoven CW, et al. Mental health service use in the community and schools: results from the four-community MECA Study. Methods for the Epidemiology of Child and Adolescent Mental Disorders Study. *J Am Acad Child Adolesc Psychiatry* 1996;35:889-97. PMID:8768348 doi:10.1097/00004583-199607000-00014
- Sourander A, Helstelä L, Ristkari T, Ikaheimo K, Helenius H, Piha J. Child and adolescent mental health service use in Finland. *Soc Psychiatry Psychiatr Epidemiol* 2001;36:294-8. PMID:11583459 doi:10.1007/s001270170047
- Verhulst FC, van der EJ. Factors associated with child mental health service use in the community. *J Am Acad Child Adolesc Psychiatry* 1997;36:901-9. PMID:9204667 doi:10.1097/00004583-199707000-00011
- Zwaanswijk M, van der EJ, Verhaak PF, Bensing JM, Verhulst FC. Factors associated with adolescent mental health service need and utilization. *J Am Acad Child Adolesc Psychiatry* 2003;42:692-700. PMID:12921477 doi:10.1097/01.CHI.0000046862.56865.B7
- Demyttenaere K, Bruffaerts R, Posada-Villa J, Gasquet I, Kovess V, Lepine JP, et al. Prevalence, severity, and unmet need for treatment of mental disorders in the World Health Organization World Mental Health Surveys. *JAMA* 2004;291:2581-90. PMID:15173149 doi:10.1001/jama.291.21.2581
- Kessler RC, Ustun TB. *The World Health Organization world mental health 2000 initiative*. Hospital Management International 2000. pp. 195-196.
- Benjet C, Borges G, Medina-Mora ME, Fleiz C, Blanco J, Zambrano J, et al. Prevalence and socio-demographic correlates of drug use among adolescents: results from the Mexican Adolescent Mental Health Survey. *Addiction* 2007;102:1261-8. PMID:17624976 doi:10.1111/j.1360-0443.2007.01888.x
- Censo general de población y vivienda: México 2000*. México: Instituto Nacional de Estadística Geografía e Informática; 2000.
- Kessler RC, Ustun TB. The World Mental Health (WMH) Survey Initiative Version of the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI). *Int J Methods Psychiatr Res* 2004;13:93-121. PMID:15297906 doi:10.1002/mpr.168
- Haro JM, Arbabzadeh-Bouchez S, Brugha TS, De Girolamo G, Guyer ME, Jin R, et al. Concordance of the Composite International Diagnostic Interview Version 3.0 (CIDI 3.0) with standardized clinical assessments in the WHO World Mental Health surveys. *Int J Methods Psychiatr Res* 2006;15:167-80. PMID:17266013 doi:10.1002/mpr.196
- Depression in primary care*, vol 2. Rockville, MD: Agency for Health Care Policy and Research, US Department of Health and Human Services; 1993.
- Practice guideline for the treatment of patients with bipolar disorder*. Washington, DC: American Psychiatric Association; 1994.
- Practice guideline for the treatment of patients with schizophrenia*. Washington, DC: American Psychiatric Association; 1997.
- Practice guideline for the treatment of patients with panic disorder*. Washington, DC: American Psychiatric Association; 1998.
- Practice guideline for the treatment of patients with major depressive disorder*, 2nd ed. Washington, DC: American Psychiatric Association; 2000.
- Lehman AF, Steinwachs DM. Translating research into practice: the Schizophrenia Patient Outcomes Research Team (PORT) treatment recommendations. *Schizophr Bull* 1998;24:1-10. PMID:9502542
- Sturm R, Wells KB. How can care for depression become more cost-effective? *JAMA* 1995;273:51-8. PMID:7996651 doi:10.1001/jama.273.1.51
- Young AS, Klap R, Sherbourne CD, Wells KB. The quality of care for depressive and anxiety disorders in the United States. *Arch Gen Psychiatry* 2001;58:55-61. PMID:11146758 doi:10.1001/archpsyc.58.1.55
- HEDIS 2000: technical specifications*, vol 2. Washington, DC: National Committee for Quality Assurance; 1999.
- Kessler RC, Berglund P, Demler O, Jin R, Koretz D, Merikangas KR, et al. National Comorbidity Survey Replication. The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication (NCS-R). *JAMA* 2003;289:3095-105. PMID:12813115 doi:10.1001/jama.289.23.3095
- SUDAAN: professional software for survey data analysis [computer program]. Research Triangle Park, NC: Research Triangle Institute; 2002.
- Hosmer DW, Lemeshow S. *Applied logistic regression*. 2nd ed. New York: John Wiley & Sons; 2000.
- Caraveo J, Martínez N, Rivera E, Polo A. Prevalencia en la vida de episodios depresivos y utilización de servicios especializados. *Salud Mental* 1997;20:15-23.
- Medina-Mora ME, Berenzon S, López-Lugo E, Solís L, Caballero MA, González J. El uso de los servicios de salud por los pacientes con trastornos mentales: resultados de una encuesta de una población de escasos recursos. *Salud Mental* 1997;20 Suppl;32-8.
- Belfer ML, Rohde LA. Child and adolescent mental health in Latin America and the Caribbean: problems, progress, and policy research. *Rev Panam Salud Publica* 2005;18:359-65. PMID:16354433 doi:10.1590/S1020-49892005000900016
- Evaluación de servicios de salud mental en la República Mexicana*. México: Organización Panamericana para la Salud; 2004.
- Outcasts on Main Street: report of the Federal Task Force on Homelessness and Severe Mental Illness*. Washington, DC: Interagency Council on Homelessness, Department Health and Human Services; 1992.
- Cramer JA, Rosenheck R. Compliance with medication regimens for mental and physical disorders. *Psychiatr Serv* 1998;49:196-201. PMID:9575004
- Eisenberg L. Treating depression and anxiety in primary care. Closing the gap between knowledge and practice. *N Engl J Med* 1992;326:1080-4. PMID:1463479
- Schwenk TL, Coyne JC, Fechner-Bates S. Differences between detected and undetected patients in primary care and depressed psychiatric patients. *Gen Hosp Psychiatry* 1996;18:407-15. PMID:8937906 doi:10.1016/S0163-8343(96)00062-X
- Wells KB, Katon W, Rogers B, Camp P. Use of minor tranquilizers and antidepressant medications by depressed outpatients: results from the medical outcomes study. *Am J Psychiatry* 1994;151:694-700. PMID:7909411
- ATLAS: mental health resources in the world 2001*. Geneva: WHO; 2001.
- Alegria M, Canino G, Lai S, Ramirez RR, Chavez L, Rusch D, et al. Understanding caregivers' help-seeking for Latino children's mental health care use. *Med Care* 2004;42:447-55. PMID:15083105 doi:10.1097/01.mlr.0000124248.64190.56
- Cohen P, Hesselbart CS. Demographic factors in the use of children's mental health services. *Am J Public Health* 1993;83:49-52. PMID:8417606
- Fisher AJ, Kramer RA, Grosser RC, Alegria M, Bird HR, Bourdon KH, et al. Correlates of unmet need for mental health services by children and adolescents. *Psychol Med* 1997;27:1145-54. PMID:9300518 doi:10.1017/S0033291797005412

44. Zwaanswijk M, Verhaak PF, Bensing JM, van der EJ, Verhulst FC: Help seeking for emotional and behavioural problems in children and adolescents: a review of recent literature. *Eur Child Adolesc Psychiatry* 2003;12:153-61. PMID:14505065 doi:10.1007/s00787-003-0322-6
45. Katon W, Von Korff M, Lin E, Walker E, Simon GE, Bush T, et al. Collaborative management to achieve treatment guidelines. Impact on depression in primary care. *JAMA* 1995;273:1026-31. PMID:7897786 doi:10.1001/jama.273.13.1026
46. Katon W, Robinson P, Von Korff M, Lin E, Bush T, Ludman E, et al. A multifaceted intervention to improve treatment of depression in primary care. *Arch Gen Psychiatry* 1996;53:924-32. PMID:8857869
47. Katon W, Von Korff M, Lin E, Simon G, Walker E, Unutzer J, et al. Stepped collaborative care for primary care patients with persistent symptoms of depression: a randomized trial. *Arch Gen Psychiatry* 1999;56:1109-15. PMID:10591288 doi:10.1001/archpsyc.56.12.1109
48. Katon WJ, Roy-Byrne P, Russo J, Cowley D. Cost-effectiveness and cost offset of a collaborative care intervention for primary care patients with panic disorder. *Arch Gen Psychiatry* 2002;59:1098-104. PMID:12470125 doi:10.1001/archpsyc.59.12.1098
49. Melfi CA, Chawla AJ, Croghan TW, Hanna MP, Kennedy S, Sredl K. The effects of adherence to antidepressant treatment guidelines on relapse and recurrence of depression. *Arch Gen Psychiatry* 1998;55:1128-32. PMID:9862557 doi:10.1001/archpsyc.55.12.1128
50. Wells KB, Sherbourne C, Schoenbaum M, Duan N, Meredith L, Unutzer J, et al. Impact of disseminating quality improvement programs for depression in managed primary care: a randomized controlled trial. *JAMA* 2000; 283:212-20. PMID:10634337 doi:10.1001/jama.283.2.212