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Contributors to Screening Positive for Mental Illness in Lebanon's Shatila Palestinian Refugee Camp

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Abstract: This study evaluates contributors to the mental health status of Palestinians, Syrians, and nonrefugee residents of Lebanon's Shatila Refugee Camp. Primary health care clinic patients in Shatila were screened for mental illness between 2012 and 2013 using the K6, the Primary Care Posttraumatic Stress Disorder (PTSD), and the Modified Mini International Neuropsychiatric Interview. Logistic regressions enabled the consideration of potential contributors to participants' positive mental illness screens. The sample ($n = 254$) included 63.4% Palestinians, 18.5% Syrians, and 18.1% nonrefugees. People lived in the camp for 21.1 years (± 17), 63% had stable housing and 78% had war event exposure. Mental illness prevalence was 51.6% in total (34.8% serious mental illness [SMI] alone, 5.1% PTSD alone, 11.4% comorbid SMI/PTSD, and 0.08% comorbid psychotic spectrum disorder SMI/PTSD). For Palestinians and nonrefugees, respectively, stable housing accounted for a 79% and a 98% reduction in positive SMI screen risk. For Syrians, access to paid employment accounted for a 66% risk reduction. Stable living situations and economically productive employment for those trapped in a refugee situation, even in the face of war trauma, seem most important for ensuring reduced mental disorder risk.

Key Words: Epidemiology, refugees, risk factors, social psychiatry, psychopathology

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By the end of 2014, 45.5 million refugees were displaced to countries not their own; 0.5% returned home (126,800) or were resettled (103,800) in 2014; 6.4 million were in protracted refugee situations (*i.e.*, 25,000 of the same nationality displaced >5 years in a given asylum country). As tragic and hopeless as it may seem, it would appear that most of today's refugees are destined to remain in their host situations. The purpose of this study was to consider those factors that might be associated with the improvement of that situation *in situ*. It is unique in addressing this objective by determining the prevalence of mental illness and the factors contributing to it among three populations (Palestinian refugees, Syrian refugees, and nonrefugees) living in the same social context—the Shatila Palestinian Refugee Camp (“Shatila”) in Lebanon.

Refugees and other populations exposed to armed conflict and displacement are at elevated risk for poor mental health (Steel et al., 2009) and have evidenced high rates of acute stress and chronic mental disorders (De Jong et al., 2003). Socioeconomic disadvantage, another risk factor associated with poor mental health outcomes particularly in protracted conflict-affected situations, often characterizes the refugee situation. In Middle Eastern countries, conflict has impacted 85% of the population (Ghosh et al., 2004). Shatila has seen a range of armed conflicts since its establishment in 1949. Shatila houses 25,000 people

in a single square kilometer, wherein 60% to 80% were living below the poverty line. There are no municipal services, insufficient housing, Lebanese legal restrictions on employment opportunities, and prohibitions against owning property for Palestinians (Bulos, 2012; Chaaban et al., 2010; Suleiman, 2006). Yet Shatila has provided a source of inexpensive housing, where other nonrefugees have found a home. It is not fenced in; it is a Beirut neighborhood described “...as a refugee camp pulsating with energy... where community life is lived in the streets... a jumble of concrete buildings, set at odd angles to one another, canopied with tangled electric wires and dank with poor drainage... [where] shoppers jostle among bins of bright eggplants and peppers that overflow into walkways between market stalls, and hawkers chant discounts as sunset approaches, [and where] among long-time residents, ...new layers of community are growing as Syrian refugees...[join the mix and] form their own networks (Barnard, 2014).”

In Lebanon, 17% of the population evidence at least one *DSM-4/Composite International Diagnostic Interview* mental disorder and only 10.9% obtain treatment—two thirds of that treatment provided in the general medical sector (Karam et al., 2006). A prevalence study of Burj-el-Barajneh Palestinian refugee camp, near Shatila, found 29% patients diagnosed with a mental disorder; among patients using Burj-el-Barajneh's specialty mental health clinic, 28.8% experienced depression, 15.6% anxiety, and 11% psychotic symptoms (Bastin et al., 2013). Although nongovernment organizations and the United Nations Relief and Works Agency in Shatila offer primary health care, mental health treatment is unavailable within the camp.

This study sought to determine the prevalence of psychiatric symptoms among primary care patients in Shatila. It sought to determine the extent to which the psychiatric symptoms evidenced by primary care patients are attributable to their refugee experience, their exposure to war events, and/or their current living conditions. It is unique in that it offers a comparison of the impact of the experiences of Palestinians, Syrians, and nonrefugees in the same context and considers factors that might contribute over the long term to their mental health status.

METHODS

The University of California, Berkeley, Mack Center on Mental Health and Social Conflict, completed data collection involving researcher-administered surveys at the two primary care clinics serving Shatila ($n = 254$). Patients aged 18 years or older were recruited as they entered clinic waiting rooms between June 2012 and June 2013. A total of 87.6% ($n = 254$) of the 290 individuals approached gave informed oral consent and participated in the survey. Survey interviews were conducted in Arabic in private areas. Interviewers were candidates for medical degrees and of Palestinian descent. Committees for Human Subject Research at all participating institutions approved study protocols.

Instruments and Measurement

The structured seven-page survey (30–45 minutes to complete) inquired into the participants' mental health and potential contributors to mental health status including participants' demographic characteristics, social circumstances, exposure to war events, and health status.

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The K6, the Primary Care Posttraumatic Stress Disorder (PC-PTSD), and the Mini International Neuropsychiatric Interview (MINI) Schedule C for Nonaffective Psychosis (Sheehan et al., 1998) were used as diagnostic screens to assess the comparative 30-day point-prevalence of mental disorder in the study population.

The K6 Arabic version, a screen for serious mental illness (SMI) excluding psychotic symptoms (Kessler et al., 2003), has been validated for use in Lebanon (Kessler et al., 2010). K6 responses about symptoms are standardized via a five-point Likert scale ranging from 1 = “all the time” to 5 = “none of the time” with higher scores indicating the absence of symptoms (Kessler et al., 2003). Scores for this six-item screen range from 6 to 30; a positive screen for SMI ranges from 6 to 18. The K6 reported reliability is Alpha = 0.88; its sensitivity and specificity with a score of 18 and lower for diagnosing the presence of any 30-day *DSM-4* disorder are 36% and 96% (Cornelius et al., 2013). K6 reliability in the current sample is Alpha = 0.84 (*n* = 254).

The PC-PTSD is used in medical settings to screen for PTSD (Prins et al., 2004). PC-PTSD documents participant-reported PTSD symptoms employing a dichotomous yes/no response format. PC-PTSD has a reported test-retest reliability of *r* = 0.83; its internal consistency in the current sample is Alpha = 0.58 (*n* = 250). Participants with 3 or more yes responses were considered “positive” for a PTSD diagnosis (ACP, 2013). Reported sensitivity and specificity of the PC-PTSD with a score of 3 or higher are, respectively, 76% and 93% (Prins et al., 2004) and 85% and 82% (Freedy et al., 2010).

A Modified-MINI screen based on MINI Schedule C (OASAS, 2014; Sheehan et al., 1998) was used to assess the presence of psychosis. Three yes/no questions addressing negative symptoms associated with

schizophrenia were added to the seven positive symptoms questions in the Modified-MINI. A score of 6 or higher was deemed to place a person “at moderate likelihood of having a mental illness [that required] further clinical assessment” (OASAS, 2014). The Scale’s reported sensitivity and specificity are, respectively, 80% and 97% (Nienhuis et al., 2010).

Potential contributors to Shatila mental health status were organized to include indicators of refugee status, social circumstance, demographic characteristics, and health; these are as follows:

Refugee status for Palestinians has been long term, having been displaced in the 1948 Arab-Israeli War and again in the 1967 Six-Day War. The conflict in Syria has yielded an influx of recently displaced individuals more than doubling Shatila’s population since 2011 (Bulos, 2012). Each of three groups—Palestinians, Syrians, and nonrefugees—was coded as a 1/0 variable (1 indicating the identified group, 0 “others” in the sample). Two of the three membership groupings were included in each logistic model, the third being the contrast. To ensure no differences were accounted for by variance in the contrast group, the models were rerun rotating the contrast. The process did not alter the results; thus 1/0 variables for Palestinians and Syrians with the nonrefugees as the contrast are reported herein.

Duration in Shatila residence in years.

Exposure to war events, assessed with the War Events Questionnaire (WEQ) developed in Lebanon (Karam et al., 1999). The WEQ inquires as to whether, when, and where the respondent, a relative, or a neighbor was physically injured, kidnapped, imprisoned, had house damage or needed to evacuate, or had ever been in the midst or experienced violent acts such as exchange of gunfire. The response was scored yes = 1 or no = 0.

TABLE 1. Demographic and Social Characteristics

Respondent Characteristic	Total Sample, <i>n</i> (%) / Mean (SD)	Palestinian Refugees	Syrian Refugees	Nonrefugees (Other Nationalities*)	χ^2 or <i>F</i> / <i>df</i> / <i>p</i>
Group	254 (100)	161 (63.39)	47 (18.50)	46 (18.11)	
Demographics					
Age (min/max 18–89)	40.4 (13.5)	42.4 (13.4)	34.3 (11.5)	39.8 (13.7)	<i>F</i> = 6.8/ <i>df</i> = 2,251/ <i>p</i> = 0.001
Sex					χ^2 = 7.39/ <i>df</i> = 2/ <i>p</i> = 0.025
Women	140 (55.1)	86 (53.4)	21 (44.7)	33 (71.7)	
Men	114 (44.9)	75 (46.6)	26 (55.3)	13 (28.3)	
Marital status					χ^2 = .624/ <i>df</i> = 2/ <i>p</i> = 0.732
Married	187 (73.9)	116 (72.5)	35 (74.5)	36 (78.3)	
Other	66 (26.1)	44 (27.5)	12 (25.5)	10 (21.7)	
Education					χ^2 = .65/ <i>df</i> = 6/ <i>p</i> = 0.14
None	46 (18.0)	25 (15.5)	13 (27.7)	8 (17.4)	
High school or less	185 (72.5)	120 (74.5)	34 (72.3)	31 (67.4)	
Some college	4 (1.6)	3 (1.9)	0 (0.0)	1 (2.2)	
Bachelor’s or higher	19 (7.5)	13 (8.1)	0 (0.0)	6 (13.0)	
Social characteristics					
Shatila residence, yrs	21.1 (17.0)	27.5 (16.2)	3.8 (5.9)	17.0 (12.8)	<i>F</i> = 50.6/ <i>df</i> = 2,234/ <i>p</i> = 0.001
Stable housing					χ^2 = 4.02/ <i>df</i> = 2/ <i>p</i> = 0.134
Yes	161 (63.4)	108 (67.1)	24 (51.1)	29 (63.0)	
No	93 (36.6)	53 (32.9)	23 (48.9)	17 (37.0)	
War exposure					χ^2 = 10.07/ <i>df</i> = 2/ <i>p</i> = 0.002
Yes	198 (77.9)	135 (83.9)	34 (72.3)	29 (63.0)	
No	56 (22.0)	26 (16.1)	13 (27.7)	17 (37.0)	

*Of the 46 nonrefugee sample members with other nationalities, 43 were Lebanese representing 16.93% of the total sample, 2 Egyptian (0.79% of the total), and 1 Tunisian (0.39% of the total sample).

Time since exposure to a war trauma was coded 1 = 0–10 years, 2 = 11–20 years, 3 = 21–30 years, 4 = 31–40 years or older, or 5 = no trauma experience.

Stability of housing: respondent reports indicating that they “lived in stable housing” was coded yes = 1 or no = 0.

Employment: work for income was coded 1 = none, 2 = part-time, or 3 = full-time.

Demographics: sex (1 = women, 0 = men), age, marital status (1 = married, 0 = not married), and education (highest completed grade).

Health status was measured by a component score derived from patient reports that they “engaged in regular exercise” and “did not smoke,” and a medical evaluation of reported patient medications indicating that they “did not require continuous medical oversight.” Higher scores indicated poorer health status. Component scores were derived with regression methodology in a principal component analysis of the three indicators.

Data Analysis

The data were analyzed using IBM SPSS Statistics Version 21. Univariate statistics, chi-square, and one-way analysis of variance were used to provide descriptive statistics, principal component analyses to create a summary health measure. Logistic regressions were used to determine which inputs were contributors to a positive mental illness screen. The multivariate approach first regressed the positive SMI screen on participants' refugee status, social circumstance, demographic, and health measure (exclusive of time since war trauma exposure, as this indicator was not available for a sufficient number of Syrians) for the entire sample. Given the small within-subgroup *n*'s, the logistic multivariate models were also rerun within each of the three study populations using a stepwise entry procedure to consider the possibility of unique effects attributable to group membership.

RESULTS

The sample (*n* = 254) included 63.4% (*n* = 161) Palestinian refugees, 18.5% (*n* = 47) Syrian refugees, and 18.1% (*n* = 46) nonrefugees

(see Table 1). Participants included 55% (*n* = 140) women and 45% (*n* = 114) men, aged 18 to 89 years (mean = 40.4, SD = 13); 73.9% (*n* = 187) were married; 72.5% (*n* = 185) reported less than a high school education; 18% (*n* = 46) reported no education at all. On average, people lived in the camp for 21.1 years (SD = 17) and were more likely to report having stable housing (63.4%; *n* = 161) than not. A majority, 78% (*n* = 198), reported war exposure.

The total prevalence of mental illness was 52.0% (*n* = 132). Of the total sample (*n* = 254), 34.6% (*n* = 88) screened positive for SMI alone, 5.1% (*n* = 13) for PTSD alone, 11.4% (*n* = 29) comorbid for SMI and PTSD, and 0.08% (*n* = 2) comorbid for psychotic spectrum disorder, SMI, and PTSD. The K6 and PC-PTSD screened positive all 4.7% (*n* = 12) of the patients reporting a present or past condition of mental illness, leaving clinically unidentified (unreported at the clinic) 46.9% (*n* = 119); that is, 90.8% of mentally ill patients attending the clinic who would not be seen or treated for their mental illness.

There was little illicit drug use reported in the camp (0.8%). Patients were more likely than not to smoke (59.3%), less likely to exercise (20.8%); most of the patients were not in need of continuous medical supervision (71.8%).

Univariate descriptive tests in Tables 1 and 2 indicate that the Palestinian, Syrian, and nonrefugee groups differed in social and health characteristics, that is, age ($p = 0.011$), sex ($p = 0.025$), residence in Shatila ($p < 0.001$), stability of housing ($p = 0.002$), health ($p = 0.014$), and, only on one mental status assessment, the MINI-Positive Screen for psychosis ($p = 0.049$). Most of the significant between-group differences seemed attributable to the more disadvantaged status of Syrians. Compared with the other groups, Syrians were younger (Bonferroni post hoc, $p = 0.001$), less educated ($\chi^2 = 8.13$, $df = 3$, $p = 0.043$), had fewer years of residence (Bonferroni post hoc, $p < 0.001$), had poorer health scores (due to a difference only between the Syrians and Palestinians) (Bonferroni post hoc, $p = 0.012$), and were more likely to be diagnosed with a psychotic spectrum disorder ($\chi^2 = 6.01$, $df = 2$, $p = 0.014$).

Multivariate logistic models assess the contributors to positive K6-SMI and PC-PTSD screens, where no statistically significant

TABLE 2. Health and Mental Health Status

Respondent Characteristic	Total Sample, <i>n</i> (%) / Mean (SD)	Palestinian Refugees	Syrian Refugees	Nonrefugees (Other Nationalities*)	χ^2 or <i>F</i> / <i>df</i> / <i>p</i>
Group	254 (100)	161 (63.39)	47 (18.50)	46 (18.11)	
Health characteristics					
Health component score					$F = 4.22/df = 2,249/$ $p = 0.014$
Higher score (poorer health)	0.00 (1.0)	-0.09 (1.04)	0.39 (0.82)	-0.06 (0.93)	
Mental health status diagnostics					
K6 positive on screen for severe mental illness, min score = 6/max = 30 (positive screen for SMI is a score ≤ 18)					$\chi^2 = 2.27, df = 2,$ $p = 0.321$
Yes	119 (46.9)	70 (43.5)	26 (55.3)	23 (50.0)	
No	135 (53.1)	91 (56.5)	21 (44.7)	23 (50.0)	
PC-PTSD symptom positive screen, min score = 0/max = 4 (score ≥ 3)					
Yes	42 (16.8)	30 (19.0)	6 (12.8)	6 (13.3)	$\chi^2 = 1.47, df = 2,$ $p = 0.478$
No	208 (83.2)	128 (81.0)	41 (87.2)	39 (86.7)	
Enhanced (inclusive of negative symptoms) Modified-MINI positive screen (score ≥ 6) <i>N</i> = 159					$\chi^2 = 6.03, df = 2,$ $p = 0.049$
Yes	2 (1.3)	0 (0.0)	2 (5.0)	0 (0.0)	
No	157 (98.7)	88 (100.0)	38 (95.0)	31 (100.0)	

*Of the 46 nonrefugee sample members with other nationalities, 43 were Lebanese representing 16.93% of the total sample, 2 Egyptian (0.79% of the total), and 1 Tunisian (0.39% of the total sample).

between group differences were observed in the percent who screened positive for mental illness. Both models are significant, respectively, for K6-SMI ($\chi^2 = 49.01, df = 11, p < 0.001$) and PC-PTSD ($\chi^2 = 18.99, df = 10, p = 0.040$).

Taken as a whole (see Table 3), it would seem that chances of a K6-SMI-positive screen, taking all factors into account, were reduced with each additional year of residence in Shatila by 3% (exp. B = 0.97; confidence interval [CI], 0.95–0.99); having access to stable housing also reduced risk of a positive SMI screen by 66% (exp. B = 0.34; CI, 0.18–0.62). Given the considerable difference in duration of residence observed between the Syrians and the other groups, however, the analyses focused on the experience within the subgroups. For Palestinians, a stable housing situation accounted for a 79% (exp. B = 0.21; CI, 0.08–0.51) reduction in risk of a positive SMI screen and each decade since the exposure to war trauma reduced such risk by 36% (exp. B = 0.64; CI, 0.48–0.86). For non-Palestinians, each additional year of Shatila residence reduced the risk of a positive SMI screen by 17% (exp. B = 0.83; CI, 0.71–0.97), a stable housing situation reduced their risk by 98% (exp. B = 0.02; CI, 0.00–0.69). For Syrians, war event exposure accounted for almost a 27-fold increase in risk of a positive SMI screen (exp. B = 26.89; CI, 2.75–262.48), although access to paid employment accounted for a 66% (exp. B = 0.34; CI, 0.12–0.92) reduction in such risk.

In considering the PC-PTSD, controlling for all the same contributors as in the K6 model, only war event exposure accounted for a

positive screen, more than a fivefold increase in risk (exp. B = 5.53; CI, 1.14–26.79; $p = 0.033$). For Palestinians and nonrefugees, each decade since their war exposure to trauma was associated with a 26.1% (exp. B = 0.739; CI, 0.575–0.950) reduction in the risk of screening positive for PTSD ($\chi^2 = 5.286; df = 1; p = 0.021$).

DISCUSSION

The finding of a 51.6% 30-day point-prevalence of at least one SMI, PTSD, and psychotic spectrum disorder with high comorbidity in a primary care setting is a clear indication of an underresourced system that requires greater attention to mental health needs of presenting patients. This is especially true because the major survey of the mental health needs of the Lebanese population reports that two thirds of mental health treatment in Lebanon is provided in the general medical sector (Karam et al., 2006).

The SMI 30-day point-prevalence of 47% ($n = 119$) (absent other comorbidities) is very high for Lebanon given a general population rate of 4.6% (Karam et al., 2006). Although prevalence rates are higher in primary care settings, the rate herein is high for primary care screenings. Other countries report similar rates for 12-month point-prevalence surveys of primary care practices, for example, 51.8% ($N = 840$) of patients from seven primary care settings in three Canadian provinces (Vermani et al., 2011), and 30.2% ($N = 3,815$) of patients from 77 primary care centers in Catalonia (Spain) (Serrano-Blanco et al., 2010).

TABLE 3. Logistic Models Including Factors Contributing to Positive Diagnostic Screen for SMI

Criterion	Total Sample ^{b,d}				Palestinian Refugee SMI Positive Screen ^{c,e}				Syrian Refugee SMI Positive Screen ^{c,f}				Nonrefugees (Other Nationalities) SMI Positive Screen ^{c,g}			
	B	SE	p	Exp. (B)	B	SE	p	Exp. (B)	B	SE	p	Exp. (B)	B	SE	p	Exp. (B)
Determining Factors^a																
Refugee status																
Palestinian (yes = 1; no = 0)	0.31	0.43	0.467	1.36	X	X	X	X	X	X	X	X	X	X	X	X
Syrian (yes = 1; no = 0)	0.20	0.54	0.70	1.23	X	X	X	X	X	X	X	X	X	X	X	X
Social circumstance																
Residence in Shatila, yrs	-0.03	0.01	0.038	0.97	—	—	—	—	—	—	—	—	-1.86	0.08	0.017	0.83
War exposure experience (yes = 1; no = 0)	0.76	0.41	0.060	2.15	—	—	—	—	3.29	1.16	0.005	26.89	—	—	—	—
Stable housing (yes = 1; no = 0)	-1.09	0.31	0.001	0.34	-1.55	0.45	0.001	0.21	—	—	—	—	-4.04	1.9	0.031	0.02
Employed for income (unemployed = 1; part-time = 2; full-time = 0)	-0.41	0.21	0.053	0.67	—	—	—	—	-1.09	0.51	.034	0.33	—	—	—	—
Demographic and health factors:																
Sex (women = 0)	0.64	0.38	0.093	1.89	1.03	0.44	0.021	2.79	—	—	—	—	—	—	—	—
Age	0.01	0.01	0.499	1.01	—	—	—	—	—	—	—	—	—	—	—	—
Education (highest level)	-0.12	0.07	0.086	0.88	—	—	—	—	—	—	—	—	—	—	—	—
Married	0.01	0.35	0.973	0.99	—	—	—	—	—	—	—	—	—	—	—	—
Health component score (higher score = poorer health)	0.10	0.94	0.529	1.81	—	—	—	—	—	—	—	—	—	—	—	—
Time since trauma exposure	^b X	^b X	^b X	^b X	-0.44	0.15	0.003	0.64	^c X	^c X	^c X	^c X	—	—	—	—

^aEach factor accounts for one degree of freedom.

^bAll determining factors entered for the total sample were entered simultaneously with the exception of “time since trauma exposure,” that is, because this factor could not be determined for a sufficient number of individuals in the Syrian subgroup.

^cAll subgroup model factors were entered using a forward stepwise procedure including the “time since trauma exposure” variable for Palestinians and nonrefugees. An em-dash (“—”) placed in the data cell indicates the determining factor failed to enter the equation in the stepwise procedure.

^dModel summary: $\chi^2 = 49.01, df = 11, p < 0.001$.

^eModel summary: $\chi^2 = 25.36, df = 3, p < 0.001$.

^fModel summary: $\chi^2 = 23.72, df = 2, p < 0.001$.

^gModel summary: $\chi^2 = 21.80, df = 2, p < 0.001$.

A study of four Lebanese communities found a lifetime prevalence of major depression varying from 16.3% to 41.9% with depression before the war and exposure to war being major contributors to the higher rates. The high 12-month prevalence of major depression (41.5%) in one community fell in the first 4 years following cessation of armed conflict to a period prevalence of 14.4% (Karam et al., 1998, 2006). It would thus appear that these assessments are subject to and dependent upon social conditions. This study found no significant differences in SMI and PTSD between three groups differing on their refugee experience. Exposure to war events, duration of residence in Shatila, stability of housing, and economically gainful employment are the major contributors associated with reducing the risk of an SMI-positive screen observed within each of the subgroups.

In the Middle East, war has become endemic, appears to be escalating, and will continue to produce reactive mental illness. This is especially true in Shatila where many have lived through the Lebanese Civil War, the Israel invasion, and more specific to the camp, the massacre of Sabra and Shatila in 1982. The prevalence of PTSD, 17%, is close to what might be expected in a society or group experiencing recent conflict and is very high for nonconflict countries. For example, PTSD prevalence was 20.4% in Eastern Afghanistan (Scholte et al., 2004) and 23.5% in Kosovo (Eytan et al., 2004), compared with 5.6% (life-time) in Sweden (Frans et al., 2005) and 1.3% in Australia (12-month) (Creamer et al., 2001). In Lebanon, PTSD prevalence was 11.2% (including any anxiety disorder) (World Health Organization, 2014) and 11.7% for Beirut (Karam, 1992). The witnessing and participation in war events, as demonstrated by these differential rates and the multivariate findings herein, is the major contributor to PTSD in Shatila. The apparent recency of trauma exposure for Syrians was also strongly associated with a positive SMI screen, although it seems that time heals as greater time separation from trauma did reduce such risk for Palestinians.

The 12.8% PTSD rate experienced by Syrians appears low given the recency and ferocity of atrocities in that country. The Syrian civil war started in 2011 while the study interviews were conducted between 2012 and 2013. Although almost three quarters of the Syrians in the sample were exposed to war events, they may have not experienced the extent of exposure of today's population. A more recent study found a 27.2% ($N = 452$) PTSD point-prevalence among Syrians in six camps in Lebanon's Bekaa Valley (Kazour et al., 2017). In the Bekka Valley study, "hometown" was the only variable among a group of demographic predictors that, in a logistic model, was associated with higher PTSD risk. Notably, Aleppo, described as having areas that are 100% destroyed (Dean, 2016), evidenced higher PTSD rates than other areas.

In the Arab world, the expected rate for psychotic spectrum disorders is between 0.7% and 5.6% (Saab et al., 2011). The 1.3% ($n = 3$) found herein (two identified by the MINI and one asymptomatic given medication) seems to be at the low end and may speak to the less responsive character of these disorders to external conditions and a lesser likelihood of people with psychosis to frequent primary care settings. The finding herein of 0.8% illicit drug use is similar to that of six South Lebanon Villages where 1.4% reported using drugs (Farhood and Dimassi, 2012).

Results conformed to findings of previous studies indicating a general tendency for women to report greater symptom presence and screen positive (Alonso et al., 2004)—a fact perhaps explained by findings that women are more likely to internalize, expressing their problems in mood and anxiety disorders, than are men (Eaton et al., 2012).

The constant sentiment expressed by interviewees indicating that "this place isn't home for us" nor will it ever be is understandable in view of past upheavals and continuing human rights violations, discrimination, and apartheid characterizing life in Shatila. Yet, it appears that, even with such sentiment, a stable environment reduces the risk of SMI. Findings herein indicate that longer residence in Shatila is associated with better mental health outcomes among nonrefugees. They indicate

that stable housing among Palestinians and nonrefugees are also associated with reduced SMI risk. The findings of an association of stability in residence with improved mental health mirror such observations in other contexts (Segal and Kotler, 1993). These stability indicators may also be a proxy for social support, found to be a factor in reducing the probability of screening for depression in Lebanon (Farhood and Dimassi, 2012), because longer-term stability has been associated with larger social networks and better mental health (Segal and Holschuh, 1991). These findings echo St Benedict's 1500-year-old theme, *stabilitas loci*, his belief that stability of place leads to community and stability of the soul (Grienauer, 2012), and Emerson's view that "the soul is no traveler" (Emerson, 1900, p. 12).

Although Palestinians have been very restricted in their participation in the Lebanese economy, this has not been true of Syrians at least up to the beginning of 2015 (Lamb, 2015). For Syrians, the ability to participate in the economy via a job was the only predictor beside war exposure that reduced the probability of a positive SMI screen. Both the stability and the economic findings speak to the importance of improving the conditions and quality of life in Shatila as well as other refugee settings around the world. They are consistent with the literature (Muntaner et al., 2004) and speak to the need to insure refugee civil rights in Lebanon and elsewhere and ultimately the need for finding housing and economic solutions for these populations.

Conclusions based on the study findings are descriptive and cross-sectional, locked in a point in time, and generalizable to the sample of patients interviewed and to a lesser extent to primary care patient populations. In theory, our sampling process, which selected individuals as they entered the clinic, can increase the likelihood of recruiting frequent users of the clinic, that is, more ill patients. Fortunately, one factor accounting for this phenomenon, the association between distance to the clinic and utilization, does not apply because Shatila is only one quarter of a square kilometer. In addition, post hoc analyses found no difference in the proportion of cases screening positive for SMI among regular patients and new drop-ins, nor among regular patients whose record indicated that they were in need of continuous medical supervision versus those not requiring such care. Thus, the phenomena typically contributing to this potential bias had limited applicability in this study. The reported contributors to mental health and illness are associations, not established causation, yet our findings are consistent with clinical and empirical reports of elevated psychiatric symptoms in refugee populations and notably in populations of patients in primary care. Palestinians living in Lebanese refugee camps, some for four generations, suffer severe limitations on their civil rights and carry a large and significant burden of psychiatric distress that can impact all aspects of activities of daily living. Syrians suffer the more immediate displacement. All suffer the camp conditions. These findings offer important information on the potential to improve conditions of refugees *in situ*.

Increasing the resources at primary care clinics to enable better identification of mental health problems and adequate service provision is an immediate priority. War events are endemic to Lebanon, and given current trends will likely proceed into the future. Increased protection against war exposure, allowance for expanded socioeconomic opportunity, and provision for stable living situations are essential for ensuring improvement of the mental health status of this population. The Lebanese government must grant Palestinian and now Syrian refugees their civil rights, and their human rights need to be respected in the long term.

DISCLOSURE

The authors declare no conflict of interest, including relevant financial interests, activities, relationships, and affiliations.

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