Psychopathology and self-harm among incoming first-year students in six Mexican universities

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Abstract

Objective. To estimate psychopathology and self-harm behavior of incoming first-year college students, socio-demographic correlates, service use and willingness to seek treatment. **Materials and methods.** 4 189 male and female incoming first-year students of six universities in four different states of Mexico responded to an online survey with a 79.3% response rate. **Results.** Almost one in three incoming students has experienced some type of psychopathology; however, only one in five has received treatment. Female, students who are older, whose parents are not married or deceased, and who have a non-heterosexual orientation, no religion or a non-Catholic/Christian religion have greater odds (1.18 - 1.99), whereas those who attend a private university and have a parent with some college education have lower odds (0.68 - 0.75) of experiencing any probable

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Resumen

Objetivo. Estimar psicopatologías y autolesiones en universitarios de nuevo ingreso, así como los correlatos socio-demográficos, el uso de servicios y la disposición para recibir tratamiento. **Material y métodos.** 4 189 estudiantes de nuevo ingreso de seis universidades en cuatro estados contestaron una encuesta en línea con una tasa de respuesta de 79.3%. **Resultados.** 32.5% han padecido psicopatologías en su vida, pero únicamente 19.5% han recibido tratamiento. Mujeres, estudiantes con una orientación no heterosexual, estudiantes de mayor edad, quienes tienen padres fallecidos o no casados, sin religión o con una religión no católica/cristiana tienen mayor probabilidad de presentar psicopatologías (RM= 1.18-1.99), mientras que aquellos de universidades privadas y cuyos padres tienen estudios universitarios tienen menor probabilidad (RM= 0.68-0.75). **Conclusiones.** La alta tasa

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disorder. **Conclusions.** Substantial unmet need for mental health services combined with reported willingness to use university services suggests an opportunity for the detection, referral, and treatment of incoming students to promote a successful transition.

Keywords: mental disorders; suicide; substance-related disorders; students; Mexico

de psicopatologías no tratadas combinada con la disposición reportada de recibir servicios a través de su universidad sugiere una oportunidad para la detección, canalización y tratamiento de alumnos de nuevo ingreso para promover una transición exitosa.

Palabras clave: trastornos mentales; suicidio; trastornos relacionados con sustancias; estudiantes; México

University students may be considered a privileged group of youth in Mexico, given that only 23% of those between 25 and 34 years of age have any university education.[1] Despite this, the evidence suggests that university graduates in Mexico have a similar rate of psychopathology as those with less educational attainment.[2] Elsewhere, in the United States, university students have been found to have a similar rate of psychopathology as their non-student peers.[3] While mental disorders are common among university students, the onset of psychopathology mostly occurs prior to college entry and is often greatly undertreated.[4] Additionally, college is a time of extra demands and increasing exposure to substances. Mental health problems such as suicide ideation, severe substance use, depression and anxiety have been associated to academic performance[5-8] and dropping out of higher education.[9] However, a few studies have found no such associations.[10,11] Thus, incoming first-year students with a prior untreated psychopathology, which may be exacerbated by new demands, may have a more difficult transition to university, affecting their academic achievement and ultimately their chances of graduation. The social investment in university students and the importance of mental health for academic outcomes mean that universities should be concerned about the mental health of their students.

Similarly, mental health, in general, and suicidal behavior or self-harm, in particular, in young people is of concern to the public health sector, due to the early ages of onset of psychiatric disorders,[12] the evidence of high incidence during the transition from adolescence to early adulthood,[13] the rising rates of suicide deaths among the young population in Mexico,[14] and the overall impact of mental disorders on greater social conditions such as educational attainment ,[15] workforce entrance, participation and productivity,[16] interpersonal relations,[17]and human suffering overall.

General population studies in Mexico have evidenced low service utilization and significant unmet need for mental health problems.[18,19] There is a dearth of information on service use for mental health problems by Mexican university students. While this age group is generally physically healthy and thus presumably has little contact with the health sector, the students may benefit from services offered in their universities; however, little is known about their willingness to seek help from these services versus other services outside of their universities.

Puertas (University Project for Healthy Students) was conducted at six Mexican universities as part of the WHO World Mental Health Surveys International College Student Initiative (WHO-WMH-ICS),* a multinational collaborative project to follow up college students' mental health prospectively throughout the course of their college studies. This report provides the first Mexico-specific data; this initiative is novel in that it provides data from a large sample of students from a diversity of Mexican universities and includes only incoming students from a single cohort. This cohort can serve as an indicator of the problems that students bring with them to college that need to be addressed, a baseline by which to measure future cohorts and prospectively assess changes in students' mental health over time, which is the ultimate aim of *Puertas*. The objectives of the present report are to describe the overall psychopathology (including substance use disorders) and suicidal thoughts and behaviors (STB) and non-suicidal self-injury of incoming first-year university students and their socio-demographic correlates, as well as the treatment they receive or have received, and their willingness to receive treatment for these mental health problems within or outside their universities. Because the prevalence of different mental health problems is known to vary by sex,[20,21] we provide sex-specific estimates.

* The WHO World Mental Health Surveys International College Student Initiative (WMH-ICS). http://www.hcp.med.harvard.edu/wmh/college_student_survey.php

Materials and methods

Sample

The Puertas Project, conducted in six Mexican universities, included 4 189 male and female incoming first-year students with completed surveys. This was a census design in which all incoming students for the 2016-2017 academic year were invited to participate in a web-based self-report survey. Universities were chosen based on their interest in early detection of mental health problems. The following six universities of four different states in Mexico participated: *Universidad Autónoma de Aguascalientes, Universidad Politécnica de Aguascalientes, Universidad De La Salle Bajío campus Campestre, Universidad De La Salle Bajío campus Salamanca, Universidad La Salle Noroeste,* and *Universidad La Salle Pachuca.* The first two are public, and the latter four are private.

Instrument

The instrument was developed for the WHO-WMH-ICS and contains questions based on previously utilized and validated scales with skip logic so that affirmative answers are further probed. The section on self-harm measures broad suicidal ideation, plans, attempts and non-suicidal self-injury with the items of the Self-injurious Thoughts and Behaviors Interview (SITBI) [22] and the Columbia-Suicide Severity Rating Scale (C-SSRS),[23] which consist of 22 and 5 items, respectively, and are well-documented in the international literature. Broad suicidal ideation refers to both thoughts of killing oneself and the wish to be dead or to go to sleep and never wake up. A suicide plan refers to having thoughts about the method of how to kill oneself and an attempt refers to purposefully hurting oneself with at least some intent to die. Non-suicidal self-injury refers to deliberately hurting oneself without the intent to die. The mental disorders section is a screening for probable cases and evaluates symptoms of major depressive episodes, broadly defined mania, generalized anxiety disorder, attention deficit hyperactivity disorder (ADHD), and substance use disorders. These disorders were chosen because they have been shown to be among the most frequent among the general population of Mexican adolescents and young adults.[13,20] These symptoms are evaluated for lifetime presence as well as in the prior 12-months, with the exception of ADHD, for which symptoms in the prior six months are evaluated. These screening questions are derived from a self-report version of the Composite International Diagnostic Interview (WMH-CIDI).[24] The WMH-CIDI has shown adequate concordance with clinician-administered interviews with the SCID[25] and it has been widely used in Mexico,[20,26] following a rigorous process of translation and adaptation.[27] The socio-demographic variables reported in this article include: gender (self-identification as male, female or other), age, public versus private university, parental education (classified by the highest level of education obtained by the parent with more education), parents' marital status (classified as both married and alive versus not married or deceased), current living situation (classified as living with parents or family, with roommates, or on one's own), religion (Catholic/Christian, other or none), sexual orientation (non-heterosexual [gay, lesbian, bisexual, asexual, not sure] versus heterosexual) and working in addition to studying for any number of hours per week. Service use was measured by a series of questions which asked about current, 12-month and lifetime treatment for an emotional or substance problem, whether the treatment was psychological counseling or medication, and willingness to seek services within and outside their university should they, during the coming school year, develop an emotional problem that would cause them a lot of distress or interference with school work (dichotomized into definitely/probably would go versus might or might not/probably not/ or definitely would not go).

Procedures

While overall procedures were similar across universities, recruitment varied by university. At Universidad Autónoma de Aguascalientes, the survey was administered during the "health week" for new students, in which students were administered other general health questionnaires. They were given the survey link, a tablet, and the space and time to respond to the survey. At *Universidad Politécnica de Aguascalientes,* all first-year students take a class on personal and professional development, and they were invited to participate and given the link by their tutors as well as time to answer during class. Their tutors later gave reminders to their tutees. At *Universidad De La Salle Bajío,* Salamanca and Campestre campuses, all first-year students were invited and given the link as well as time and space to participate during teacher evaluations at the end of the semester. At *Universidad La Salle Pachuca,* all first-year students were invited and given the link during a personal development class. The faculty of that course later gave reminders to their students. Finally, at *Universidad La Salle Noroeste,* all first-year students were invited and given the link and time and space to participate during a technology tools class. The overall response rate (the number of students with completed surveys/ the num-

ber of total incoming first-year students as reported by each university) was 79.3%, varying from 44.2 to 90.8% in individual universities.

Ethical considerations

The Research Ethics Committee of the National Institute of Psychiatry approved the research protocol. Participation was confidential and voluntary. Informed consent was obtained from participants through the web platform. Only students aged 18 or above were eligible to participate. For all the participants who answered affirmatively to depressive symptomatology, alcohol or drug problems, STB or non-suicidal self-injury and those experiencing an extremely stressful event in the prior year, an automatic message was displayed providing them information of where they could obtain professional help. University-based, community-based and online options were provided.

Statistical analyses

Based on the age and sex distributions of the incoming students provided by each university, sample weights were calculated to ensure that the sample was representative of the total incoming student class. Thus, estimated proportions were weighted to adjust for differential responses by age and sex within each university. Prevalence estimates are reported as unweighted numbers (n), weighted proportions (%), and standard errors (SE). Chi square analysis was performed to evaluate differences in the prevalence between men and women. Associations between socio-demographic correlates and psychopathology were estimated with multivariate logistic regression equations. Analyses were conducted with Stata software.‡

Results

Table I shows the unweighted and weighted sociodemographic distribution of the sample. Roughly half were female (48.8%), almost 80% were 18 or 19 years old, a quarter were from private universities, more than 80% lived with their parents or family, more than three quarters had parents who are currently married and alive, and more than half (55.1%) have parents with some college or postgraduate education. Roughly a fifth of the students are or will be working as well as study-

‡ Stata/SE 13 for Windows [Software]. Texas, EU: StataCorp LP.

Table I
WEIGHTED AND UNWEIGHTED SAMPLE CHARACTERISTICS, PUERTAS BASELINE 2016, N=4 189

		Unweighted	*Weighted*
	*n**	%	%
Gender			
Male	2 135	50.9	51.1
Female	2 055	49.0	48.8
Other	8	0.2	0.2
Age			
18	2 548	60.7	57.3
19	884	21.1	21.6
20	335	8.0	10.7
21	168	4.0	4.1
22	112	2.7	2.7
23+	152	3.6	3.6
University			
U. Autónoma de Aguascalientes	2 419	57.6	57.6
U. Politécnica de Aguascalientes	621	14.8	14.8
U. De La Salle Bajío, Campus Campestre	758	18.1	18.1
U. De La Salle Bajío, Campus Salamanca	113	2.7	2.7
U. La Salle Noroeste	194	4.6	4.6
U. La Salle Pachuca	94	2.2	2.2
University type			
Private	1 022	24.3	24.3
Public	3 177	75.7	75.7
Highest parental education			
Less than high school	792	19.1	19.2
High School	1 072	25.8	25.7
College or postgraduate	2 292	55.2	55.1
Current living situation			
With parents/family	3 359	81.1	81.2
With roommates	546	13.2	13.0
Other	238	5.7	5.8
Marital status of parents			
Married and alive	3 100	76.2	76.2
Not married or deceased	968	23.8	23.8
Religion			
Catholic/Christian	3 410	82.2	82.3
None	613	14.8	14.7
Other	128	3.1	3.0
Non-heterosexual orientation	374	9.1	9.1
Works in addition to studying	886	21.4	21.1

* There are missing data for some variables, so that the ns for all variables do not always add up to 4 189

ing. More than 80% self-identify as Catholic/Christian, and 9.1% as having a non-heterosexual orientation.

The 12-month and lifetime prevalence of probable psychiatric disorders by gender are presented in table II. Almost 30% of students screened positive for any probable disorder in the 12 months prior to the survey and 32.5% during their lifetime. The most common were attention deficit/hyperactivity disorder, followed by depression and generalized anxiety. Gender differences were found for all disorders except mania and ADHD. Women had a higher proportion of positive screens for any probable mental disorder and a larger number of disorders, depression and generalized anxiety, whereas men had a higher proportion of positive screens for probable alcohol dependence and drug abuse/dependence.

Table III shows the 12-month and lifetime prevalence of STB and non-suicidal self-injury by gender. 27.8% of students reported self-injurious thoughts and/or behaviors sometime in their life, and 12.2% in the previous 12 months. Broad suicidal ideation was reported most frequently, followed by non-suicidal self-injury, suicide plan, and, lastly, a suicide attempt. 3.5% had a suicide attempt during their lifetime, and 0.7% in the previous 12-months. Women had a higher proportion of lifetime and 12-month self-injurious thoughts and behaviors than men, except for a suicide attempt in the previous 12 months.

In table IV, we present treatment use among the total sample and among those with any probable mental disorder. One in every five students has received treatment for a mental health or substance use condition at some point in their life, primarily psychological therapy (18.8%) rather than pharmacological treatment (3.5%). Only 6.7% have received treatment in the previous 12 months, and 2.0% are currently in treatment. Treatment is substantially greater among those with a probable mental disorder, with 32.7% of those with a lifetime disorder receiving treatment at any point during their lifetime. 64.7% of students would definitely or probably use services offered at their university; a lower

Table II
12-month and lifetime psychopathology by gender, PUERTAS Baseline 2016

	All			*Men*			*Women*			χ^2	*p*
	n	%	*SE*	*n*	%	*SE*	*n*	%	*SE*		
12-month prevalence											
Depression	446	10.7	0.5	156	7.2	0.6	290	14.3	0.9	46.0	0.000
Broad mania	149	3.5	0.3	67	3.1	0.4	82	4.0	0.5	2.3	0.126
Generalized anxiety	431	10.4	0.5	140	6.6	0.6	291	14.4	0.9	56.6	0.000
ADH/D*	572	13.6	0.6	292	13.6	0.8	280	13.6	0.8	0.0	0.946
Alcohol dependence	276	6.8	0.4	182	8.7	0.7	94	4.8	0.5	21.5	0.000
Drug abuse/dependence	62	1.5	0.2	40	1.9	0.3	22	1.0	0.2	5.7	0.017
Any disorder	1 230	29.6	0.8	592	28.0	1.0	638	31.4	1.1	5.0	0.025
One disorder	755	18.1	0.6	398	18.9	0.9	357	17.4	0.9	1.4	0.242
Two disorders	302	7.5	0.5	126	6.0	0.5	176	9.0	0.8	10.4	0.001
Three or more disorders	173	4.0	0.3	68	3.1	0.4	105	5.0	0.5	9.4	0.002
Lifetime prevalence											
Depression	525	12.6	0.6	189	8.8	0.6	336	16.5	0.9	48.3	0.000
Broad mania	166	3.9	0.3	75	3.5	0.4	91	4.4	0.5	2.2	0.136
Generalized anxiety	481	11.7	0.5	156	7.6	0.6	325	15.9	0.9	58.6	0.000
ADH/D*	572	13.6	0.6	292	13.6	0.8	280	13.6	0.8	0.0	0.946
Alcohol dependence	325	8.0	0.5	218	10.5	0.7	107	5.4	0.5	32.3	0.000
Drug abuse/dependence	116	2.8	0.3	79	3.8	0.4	37	1.7	0.3	15.6	0.000
Any disorder	1 347	32.5	0.8	657	31.1	1	690	33.9	1.1	3.3	0.067
One disorder	789	18.9	0.6	423	19.8	0.9	366	18.0	0.9	2.1	0.146
Two disorders	348	8.7	0.5	147	7.2	0.6	201	10.2	0.8	8.7	0.003
Three or more disorders	210	4.9	0.3	87	4.0	0.4	123	5.8	0.5	6.7	0.010

*6-month prevalence
Note: n's are unweighted; %'s are weighted

Table III
12-MONTH AND LIFETIME SUICIDAL AND NON-SUICIDAL SELF-HARM BY GENDER, PUERTAS BASELINE 2016

	All			*Men*			*Women*			χ^2	*p*
	n	%	*SE*	*n*	%	*SE*	*n*	%	*SE*		
12-month prevalence											
Suicidal ideation (broad)	415	9.7	0.5	170	7.9	0.6	245	11.7	0.7	16.5	0.000
Suicide plan	168	3.9	0.3	73	3.3	0.4	95	4.6	0.5	4.2	0.041
Suicide attempt	32	0.7	0.1	13	0.6	0.2	19	0.9	0.2	1.4	0.230
Non-suicidal self-injury	225	5.3	0.4	92	4.2	0.4	133	6.4	0.6	9.3	0.002
Any self-harm thoughts or behaviors	522	12.2	0.5	220	10.2	0.7	302	14.3	0.8	15.9	0.000
Lifetime prevalence											
Suicidal ideation (broad)	975	23.0	0.7	391	18.0	0.8	584	28.2	1.0	56.8	0.000
Suicide plan	389	9.3	0.5	152	7.0	0.6	237	11.8	0.8	24.1	0.000
Suicide attempt	149	3.5	0.3	41	1.9	0.3	108	5.3	0.5	34.5	0.000
Non-suicidal self-injury	572	13.3	0.5	222	10.2	0.7	350	16.6	0.8	35.9	0.000
Any self-harm thoughts or behaviors	1 184	27.8	0.7	488	22.5	0.9	696	33.4	1.1	57.1	0.000

Note: n's are unweighted; %'s are weighted

Table IV
TREATMENT IN THE TOTAL SAMPLE AND AMONG THOSE WITH A PROBABLE MENTAL HEALTH CONDITION BY GENDER, PUERTAS BASELINE 2016

	All			*Men*			*Women*			χ^2	*p*
	n	%	*SE*	*n*	%	*SE*	*n*	%	*SE*		
Total sample											
Currently in treatment	82	2.0	0.2	37	1.8	0.3	45	2.2	0.3	0.9	0.338
12-month treatment	266	6.7	0.4	111	5.5	0.5	155	7.8	0.7	6.9	0.009
Lifetime treatment	794	19.5	0.7	363	17.6	0.9	431	21.5	1.0	8.3	0.004
Lifetime psychological treatment	765	18.8	0.7	347	16.8	0.9	418	20.8	1.0	9.1	0.003
Lifetime pharmacological treatment	150	3.5	0.3	78	3.6	0.4	72	3.4	0.4	0.1	0.712
Would probably go to a university-based treatment if had a problem	2 697	64.7	0.80	1330	63.2	1.1	1367	66.3	1.1	3.9	0.047
Would probably go to treatment outside of the university if had a problem	1 982	55.9	0.9	972	51.5	1.3	1110	59.9	1.3	22.6	0.000
Among those with any LT mental disorder											
Lifetime treatment	434	32.7	1.4	182	28.4	1.9	252	36.7	2	9.0	0.003
Lifetime psychological treatment	417	31.3	1.4	173	26.9	1.8	244	35.6	2	10.1	0.002
Lifetime pharmacological treatment	110	8.0	0.8	57	8.7	1.1	53	7.4	1.0	0.7	0.389
Would probably go to a university-based treatment if had a problem	802	59.6	1.5	377	58.5	2	425	60.7	2.1	0.6	0.456
Would probably go to treatment outside of the university if had a problem	616	53.3	1.60	265	49.2	2.3	351	56.9	2.2	6.0	0.014

Note: %'s are unweighted; %'s are weighted

proportion (55.9%) would definitely or probably go to treatment outside of the university if they had a problem that they felt required attention.

The results of four multiple logistic regression equations to estimate the association of socio-demographic characteristics with any lifetime and 12-month probable mental health disorder and any lifetime and 12-month suicidal thoughts or self-harm behaviors are shown in table V. Being female, a student aged more than 19 years, having parents not married or deceased,

Table V

Socio-demographic correlates of mental health problems, PUERTAS Baseline 2016

	Any lifetime disorder			*Any lifetime suicidal thought or self-harm behavior*			*Any 12-month disorder*			*Any 12-month suicidal thought or self-harm behavior*		
	aOR	*95%CI*	*p*	*aOR*	*95%CI*	*p*	*aOR*	*95%CI*	*p*	*aOR*	*95%CI*	*p*
Female	1.21	1.04-1.40	0.012	1.82	1.57-2.12	0.000	1.42	1.21-1.67	0.000	1.54	1.26-1.88	0.000
Aged 20+ (vs. 18-19)	1.32	1.09-1.61	0.005	0.98	0.80-1.21	0.875	1.32	1.06-1.63	0.012	0.90	0.69-1.17	0.427
Private university (vs. Public)	0.68	0.57-0.81	0.000	0.96	0.81-1.16	0.696	0.72	0.60-0.87	0.001	1.04	0.81-1.32	0.777
Parental education												
Less than high school	1.00	REF		1.00	REF		1.00	REF		1.00	REF	
High school	0.98	0.83-1.17	0.832	0.85	0.71-1.02	0.076	0.96	0.80-1.16	0.698	0.99	0.78-1.25	0.913
College or post-graduate	0.75	0.62-0.92	0.005	0.89	0.73-1.08	0.235	0.68	0.55-0.85	0.001	0.9	0.68-1.18	0.446
Parents not married/deceased	1.18	1.00-1.40	0.047	1.33	1.13-1.58	0.001	1.13	0.94-1.4	0.185	1.29	1.04-1.62	0.024
Current living situation												
With parents/family	1.00	REF		1.00	REF		1.00	REF		1.00	REF	
With roommates	0.98	0.79-1.21	0.825	0.94	0.75-1.18	0.593	0.97	0.77-1.23	0.807	1.03	0.76-1-39	0.847
Other	0.86	0.62-1.19	0.350	0.84	0.59-1.18	0.304	0.69	0.47-1.00	0.054	0.45	0.25-0.81	0.007
Non-heterosexual orientation	1.67	1.32-2.10	0.000	1.92	1.51-2.43	0.000	1.79	1.40-2.30	0.000	1.79	1.34-2.39	0.000
Religion												
Catholic/Christian	1.00	REF		1.00	REF		1.00	REF		1.00	REF	
Other	1.94	1.61-2.34	0.000	1.97	1.62-2.39	0.000	1.8	1.46-2.21	0.000	2.22	1.74-2.82	0.000
None	1.99	1.31-3.01	0.001	1.67	1.11-2.50	0.014	1.6	1.04-2.46	0.031	2.16	1.33-3.49	0.002
Works in addition to studying	1.09	0.92-1.29	0.333	0.97	0.81-1.16	0.73	1.04	0.86-1.26	0.699	1.08	0.85-1.40	0.506
$\chi 2$	124.6			155			108.6			98.86		
p	<0.001			<0.001			<0.001			<0.001		

REF= Reference category

a non-heterosexual orientation and no religion or a religion other than Catholic/Christian was positively associated with any lifetime and 12-month probable disorder, with odds ratios between 1.18 and 1.99. On the other hand, attending a private university and having a parent with some college or post-graduate education was associated with lower odds of having any lifetime or 12-month probable disorder, with odds ratios between 0.68 and 0.75. With regard to any lifetime or 12-month suicidal thought or harm behavior, being female, having parents not married or deceased, a non-heterosexual orientation and no religion or a religion other than Catholic/Christian had higher odds, whereas having some "other" current living situation was associated with lower odds of any lifetime suicidal thoughts or self-harm behaviors.

Discussion

Problems faced by incoming university students

The results of this study show that almost one in three incoming first year students arrives at university having experienced some type of emotional, substance-related or behavioral problem in the past. While most of these students have experienced only one probable mental disorder, a small group has experienced two (8.7%) or even three or more (4.9%) probable disorders. Furthermore, many have experienced self-harm, thus putting their lives at risk. While a greater proportion has had suicidal ideation (23.0%), a smaller proportion has attempted suicide (3.5%). These estimates are

remarkably similar to the 22.3% and 3.2% reported for suicidal ideation and attempt in a recent meta-analysis of university students from North America, Asia, Europe and Africa, though no study from Latin America was included.[28] In regard to previous studies of university students in Mexico, González-Macip and colleagues[29] reported an estimated 18.9% with suicidal ideation (an estimate slightly lower than ours, though perhaps using a less broad definition of ideation), while Unikel and colleagues cited 10% of a small non representative sample of female university and high school students. [30] These estimates are all much lower than the 47% with suicidal ideation and 9% with an attempt cited in a representative study of high school students in Mexico, indicating perhaps that many high school students with suicidality may not go on to college.[31] Few studies have reported the prevalence of psychopathology in Mexican university students; according to one of these, 36% of medical students reported depressive symptomatology.[32] Strunin and colleagues[33] found changes in alcohol use (both increases and decreases) among incoming first-year university students in Mexico City. Decreases among previously excessive or heavy drinkers were related to new obligations and lack of time as well as friendship changes. Increased drinking behaviors among previously occasional and regular drinkers were related to increased autonomy and changes in friendships.

Who are the distressed students?

Females screened positive for more disorders, suicidal thoughts and self-harm behaviors, and most types of disorders, with the exception of ADHD and mania, for which there were no sex differences, and substance disorders, which were more prevalent among male students. This is consistent with prior studies on sex differences for specific disorders.[20-21]

Older students were found to have greater odds of psychopathology (though not suicidal thoughts or self-harm behaviors). The fact that psychopathology is more frequent among older students might be explained by mental disorders influencing their delay in obtaining university admission or entrance, though this is speculative and cannot be determined from this study due to its cross-sectional nature. Regardless of the cause, these results suggest that older students might be a target for intervention, or at the very least for screening, during the transition to college.

Family characteristics were important correlates of psychopathology and suicidal thoughts and self-harm behaviors, particularly the educational level and marital status of parents; thus, students of college-educated parents had lower odds, while students of not married or deceased parents had higher odds. Prior research has found that first-generation university students may have greater difficulty adjusting to college, resulting in increased depressive symptoms and reduced well-being.[34] This might be due to both family achievement guilt and socio-economic factors. Similarly, the impact of parental separation and death are likely to involve both socio-emotional and socioeconomic aspects.[35,36]

Consistent with our findings in Mexican university students, a systematic review of mental disorders, suicide and deliberate self-harm in sexual minorities, reported a two-fold risk of suicide ideation and attempts, and a 1.5 risk for depression and anxiety disorders and substance dependence in non-heterosexual individuals in comparison with heterosexuals.[37] This greater risk is likely due to the impact of discrimination, victimization, social stress and internalized homophobia on emotional wellbeing.[38]

Religion has been found to protect against suicidal behavior, though the evidence is inconsistent and often depends upon different dimensions of religion, such as affiliation, practice, and spirituality. A recent systematic review has found that religious affiliation (which is what we included in this study) does not necessarily protect against ideation; however, it does protect against attempt, and this protection against attempt is dependent upon culturally specific implications of affiliating with a particular religion.[39] In this study we found that having no religious affiliation or a non-Catholic/Christian affiliation was associated to increased risk of both suicidal behavior and overall psychopathology, which could be due to the social support provided by having a religious affiliation and/or to the Catholic religion´s teachings on suicide.

While both public and private universities must contend with similar rates of suicidal behavior, these findings suggest that the students of the public universities that participated in this study had greater risk for probable mental disorders than those from the participating private universities. It is not possible to determine whether this is due to the characteristics of the specific universities in this study or is generalizable to all public and private universities, as the participating universities were not randomly selected. Important differences between the public and private universities which participated in this study include size, whether the universities were religious or not, and their geographic location, all of which could account for these differences.

Treatment possibilities for university students

Because psychopathology, substance abuse and suicidal thoughts and self-harm behaviors are likely to influence students´ transition to university and academic success, and because university students are accessible and contained, detection, referral and treatment of students upon entry to university is important and feasible. While almost 70% of students with a probable lifetime disorder have not received any lifetime treatment, a majority of students state that they would be willing to seek treatment on campus for university-based services and, to a lesser extent, off campus. Not all universities provide such services for their students. Some of our universities that don´t have mental health services have tutoring programs that can serve as a gateway for detecting and referring students. A study of university undergraduates in a Canadian university found three groups of student preferences for services: a group (45.5%) that preferred university-based psychological or psychiatric professional services, a group that preferred alternative services (39.3%) such as peer counseling or e-mental health options, and a small hesitant group (15.2%) that would prefer not to seek help even though clearly distressed.[40] Interestingly, in our study, the proportion of students with probable 12-month disorders who have received services is lower than the proportion of students who say they would seek services if they had a mental health problem. This may be due to students not recognizing that they have a problem, not knowing where to find services, the lack of services or barriers to service use.

Limitations

Certain limitations should be considered. Prevalence estimates are based on a self-report web-based survey rather than a comprehensive clinical diagnostic interview and therefore should be considered a screening of possible cases rather than a confirmed diagnosis. Furthermore, while we utilized internationally used and validated scales, we do not have data on the validity for Mexican youth specifically. While the overall participant response rate was quite good (compared to the 44% response rate of an online survey of college students in 26 universities of the United States),[41] and the universities included were both public and private, located in four different states, they were not randomly selected and therefore the study participants are not representative of all university students in Mexico. Finally, because this is a cross-sectional survey, disorder correlates are associations for which no causality or directionality can be attributed.

Conclusions

This report provides the first Mexico-specific data of the Puertas Project, aimed to understand the mental health status and service needs of incoming first-year university students, and serves as a baseline for future prospective analyses. The current results show that there is substantial unmet need for mental health services among Mexican university students and that these students are similarly if not more willing to use mental health services provided in their university than off campus when these services are available. This suggests an opportunity for the detection, referral and treatment of incoming university students through student services that may reduce the barriers to service use. Further research should examine the potential for both standard professional mental health services on campus and other alternatives, like e-mental health services, to meet this need in a way that is cost effective for universities and desirable to students. The Puertas Project will provide such information in the future.

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