12-MONTH PREVALENCE AND TREATMENT OF MENTAL DISORDERS IN LEBANON:

A National Epidemiologic Survey

Elie G. Karam[a,b,c], **Zeina N. Mneimneh**[c], **Aimee N. Karam**[a,b,c], **John A. Fayyad**[a,b,c], **Soumana C. Nasser**[c,d], **Somnath Chatterji**[e], and **Ronald C. Kessler**[f]

[a]*Department of Psychiatry and Clinical Psychology, St George Hospital University Medical Center, Beirut, Lebanon.* [b]*Department of Psychiatry and Clinical Psychology, Faculty of Medicine, Balamand University Medical School, Beirut, Lebanon.* [c]*Institute for Development Research and Applied Care (IDRAC), Beirut, Lebanon.* [d]*School of Pharmacy, Lebanese American University, Byblos, Lebanon.* [e]*World Health Organization (WHO), Geneva, Switzerland.* [f]*Department of Health Care Policy, Harvard Medical School, Boston, USA.*

SUMMARY

Background: Mental disorders are thought to account for a significant portion of disease burden throughout the world. However, no national studies have been conducted to assess this assumption in the Arab world.

Methods: As part of the World Health Organization (WHO) World Mental Health (WMH) Survey Initiative, a nationally representative psychiatric epidemiological survey of n = 2857 adults (ages 18 +) was carried out in Lebanon (the Lebanese Evaluation of the Burden of Ailments and Needs Of the Nation: LEBANON). Twelve-month prevalence and severity of DSM-IV disorders and treatment were assessed with the WHO Composite International Diagnostic Interview (CIDI, Version 3.0). Information was also obtained about socio-demographics and exposure to traumatic events in the Lebanon wars.

Findings: One-sixth (17.0%) of respondents met criteria for at least one 12-month DSM-IV/CIDI disorder, 27.0% of whom were classified serious and an additional 36.0% moderate. Nearly half of respondents had a history of exposure to war-related traumatic events. Significantly elevated odd-ratios (OR) of mood, anxiety and impulse-control disorders were associated with two (OR = 2.0-3.6)

or more (OR = 2.2-9.1) war-related traumatic events, resulting in substantially higher proportions of moderate or severe 12-month mental disorders among respondents exposed to multiple war-related traumata (16.8-20.4%) than other respondents (3.3-3.5%). Only 10.9% of respondents with 12-month disorders obtained treatment. Two-thirds of treatment was provided in the general medical sector.

Interpretation: Mental disorders are common in Lebanon. Prevalence is similar to WMH surveys in Western Europe. Unmet need for treatment is considerably higher in Lebanon than in Western countries.

INTRODUCTION

Although mental disorders are thought to account for a high proportion of disease burden throughout the world, [1,2] most psychiatric epidemiologic surveys to evaluate this perception have been conducted in industrialized countries. [3-6] In the Arab world, psychiatric epidemiological surveys have focused either on single disorders, [7-9] communities exposed to war, [10] or small populations .[11,12] Although results strongly suggest that mental disorders are common, more representative data are needed.

The World Health Organization (WHO) World Mental Health (WMH) Survey Initiative [13] was launched in 2000 to collect such data in large-scale psychiatric epidemiological surveys. [14] Lebanon is the only Arab WMH country. The Lebanese survey, the Lebanese Evaluation of the Burden of Ailments and Needs Of the Nation (LEBANON), was carried out by the Institute for Development, Research and Applied Care (IDRAC) with the Department of Psychiatry and Clinical Psychology at Balamand University and St. Georges Hospital University Medical Center. The primary survey objective was to produce nationally representative data on prevalence, correlates and treatment of mental disorders in order to raise awareness of mental illness and to influence healthcare policy planning. The current report is the first independent presentation of LEBANON results. The focus is on 12-month prevalence, severity, and treatment.

METHODS

Sample

The LEBANON is based on a nationally representative multi-stage clustered area probability household sample of uninstitutionalized adults (ages 18+) who had no cognitive-physical impairments preventing participation. The response rate of 70.0 % varied by region (from 86.7%in the Bekaa region to 60.0% in Beirut). Comparison with population data shows the sample under-represents males (45.4% sample vs. 49.5% population) and people ages 18-29 (23.1% sample vs. 35.8% population). Weighting was used to adjust for these geographic-demographic discrepancies. Sampling was carried out in four stages with the goal of obtaining the 3000 interviews initially specified by WHO as the minimum needed to obtain sufficiently precise estimates for WMH participation, although we fell slightly short of this target and completed only 2857 interviews. The first stage selected a geographically stratified sample of 342 primary sampling units (PSUs), with probabilities proportional to estimated size. The second stage selected a probability sample of 10 households in each PSU. The third stage selected one random respondent in each sample household using the Kish method. [15] The fourth stage selected the spouse of married respondents in a random 10% of households to create a couples sub-sample for analysis of assortative mating. Informed consent was obtained before conducting interviews. These procedures were approved by the Balamand University Medical School Ethics committee.

Measures

Twelve-month diagnoses—The diagnostic instrument was the WHO Composite International Diagnostic Interview Version 3.0 (CIDI3.0), [16] a fully-structured lay-administered interview that generates both the ICD-10 and DSM-IV diagnostes. DSM-IV criteria are used here. The 12-month disorders considered include anxiety disorders, mood disorders, impulse-control disorders, and substance use disorders. Minor corrections to diagnostic algorithms were made subsequent to previously reported aggregate analyses, [14] leading to small differences in aggregate prevalence estimates. Assessment of childhood disorders (conduct disorder and attention-deficit/ hyperactivity disorder) was limited to respondents in the age range 18-44 based on concerns about recall bias among older respondents. As all but one impulse-control disorder (intermittent explosive disorder) were assessed only in this age group, prevalence of any impulse-control disorder was estimated in that age range, leading to a higher prevalence estimate than in a previous aggregate analysis (where prevalence was reported for the total sample). [14] DSM-IV organic exclusion rules and diagnostic hierarchy rules were used in making diagnoses other than substance use disorders, where abuse was defined with or without dependence in recognition of abuse often being a stage in the progression to dependence.

Blinded clinical reappraisal interviews with the Structured Clinical Interview for DSM-IV (SCID) in a US sample documented good concordance of CIDI 3.0 clinical diagnoses.[17] but validation of the Arabic version has not yet been carried out. Translation into Arabic was based on a five-step process of forward translation, back translation, resolution of discrepancies between translation and back translation, pilot testing, and final revision. The forward translation was done by a professional translator supported by twelve expert panel meetings with a three-person bilingual team that included a psychiatrist (EGK), a clinical psychologist (ANK), and an epidemiologist (ZM). Back translation was completed by a separate bilingual translator. Revision based of discrepancies between the translation and back translation was carried out by the expert panel followed by pilot testing in 40 households. Editing and debriefing sessions were used to discuss residual problems and to make final revisions.

Disorder severity—Twelve-month cases were classified with an ad hoc three-category severity rating. Cases were classified serious if they had any of the following: bipolar I disorder, substance dependence with a physiological dependence syndrome, 12-month suicide attempt, severe role impairment in at least two areas of role functioning assessed in the Sheehan Disability Scales (SDS), [18] or role functioning at a level consistent with a Global Assessment of Functioning [19] score of 50 or less. Cases not classified serious were classified moderate if they had either substance dependence without a physiological dependence syndrome or at least moderate role impairment in two or more SDS domains. Remaining cases were classified mild.

Socio-demographic correlates—Socio-demographic correlates include age, gender, education (none or only primary, complementary or some secondary, completed secondary without university degree, and university degree), marital status (married, previously married, never married), and family income. Family income was defined using standard international welfare economics methods, with household income divided by number of family members to create a measure of income-per-family-member (IPFM). IPFM was defined low if less than half the median, low-average if up to the median, high-average if up to two times the median, and high if greater than twice the median.

Exposure to war-related traumatic events—As noted in the introduction, previous research documented high prevalence of mental illness in Lebanese during times of war. In order to explore the long-term effects of war-related experience, the survey included questions about exposure to war-related traumatic events such as: being a combatant, a civilian in an area

of heavy fighting, displaced by the war and becoming a refugee, witnessing people being killed, seeing dead bodies, having a loved one die, and sustaining a life-threatening war-related injury.

Use of mental health services—All Part II respondents (see below) were asked whether they ever received treatment for "problems with your emotions or nerves or your use of alcohol or drugs." A list of treatment providers including both traditional healers and Westernized professionals, was presented as a visual recall aid. Follow-up questions asked about most recent treatment. Reports of 12-month treatment were classified into three categories: mental health specialist (psychiatrist, psychologist, other mental health professional), general medical (general medical doctor, nurse, other health professional not in a mental health setting), non-healthcare (religious or spiritual advisor, herbalists, fortune-teller or counsellor not in a mental health setting).

Minimally Adequate Treatment—Based on previous epidemiological evidence that mental health treatment often is superficial, a distinction was made between treatment that did versus did not meet established guidelines for minimally adequate care, defined as either making four or more visits to any type of professional for emotional or substance problems, making two or three visits and receiving medication, or having recently started treatment and still being in treatment. [20]

Interviews

The survey was carried out between September 2002 and September 2003. Interviews were administered face-to-face in two parts. Part I included a core diagnostic assessment administered to all respondents (n = 2857). Part II included an assessment of correlates of disorders. Part II was administered to all Part I respondents who met lifetime criteria for any Part I disorder plus a probability sub-sample of other respondents (n = 1031). Part I was weighted for differential probability of selection within households and residual discrepancies with government population data on socio-demographic and geographic variables.[21] Part II was additionally weighted for differential probability of selection from the Part I sample.

Interviewer training

Interviewer training took place in 14 separate regional training sessions, each lasting six days, conducted by two CIDI trainers. Training covered general interviewing techniques; procedures to list and enumerate households and select respondents; interview administration and post-interview editing. All training sessions included a test consisting of a mock interview, a scripted interview with a trainer, and pilot interviews. The 116 trainees with the highest test scores among the 305 trained were selected as interviewers.

Analysis methods—Prevalence and severity were estimated by calculating means. Socio-demographic correlates were examined using logistic regression, with coefficients exponentiated and interpreted as odds-ratios (ORs). The OR approximates the relative-risk at low prevalence of the outcome. [22] Precision of estimates was evaluated using the Taylor series linearization method in the SUDAAN software system to adjust for weighting and clustering. Design effects were in the range 1.9 (substance use disorders) to 5.3 (any disorder) for total-sample prevalence estimates and were smaller for sub-sample estimates and higher-order statistics. Multivariate significance was evaluated with Wald χ^2 tests using Taylor series design-based coefficient variance – covariance matrices. Statistical significance was evaluated using two-sided design-based .05-level tests.

Role of the funding source

Funders played no role in analysis or interpretation of results.

RESULTS

Prevalence and severity of disorders

One-sixth (17.0%) of respondents met criteria for a 12-month DSM-IV disorder, the most common being specific phobia (8.2%) and major depression (4.9%). (Table 1) One-quarter (27.0%) of cases were classified serious (4.6% of the population), 36.0% moderate (6.1%) and 37.0% mild (6.3%). Anxiety disorders were more prevalent (11.2%) than mood (6.6%), impulse-control (2.2%), or substance use (1.3 %) disorders. The proportion of anxiety disorders classified serious (19.7%) was much lower than for mood (54.9%), impulse-control (50.4%), or substance use (32.8%) disorders. Mood disorders accounted for the highest number of serious cases (3.6%) followed by anxiety (2.2%), impulse-control (1.1%), and substance use (0.4%) disorders.

Socio-demographic correlates

Socio-demographic correlates of mood and anxiety disorders include being female, middle-aged (only mood disorders), and never married. (Table 2) ORs were substantively modest (1.9-2.8) with the exception of the high OR of anxiety disorders among women (7.0). Socio-demographic correlates of substance use disorders were stronger, including highly ORs among young (18-34) respondents (14.5) and among never married respondents (6.4).

War-related traumatic events

Six war-related traumata were significantly related to at least one disorder: being a refugee for some part of the war (reported by 37.7% of respondents), witnessing either a dead body or someone being killed or seriously injured (18.0%), losing a loved one in the war (10.2%), being a civilian in an area of terror (8.6%), sustaining a life-threatening injury in the war (3.1%), and being directly exposed to explosions or toxic fumes (0.9%). Nearly half of all respondents (49.0%) reported at least one of these events, including 28.8% with exactly one, 13.5% two, and 6.8% more than two.

As the ORs did not differ significantly across traumata in predicting most disorders, they were combined to stabilize estimates. A statistically significant dose-response relationship was found between number of traumata and mood ($X^2_3 = 26.1$, $p < .001$), anxiety ($X^2_3 = 8.8$, $p = .032$), and impulse-control ($X^2_3 = 17.5$, $p = .001$), but not substance use ($X^2_3 = 3.7$, $p = .30$) disorders. (Table 3) Significantly elevated risk was confined to respondents who experienced two (2.0-3.6) or more (2.2-9.1) traumata. The disorder severity distribution reflects these effects, with 20.4% of respondents exposed to three or more war-related traumata meeting criteria for a serious (12.3%) or moderate (8.1%) 12-month disorder compared to 16.8% (7.9% serious, 8.9% moderate) of respondents exposed to two traumata, 8.2% (3.3% serious, 4.9% moderate) among respondents exposed to one, and 9.3% (3.5% serious, 5.8% moderate) among respondents exposed to none. (Table 4)

Use of services

Twelve-month treatment of emotional or substance problems was reported by 4.4% of respondents, including 10.9% of those with a DSM-IV/CIDI disorder and 3.1% of others. (Table 5) Treatment was more common for mood (19.3%), than anxiety (6.5%) disorders, while respondents with impulse-control and substance use disorders were too few to estimate treatment proportions. Two-thirds of patients (2.9% of the population) were seen in the general medical sector, with much smaller numbers treated in the mental health specialty (1.0%) or the non-healthcare (0.8%) sectors. Severe-moderate cases were more likely to be treated (14.0%) than mild cases (4.8%). Eighty percent (80.2%) of healthcare treatment was rated at least minimally adequate using the guidelines described in the section on measures. Treatment was

significantly more common among women than men, positively related to family income, and significantly but non-monotonically related to education. (Table 6)

DISCUSSION

The results of the LEBANON have to be interpreted in light of three limitations. First, a tradition of public opinion research does not exist in Lebanon. Declarations of anonymity and confidentiality consequently might have had less persuasive power in motivating complete reporting than in more developed countries. Second, CIDI 3.0 has not yet been validated in Lebanon, although the earlier CIDI 1.1, [23] was validated in a clinical sample. Third, the response rate (70.0%) could have introduced downward bias, as methodological studies find that lower response rates are often associated with systematic under-representation mental illness. [24] Based on these considerations, prevalence estimates are likely to be on lower bounds on true prevalence.

Within the context of these limitations, the prevalence estimates reported here are similar to those in Western European WMH surveys.[25] These estimates are high enough to place mental disorders among the most commonly occurring health problems in the population of Lebanon. It is noteworthy that the commonly occurring anxiety, mood, and substance use disorders with the lowest proportions classified serious are all consistent with clinical experience – specific phobia being the least severe anxiety disorder, dysthymia the least severe mood disorder, and alcohol abuse the least severe substance use disorder. Other patterns, though, are more difficult to understand, such as the low proportion of OCD cases classified serious and the high proportion of social phobia cases classified serious. While it is beyond the scope of a first report to investigate these specifications, this needs to be done in future analyses.

The only previous comparable community survey in the Arab World [12] was based on a single city in the United Arab Emirates and reported only lifetime prevalence estimates using ICD-10 criteria. Inferring from a small (n = 245) follow up of that survey using SCID diagnoses, 12-month prevalence of any DSM-III-R/SCID disorder was 5.9%. A prospective wartime study in four Lebanese communities found a lifetime prevalence of 27.8% for major depression[10] with subsequent extremely high 12-month prevalence of major depression (41.5%) in two Beirut neighbourhoods (after an intense conflict), but this fell to a period prevalence of 14.4% in the first four years following cessation of armed conflict. No other psychiatric epidemiological studies from the Arab World lend themselves to comparisons. Given that Lebanon has enjoyed peace in most parts of the country since the early 1990's, it is not surprising that our prevalence estimates are lower than in the previous Lebanese surveys, which were carried out during and shortly after the war. However, it is striking that we found significant residual associations between retrospectively reported war-related trauma and 12-month mental disorders even after more than a decade of peace.

The finding that anxiety and mood disorders are more prevalent among women than men is consistent with much previous research, [17,25] but failure to find gender differences in impulse-control or substance disorders is quite atypical. [17] The comparatively low prevalence estimates of both impulse-control and substance disorders raise the question whether males might have had a high rate of under-reporting these disorders. Follow-up clinical reappraisal interviews are planned to investigate this possibility. Another notable non-finding is the absence of the typically found inverse association between socio-economic status (SES) and the mental disorders. [26] The absence of this association might mean that advantaged socio-economic position was incapable of protecting people from exposure to the enormous stresses visited on the Lebanese population due to war and internal sectarian strife At the same time, we replicated the commonly found inverse relationship between age and mental disorder and the widely documented finding that never married people have a higher prevalence of mental disorders

than the married [27, 28] While SES is unrelated to prevalence, it is importantly related to treatment, a finding consistent with research in other countries [29].

The proportion of cases in treatment was found to be much lower than in industrialized countries.[29,30] This is not due, though, to lack of physician resources, as the 274 physicians per 100,000 population in Lebanon is both the highest in the Arab World and comparable to some European countries. This presumably accounts for the majority of treatment being in the healthcare sector. Although we have not yet examined survey information on reasons for failing to seek treatment, financial constraints are likely important, as no private insurance exists for mental disorders in Lebanon. Expansion of insurance is likely to be needed to address the problem of unmet need for treatment. Although the extended family plays an important role in supporting patients, we suspect that taboos as well as lack of awareness are additional barriers against seeking treatment. An encouraging finding is that over 80% of health care treatment of mental disorders was classified as at least minimally adequate using Western guidelines. This compares quite favourably with developed countries. Although questions could be raised whether the same guidelines are appropriate for the Arab world, no body of empirical research exists on the relationship between treatment intensity and clinical outcome among Arab patients.

Future research is needed to make evidence-based assessments of treatment response to develop treatment standards for the Arab world. Future research is also needed to replicate the LEBANON in other Arab countries both to shed light on the problems of mental disorders and to facilitate exchange of expert opinion. Results will facilitate increased awareness about mental disorders and their impact and will allow policy-makers to make valid inferences about the societal burden of mental disorders and unmet need for treatment.

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Table 1

12 month Prevalence and Severity* of DSM-IV Disorders**

| | Prevalence | | | Conditional Prevalence[a] | | | | | | | | |
| | | | | Serious | | | Moderate | | | Mild | | |
	%	(se)[b]	(n)[c]	%	(se)[b]	(n)[c]	%	(se)[b]	(n)[c]	%	(se)[b]	(n)[c]
Anxiety Disorder												
Panic disorder	0.2	(0.1)	8	79.4	(14.4)	6	0.0	(0.0)	0	20.6	(14.4)	2
Generalized anxiety disorder	1.3	(0.3)	37	24.4	(9.5)	8	54.5	(10.4)	19	21.1	(8.6)	10
Specific phobia	8.2	(1.0)	119	18.4	(4.9)	30	39.2	(7.0)	41	42.4	(8.0)	48
Social phobia	1.1	(0.4)	21	63.9	(15.1)	12	29.7	(12.4)	7	6.4	(6.3)	2
Agoraphobia without panic	0.3	(0.1)	6	45.7	(24.3)	3	47.2	(25.4)	2	7.2	(7.5)	1
Post-traumatic stress disorder [d]	2.0	(0.6)	29	25.7	(11.2)	14	14.0	(12.6)	5	60.3	(14.4)	10
Obsessive-compulsive disorder [d]	0.1	(0.1)	3	9.0	(10.4)	1	68.3	(27.4)	1	22.8	(23.5)	1
Any anxiety disorder [d]	11.2	(1.1)	179	19.7	(4.0)	49	36.7	(6.0)	6	43.6	(6.8)	69
Mood Disorder												
Major depressive disorder	4.9	(0.7)	128	42.5	(5.2)	56	49.3	(4.8)	58	8.2	(2.4)	14
Dysthymia	0.8	(0.2)	19	35.7	(14.8)	9	43.6	(13.5)	7	20.7	(12.0)	3
Bipolar I-II disorders	1.5	(0.3)	34	100.0	(0.0)	34	0.0	(0.0)	0	0.0	(0.0)	0
Any mood disorder	6.6	(0.8)	165	54.9	(4.9)	90	37.3	(4.4)	59	7.8	(2.3)	16
Impulse-Control Disorder												
Conduct disorder [e]	0.2	(0.2)	3	15.1	(18.2)	1	36.4	(7.8)	1	48.5	(10.4)	1
ADHD [e]	0.9	(0.3)	11	60.3	(18.1)	6	20.7	(14.1)	2	19.0	(14.9)	3
Intermittent explosive disorder	0.8	(0.2)	18	46.6	(11.9)	6	36.5	(10.7)	9	16.9	(10.4)	3
Any impulse-control disorder [e]	2.2	(0.5)	30	50.4	(11.4)	12	32.4	(8.7)	12	17.1	(8.0)	6
Substance Use Disorder												
Alcohol abuse	1.2	(0.8)	9	32.6	(22.3)	6	4.2	(4.8)	1	63.3	(24.5)	2
Alcohol dependence with abuse	0.3	(0.2)	5	100.0	(0.0)	5	0.0	(0.0)	0	0.0	(0.0)	0
Drug abuse [d]	0.2	(0.1)	4	61.8	(24.5)	2	24.2	(21.7)	1	14.0	(14.1)	1
Drug dependence with abuse [d]	0.1	(0.1)	3	71.8	(25.1)	2	28.2	(25.1)	2	0.0	(0.0)	0
Any substance use disorder [d]	1.3	(0.8)	12	32.8	(20.9)	7	6.8	(6.0)	2	60.3	(24.2)	3
Any Disorder	17.0	(1.6)	308	27.0	(3.6)	108	36.0	(4.5)	112	37.0	(6.0)	88
Total Sample[f]	.	.		4.6	(0.7)	109	6.1	(1.0)	112	6.3	(1.2)	88

*
See "Methods" section for a description for the coding rules to define severity levels

**
The prevalence and conditional prevalence of severity were estimated in the Part I sample (n=2857) for all disorders other than those noted in footnotes d & e, where the samples reported there were used.

[a] Percentages are calculated across the row within disorders. For example, 79.4% of respondents with Panic Disorder are classified as having a serious disorder, 0.0% moderate, and 20.6% mild, summing to 100%.

[b] se=Standard Error

[c] The reported numbers of respondents with the individual disorders are actual numbers rather than weighted estimates, which is why the ratios of these numbers to the total number of respondents in the survey do not equal the prevalence estimates.

[d] Estimated in the Part II sample (n=1031) due to post-traumatic stress, obsessive-compulsive, and substance use disorders being assessed only in this sample.

[e] Estimated among respondents ages in 18 −44 in the Part II sample (n=595) due to conduct disorder and ADHD (Attention Deficit Hyperactivity Disorder) being estimated only in this sub-sample

[f] Results in this row describe prevalence estimates in the total sample. That is, 4.6% of all respondents are estimated to have a serious disorder, 6.1% moderate, and 6.3% mild, summing to the 17.0% with any disorder reported at the bottom of the first column.

Table 2

Socio-demographic Correlates*(odds-ratios) of 12 month DSM-IV Disorders**

	Mood OR	(95% CI)[a]	Anxiety OR	(95% CI)[a]	Impulse-control OR	(95% CI)[a]	Substance OR	(95% CI)[a]
Sex								
Males	1.0	(...)	1.0	(...)	1.0	(...)	1.0	(...)
Females	1.9[†]	(1.2-3.2)	7.0[†]	(4.4-11.1)	1.5	(0.4-5.9)	0.9	(0.2-4.2)
χ^2_1	7.3[†]		72.2[†]		0.4		0.0	
Age								
18-34	1.8	(0.8-3.8)	1.8	(1.0-3.4)	1.5	(0.6-3.7)	14.5[†]	(1.7-127.6)
35-49	2.8[†]	(1.2-6.5)	1.7	(0.8-3.4)	[‡]	-	[‡]	-
50-64	2.4[†]	(1.3-4.7)	0.9	(0.4-2.1)	[‡]	-	[‡]	-
≥65	1.0	(...)	1.0	(...)	1.0	(...)	1.0	(...)
χ^2_3	10.7[†]		5.7		0.9		6.4[†]	
Income								
Low	0.7	(0.2-1.8)	0.7	(0.2-2.6)	0.3	(0.1-1.5)	0.2	(0.0-3.3)
Low-Average	1.0	(0.4-2.2)	1.0	(0.3-3.3)	1.3	(0.3-6.1)	0.3	(0.0-3.5)
High-Average	1.0	(0.5-2.1)	1.1	(0.4-3.2)	1.1	(0.3-3.6)	2.6	(0.5-13.4)
High	1.0	(...)	1.0	(...)	1.0	(...)	1.0	(...)
χ^2_3	2.9		1.9		4.0		4.1	
Marital Status								
Married/Cohabiting	1.0	(...)	1.0	(...)	1.0	(...)	1.0	(...)
	[‡]		[‡]		[‡]		[‡]	
Separated/Widowed/Divorced	[‡]	-	[‡]	-	[‡]	-	[‡]	-
Never Married	2.3[†]	(1.3-4.0)	1.7[†]	(1.0-2.9)	2.3	(0.9-6.3)	6.4[†]	(1.7-23.7)
χ^2_1	9.7[†]		4.5[†]		3.0		8.5[†]	
Education								
Primary, No Education	1.0	(0.6-1.9)	0.7	(0.3-2.1)	2.9	(0.7-12.8)	26.9[†]	(1.5-473.8)
Complementary, Some Secondary	1.3	(0.5-2.9)	1.1	(0.5-2.6)	1.6	(0.5-5.8)	2.3	(0.1-44.4)
Secondary or some University	1.6	(0.8-3.2)	1.1	(0.5-2.5)	0.7	(0.2-2.9)	2.0	(0.3-15.7)
University degree	1.0	(...)	1.0	(...)	1.0	(...)	1.0	(...)
χ^2_3	3.0		0.9		4.3		7.4	

*
  Based on multivariate logistic regression analysis

**
  The correlates of mood disorder were estimated in the Part I sample (n=2857), those of anxiety and substance use disorders in the Part II sample (n=1031), and those of impulse-control disorders in the sub-sample of respondents ages 18-44 in the Part II sample (n=595).

[a]
(95% CI) = the 95% confidence interval of the odds-ratio

[†]
Significant at the .05 level, two-sided test

[‡]
Inadequate sample size to estimate coefficient

Table 3

Associations (odds-ratio)[*] of exposure to war-related traumatic events with 12-month DSM-IV Disorders in the Part II sample (n = 1031)[**]

	Mood OR	(95% CI)[a]	Anxiety OR	(95% CI)[a]	Impulse-control OR	(95% CI)[a]	Substance OR	(95% CI)[a]
Number of events								
3 or more	$4.9^{\dagger}$	(2.2, 10.8)	2.2	(0.7, 6.6)	$9.1^{\dagger}$	(2.5, 33.4)	3.3	(0.3, 38.9)
2	$3.1^{\dagger}$	(1.5, 6.5)	2.0	(1.0, 3.9)	$3.6^{\dagger}$	(1.4, 9.5)	1.0	(0.1, 9.7)
1	1.6	(0.7, 3.7)	0.8	(0.4, 1.6)	1.5	(0.4, 5.7)	0.3	(0.0, 3.2)
0	1.0	(--)	1.0	(--)	1.0	(--)	1.0	(--)
χ^2_3 **(p-value)**	$26.1^{\dagger}$	(p<.001)	$8.8^{\dagger}$	(p=0.032)	$17.5^{\dagger}$	(p=0.001)	3.7	(p=0.30)

[*] Based on multivariate logistic regression analysis controlling for age and gender

[**] Same as Table 2

[a] (95% CI) = the 95% confidence interval of the odds-ratio

[†] Statistically significant at the .05 level, two-sided test.

Table 4

Distribution of 12-month DSM-IV disorder severity as a function of exposure to war-related traumatic events in the Part-II sample (n = 1031)[**]

	n	Severe		Moderate		Mild		No Disorder	
		%	(se)[a]	%	(se)[a]	%	(se)[a]	%	(se)[a]
Number of Events									
3 or more	97	12.3	(4.0)	8.1	(2.7)	4.5	(2.6)	75.1	(5.7)
2	164	7.9	(2.8)	8.9	(1.8)	6.7	(1.9)	76.6	(4.0)
1	309	3.3[†]	(0.9)	4.9	(1.8)	6.0	(1.9)	85.8[†]	(3.3)
0	461	3.5[†]	(0.6)	5.8	(1.4)	6.6	(1.9)	84.0[†]	(2.2)
Total Sample	1031	4.6	(0.7)	6.1	(1.0)	6.3	(1.2)	82.9	(1.7)

[**] Same as Table 2.

[a] se=Standard Error

[†] Significantly different from the prevalence in the 2 or 3 or more sub-samples at the .05 level, two-sided test.

Table 5

12-Month Treatment by Severity of DSM-IV Disorders in the Part II sample (n=1031)[**]

| Treatment | Severity of Disorder | | | | | | Presence-Absence of any disorder | | | |
| | Severe | | Moderate | | Mild | | Any Disorder | | No Disorder | |
	%	(se)[a]	%	(se)[a]	%	(se)[a]	%	(se)[a]	%	(se)[a]
General Medical	9.6	(3.3)	6.4	(2.3)	4.5	(1.9)	6.8	(1.3)	2.2	(0.6)
Mental Health	7.4	(3.4)	4.2	(2.5)	0.2	(0.2)	3.6	(1.2)	0.4	(0.3)
Total Healthcare[b]	15.2	(4.4)	9.7	(3.5)	4.8	(1.9)	9.6	(1.6)	2.6	(0.6)
Non-Healthcare[c]	2.1	(1.3)	1.8	(1.2)	0.0	(0.0)	1.3	(0.6)	0.7	(0.4)
Any Treatment[b]	17.3	(4.5)	11.5	(3.7)	4.8	(1.9)	10.9	(1.8)	3.1	(0.7)
No Treatment	82.7	(4.5)	88.4	(3.7)	95.2	(1.9)	89.1	(1.8)	96.9	(0.7)
(n)	(109)		(112)		(88)		(295)		(736)	

[**] Same as Table 2.

[a] se=Standard error

[b] Total Health Care combines General Medical and Mental Health. Any treatment combines Total Health Care and Non-Health Care

[c] See "Methods" section for definition of "Non-Health Care".

Table 6

Socio-demographic correlates (odds-ratios) [*]of 12-month treatment for mental health problems in the Part-II sample (n = 1031)[**]

		OR	(95% CI)[a]
Age	18-29	1.3	(0.4, 3.9)
	30-44	1.6	(0.6, 4.2)
	45-59	0.9	(0.2, 3.5)
	≥ 60	1.0	(--)
χ^2_3		5.0	
Education	1. Primary, no education	0.5	(0.2, 1.3)
	2. Complementary, some secondary	1.1	(0.4, 3.1)
	3. Secondary, some university	0.4	(0.1, 1.1)
	4. University degree	1.0	(--)
χ^2_3		$8.7^{\dagger}$	
Income	Low	$0.1^{\dagger}$	(0.0, 0.4)
	Low Average	0.6	(0.3, 1.1)
	High Average	0.8	(0.3, 1.8)
	High	1.0	(--)
χ^2_3		$19.2^{\dagger}$	
Sex	Male	$0.4^{\dagger}$	(0.2, 1.0)
	Female	1.0	(--)
χ^2_1		$4.5^{\dagger}$	

[*]The equation was estimated in the total Part II, controlling for number of disorders

[**]Same as Table 5.

[a](95% CI) = the 95% confidence interval of the odds-ratio

[†]Significant at the .05 level, two-sided test