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Traumatic events, post-migration living difficulties and post-traumatic symptoms in first generation immigrants: a primary care study

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Abstract
Objectives. To study potentially traumatic events (PTE), post-traumatic stress disorder (PTSD), anxiety, depression, somatization and post-migration living difficulties (PMLD) in primary care immigrants.
Design. Patients self-rated transculturally validated questionnaires. Those with and without PTSD were compared on all variables. The influence of the number of PTE and of PMLD on PTSD was measured.
Results. 391 patients completed the questionnaires. Prevalence of PTSD was 10.2%. PTE and PMLD were frequent in the whole sample but more common in PTSD subjects. Either the number of PTE and of PMLD significantly increased the likelihood to have a PTSD.
Conclusions. PTE, PMLD, PTSD and related conditions (anxiety, depression and somatization) are frequent among immigrants in primary care, and either PTE and PMLD significantly influence resulting psychopathology. The implications in clinical practice are discussed.

Key words
- post-traumatic stress disorder
- family medicine
- immigrants
- trauma

INTRODUCTION

Civilian primary care research into post-traumatic stress disorder (PTSD) in Western populations found that lifetime traumatic events were common, 32.19% of patients having a PTSD [1]. Immigrants are particularly at risk for PTSD due to a history of multiple traumatic events [2-5]. Moreover, severe post-migration living difficulties (PMLD) such as delays in processing refugee applications, obstacles to employment, racial discrimination, and loneliness, can contribute to the onset/worsening of a PTSD and to long term difficulties in these patients [6-9]. While traumas, PMLD, PTSD, anxiety and depression have been extensively studied in refugees and asylum seekers (for a systematic review see [10]), they are more rarely addressed in primary care immigrants.

Available primary care studies on Latinos show high exposure to potentially traumatic events (PTE), including political violence, and related psychopathology (post-traumatic and depressive symptoms) [11, 12]. Similar data are expected in immigrants from other regions of the world. For example, Africans and Middle-Eastern subjects are also exposed to high rates of PTE and related distress [13-16] and consequently might be at risk of PTSD. Accordingly, the few studies directly measuring PTE and PTSD in primary care immigrants coming from these areas confirm significant rates of lifetime PTE and current PTSD [*e.g.*, 5]. Finally, a preliminary study on about one hundred primary care immigrants from different regions of the world found at least one PTE in 51.48% of the patients, 15.84% of the total sample scoring positive for PTSD; high comorbidity between PTSD, depressive, anxiety or somatization syndromes was also reported [2].

Considering: a) that current migratory dynamics in Western countries ensure that general practitioners will be asked to provide health assistance for a growing number of patients coming from different places, and b) the importance of an early detection of posttraumatic distress in migratory primary care settings, more reliable evidence on this matter is needed.

This survey studies PTE, PMLD, PTSD and related psychopathology in a larger sample of first-generation primary care immigrants from different nations. The specific aims of the study are to examine: a) the rates and types of PTE and of serious PMLD; b) rates of current PTSD and its comorbidity with other psychiatric conditions (depression, anxiety, somatization); c)

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differences in the distribution of PTE and serious PMLD in patients with and without PTSD; d) the influence of the number of PTE and of serious PMLD on the risk of having a PTSD. The reason to test the effective influence of PTE on PTSD was intrinsic to the concept of PTSD as a reaction to traumatic experiences; the reason to study the influence of PMLD on PTSD was based on previous evidence showing that severe PMLD may worsen post-traumatic symptoms and negatively interfere with the social integration process.

METHOD

Participants

The study was carried out at the primary care outpatient service of the Caritas Health Service, a charity organization providing free medical assistance to immigrants and people in social difficulty. The inclusion criteria for the study were: a) being a first-generation immigrant; b) age 18 or older; c) being scheduled for a first medical examination at the primary care service; d) good comprehension of at least one of the study languages (see the list below). Language comprehension was evaluated by mother-tongue cultural mediators through pre-test interviews with patients; e) not having a significant, clinically evaluated cognitive impairment that might prevent the comprehension of the administered questionnaires.

Patients were randomly selected enrolling every 15th eligible patient. They were asked to complete a self-administered questionnaire and, if accepting, entered the study sample. To reduce possible selection bias, we included outpatients attending the clinic in the morning and the evening hours, as well as in different seasons of the year: the study was carried out in February-November 2009. All patients received free health assistance independently from having accepted or not to enter the study. All participants signed a declaration of informed consent. The study was approved by the local ethical committee.

Measures

All participants were asked to complete four self-administered paper-and-pencil instruments: the Harvard Trauma Questionnaire (HTQ) [17, 18], the Hopkins Symptom Checklist [HSCL-25; 19, 20], the 21-item Bradford Somatic Inventory (BSI-21) [21, 22], and the Post-Migration Living Difficulties Questionnaire (LDQ) [8]. These four instruments were selected because they were already tested in transcultural research, were easy to administer in a busy health assistance service, and were appropriate to study PTE, PMLD and the four clinical pictures we were interested to study (PTSD, somatization, depression and anxiety). We decided to focus on these four clinical conditions because PTSD, anxiety and depression were studied together in almost all the relevant literature on migration and PTSD. On the contrary, somatization was a more recent object of study in this kind of surveys but it was considered important due to reported high prevalence and significant correlation with PTE and PTSD [23-25].

The Harvard Trauma Questionnaire is an instrument developed for Indochinese populations and later applied to other cultural groups [17, 18, 26]. The validity and reliability of the HTQ have been demonstrated in several studies [17, 27, 28]. The sections used in the present study included a scale listing nine traumatic events (material deprivation, war-like conditions, bodily injury, forced confinement and coercion, torture, being forced to harm others, disappearance, death or injury of loved ones, witnessed violence to others, and brain injury) and the 16 posttraumatic stress items originally derived from *DSM-IIIR* criteria for PTSD [29]. The respondents were asked to indicate whether they had experienced any of the listed traumatic experiences and the extent to which they were bothered by each posttraumatic symptom in the previous week, ranging from 1 = *not at all* to 4 = *extremely*. According to the transcultural validation of the instrument [17], the cutoff was 2.5.

The Hopkins Symptoms Checklist, here administered in its 25-items version [20], is a screening instrument for depressive and anxiety symptoms extensively used in transcultural research [*e.g.*, 30, 31]. Respondents had to rate, on a 1 to 4 range, the severity of their depressive (15 items) and anxiety (10 items) symptoms. According to previous transcultural research [30], the cutoff was 1.75.

The Bradford Somatic Inventory is a widely validated self-assessment questionnaire specifically designed for transcultural research [21, 22] and formerly used to assess somatization among groups of primary care immigrants similar to those studied herein [2, 24, 32]. The items of the BSI-21 evaluate whether some physical symptoms (*e.g.*, headaches, fluttering or feelings of something moving in the stomach, choking sensations in the throat, aches or pains all over the body, and so on) were present in the last month, with possible answers ranging from *absent* (score 0) to *present on more than 15 days in past month* (score 2). According to previous research [22], a cutoff score of 14 was used to distinguish somatizers from non somatizers.

The Post-Migration Living Difficulties Questionnaire (LDQ) is a self-evaluated questionnaire used to assess recent adverse life experiences typical of migration [8]. It consists of a list of 24 possible post-migration living difficulties and respondents are requested to indicate the extent to which they were troubled by any of these living problems, ranging on a five-points scale from "*no problem at all*" to "*a very serious problem*". According to previous studies [8, 33, 34], the number of serious or very serious problems was considered in the statistical analyses.

All instruments were translated from English into eight languages: Arabic, Bengali, Chinese, French, Italian, Portuguese, Romanian, and Spanish. These languages were selected because they were those spoken by the majority of patients according to the epidemiological data of our centre in the previous year. Content comparability was verified through blind back-translation procedures. In the specific groups of immigrants tested in our sample a psychometric validation of the instruments was not available. Nevertheless, the same assessment questionnaires had been successfully used in previous research on comparable populations of primary care immigrants [2, 23-25, 32].

Information on gender, age, length of stay in the hosting country, educational level, and immigrant status was collected from all participants.

Table 1
Sociodemographic variables, traumatic and migratory experiences, and psychopathological syndromes in patients with and without a post-traumatic stress disorder (PTSD)

	PTSD (n = 40)		No PTSD (n = 351)		p
	w	%	n	%	
Gender[a]					
Men	23	57.5	222	63.2	ns
Women	17	42.5	129	36.8	
Migratory status[a]					
Neo-communitarians	19	47.5	114	32.5	
Regular visa	8	20	96	27.4	ns
Permission seekers	2	5	13	3.7	
Undocumented	10	25	126	35.9	
	M	SD	M	SD	
Age[b]	37.78	10.95	37.56	11.51	ns
Duration of stay in Italy (years)[b]	4.49	7.07	4.05	4.83	ns
Educational level (years)[b]	11	4.33	10.55	4.13	ns
Number of PTE[b]	3.57	2.47	1.61	2.01	0.000
Number of "serious" or "very serious" PMLD[b]	10.98	6.07	4.07	4.29	0.000
	n	%	n	%	
Presence of a Depressive Syndrome[c]					
Depression	39	97.5	105	29.9	0.000
No Depression	1	2.5	*246*	70.1	
Presence of an Anxiety Syndrome[c]					
Anxiety	37	92.5	88	25.1	0.000
No Anxiety	3	7.5	263	74.9	
Presence of a Somatization Syndrome[a]					
Somatization	32	80	81	23.1	0.000
No Somatization	8	20	270	76.9	

Note. Neo-communitarian status denotes having come from Eastern European countries recently admitted to the European Union; Permission-seekers are those individuals that applied for a regular visa but had not yet received a reply at the time of the study; PTE = potentially traumatic events; PMLD = post-migration living difficulties. a = Chi Square Test; b = Student's t Test; c = Fisher's Exact Test.

Data analysis

Descriptive statistics were calculated and expressed as Mean ± Standard Deviation. The SPSS statistical program was used for bivariate and multivariate analyses.

We stratified bivariate analyses by presence/absence of PTSD. Student's *t* tests, $\chi 2$ tests and Fisher tests were used to analyze differences in socio-demographic, general and psychopathological variables (rates of depression, anxiety and somatization) between subjects with PTSD and subjects without PTSD. Differences in the mean number of PTE and of PMLD were analyzed by means of Student's *t* test. The number of PTE and PMLD was compared in the two groups by means of $\chi 2$ test. Multiple logistic regression analyses were used to predict current PTSD. The influence of any pre-migratory and post-migratory event as well as the total number of PTE and of PMLD on the likelihood of reporting a PTSD was independently measured. Age, gender, duration of stay in Italy, educational level, migratory status, and presence of depressive, anxiety and somatization syndromes were all included as covariates.

RESULTS

Four-hundred and forty-three patients were asked to fulfil the questionnaires. Of these, 31 patients (6.99%) refused, lack of time being the most frequent reason. Four-hundred and twelve patients accepted to enter the study. Of these, 21 (5.09%) did not complete the questionnaires due to fatigue or inattention and were excluded. A total of 391 (94.9%) duly completed the

Table 2
Influence of the number of PTE on the risk of having a post-traumatic stress disorder (PTSD)

	B	SE	OR	IC 95%	p
Age	-0.02	0.02	0.98	0.94-1.03	0.48
Gender	-0.37	0.53	0.69	0.24-1.95	0.48
Educational level	-0.02	0.06	0.98	0.88-1.09	0.98
Duration of stay in Italy	0.02	0.04	1.02	0.94-1.12	0.59
Migratory status					
Undocumented	1	1	1	1	1
Regular visa	-0.39	0.65	0.68	0.19-2.42	0.55
Permission seekers	0.28	1.03	1.32	0.18-9.89	0.79
Neo-communitarians	0.41	0.56	1.51	0.50-4.51	0.46
Number of PTE	0.27	0.1	1.31	1.08-1.6	0.007
Number of serious/very serious PMLD	0.18	0.05	1.19	1.09-1.30	0.000
Anxiety	1.68	0.71	5.38	1.35-21.56	0.02
Depression	3.04	1.07	20.9	2.57-171.2	0.005
Somatization	0.66	0.56	1.94	0.65-5.8	0.24

Note. Logistic regression analysis. PTE = potentially traumatic events. PMLD = post-migration living difficulties.

questionnaires and were included in the statistical analysis.

The mean age was 37.58 ± 11.44 (range 18-79 years); 245 (62.7%) were males. Patients had a mean education level of 10.6 years of study (± 4.15). The mean length of stay in Italy was 4.09 (range 2 months - 35 years, in 69.3% of patients length of stay being less than five years). Patients were first-generation immigrants coming from several countries of Asia (22.1%), Africa (28.2%), Latin America (6.7%) and Eastern Europe (43.1%). The majority of subjects were Romanian (30.9%), followed by Chinese (7.4%) and Bangladeshi (6.1%). Patients were also categorized according to their "migratory status" in: patients with regular visa, neo-communitarians, undocumented patients (illegal), and permission seekers. The majority of subjects (133 patients; 34.3%) were "neo-communitarians" (subjects from countries of Eastern Europe which had recently entered the European Union): even without a legal status, due to European rules they were not at risk of being expelled. One-hundred and thirty-six patients (35.1%) had no legal residence permit (undocumented), and lived illegally in Italy, usually in poor social conditions. During the study, neo-communitarians and undocumented subjects were in similar poor socio-demographic conditions and both faced difficult access to free health assistance. One-hundred and four subjects had a regular residence permit (26.8%); fifteen subjects (3.9%) were permission-seekers (waiting for a reply to their request of permission).

Two hundred and thirty-seven subjects (60.6%) reported experiencing at least one PTE, the most common being "material deprivation" (32.7%), followed by "disappearance, death or injury of loved ones" (30.2%), "bodily injury" (26.1%), "war-like conditions" (23.3%), "witnessed violence to others" (21.7%), "torture" (14.8%), and "forced confinement and coercion" (14.8%). The mean number of PTE in patients reporting them was 1.81 (± 2.15). Nearly a half of traumatized subjects reported at least three PTE (48.95%). Two hundred and eighty-eight patients (73.65%) reported experiencing at least one "serious" or "very serious" PMLD, the most common being "no permission to work" (38.6%), "poverty" (34.5%), "not being able to find a work" (33.8%), "unable to return home in emergency" (32%), "worries about family back at home" (29.9%). The mean number of "serious" or "very serious" PMLD in subjects having experienced them was 6.48 (± 4.73), with the plurality of patients reporting more than five "serious" or "very serious" PMLD (56.94%).

In the whole sample, 40 patients (10.2%) showed HTQ symptoms scores exceeding the clinical cut-off for PTSD. All PTSD patients had at least another psychiatric diagnosis: depression 97.5%, anxiety 92.5%, somatization 80%.

Gender, age, length of stay in Italy, educational level, and migratory status were not statistically different in subjects with PTSD compared to those without PTSD *(Table 1)*. The number of both PTE and "serious" or "very serious" PMLD were significantly higher in patients with PTSD (*Table 1)*. They were also significantly more likely to exceed the cut-off for depressive, anxiety and somatization syndromes *(Table 1)*. All the PTE and "serious" or "very serious" PMLD (with the exclusion of "communication difficulties" and "interviews by immigration") were significantly more frequent in patients with PTSD. Among PTE, "torture" was the event with the most relevant effect on the likelihood of having PTSD (OR: 7.26, IC 95%: 2.38-22.2, p = 0.001), followed by "forced confinement and coercion" (OR: 4.56, IC 95%: 1.71-12.16, p = 0.002). The most relevant PMLD were "loneliness and boredom" (OR: 1.9, IC 95%: 1.33-2.73, p = 0.000), "poor access to emergency medical care" (OR: 1.71, IC 95%: 1.29-2.29, p = 0.000), and "poor access to counselling services" (OR: 1.64, IC 95%: 1.21-2.23, p = 0.002).

As shown in *Table 2*, there was a significant positive correlation between either PTE and PMLD exposure and the likelihood to exceed the cut-off for PTSD. Such positive correlations remained significant after adding several covariates (including psychiatric comorbidity),

the odds ratios being 1.31 with a confidence interval of 1.08-1.6, and 1.19 with a confidence interval of 1.09-1.30, respectively.

DISCUSSION

This study found that potentially traumatic events (PTE), post-migration serious living difficulties (PMLD), and related psychopathology (PTSD, depression, anxiety and somatization) are common in first generation immigrants attending primary care services dedicated to migration and poverty.

Specifically, 60.6% of patients reported at least one PTE, multiple PTE being frequent. As expected, the most common trauma reported was "material deprivation" (32.7%), which is often one main reason to emigrate. The other most frequent PTE were, respectively, "disappearance, death or injury of loved ones", "bodily injury", "war-like conditions", "witnessed violence to others", "torture", and "forced confinement and coercion". Such kind of PTE are usually reported with high frequency in selected populations of immigrants like refugees and asylum seekers, while previous findings on primary care immigrants are conflicting. This study reports levels of PTE consistent with those reported in primary care Latinos [11], lower than those found in asylum seekers [34] and in some [35, 36] but not all [34] samples of refugees, higher than in regular immigrants [34] and primary care Mexican immigrants [12]. Although differences in the assessment methods might have influenced this variability, the characteristics of the samples are also important: study populations reporting lower rates of traumatic events were mainly based on regular, "documented" immigrants, while Eisenman *et al*. [11], Carrer *et al*. [2], and the present study selected mixed samples with a significant number of undocumented immigrants (about 35% in our study). Our hypothesis is that PTE might be more similar in undocumented immigrants, refugees and asylum seekers than in documented immigrants, and this might explain while studies focused on mixed populations have reported levels of PTE which are intermediate between the high levels found in refugees and the lower levels found in "regular" immigrants. Further studies comparing PTE in refugees, undocumented and regular economic immigrants are needed to test this hypothesis. In any case, our data provide evidence that a substantial proportion of primary care immigrants should be considered at risk due to their traumatic history, and thus in need of protection and heal.

According to such a psychotraumatic risk, we found that 10.2% of our patients scored positive for current PTSD, a finding consistent with previous reports [2, 5, 11]. Moreover, the number of PTE significantly increased the risk of PTSD independently from covariables. This is in line with previous research showing a "cumulative" effect of trauma, in the sense that a greater number of traumatic experiences is an additional risk factor increasing the vulnerability to psychopathology either in Western citizens [37, 38] and in adult non-Western populations [24]. Finally, although all PTE significantly increased the likelihood of having a PTSD, two of them ("torture" and "forced confinement and coercion") were more relevant than the others. This suggests that not only the number of PTE, but also qualitative features like the kind of experience might be relevant for the onset of subsequent PTSD. Further studies should address possible differences in the intrinsic psychotraumatic effect of PTE, for example distinguishing intentional (*i.e.*, man-made) from non-intentional (*e.g.*, material deprivation) traumatic experiences.

In our study the PTSD always co-occurred with depression, anxiety and/or somatization. This confirms early reports of high comorbidity between such syndromes [2] and supports previous suggestions that in case of histories of recurrent traumatic events the PTSD is part of a complex psychic and existential reaction presenting with many interrelated symptoms [39, 40]. However, our finding that somatization does not increase significantly the likelihood of having a PTSD when the interaction with the other variables is considered contrasts previous findings [24], suggesting that the relationship between somatization and PTSD may be particularly complex and more problematic than previously thought.

Finally, we found that serious/very serious PMLD were more frequently reported in patients with PTSD and that their number significantly increased the risk of having a PTSD. This is in line with previous research on either refugees/asylum seekers [*e.g.*, 6-9] and primary care immigrants [2, 41]. In our PTSD sample the most relevant PMLD were "loneliness and boredom", "poor access to emergency medical care", and "poor access to counselling services", suggesting that social isolation and perceived lack of medical and welfare support are key factors for the mental health of psychotraumatized patients. This is particularly relevant because in our study all patients (the "undocumented" and "neo-communitarians" groups included) actually *had* the right to receive emergency medical care from the National Health Service, and to access counselling services (including those organized by non governmental and charitable organizations). This suggests that it is not the abstract possibility, but rather the actual ability to find the appropriate information and to use it in order to concretely access the needed service, that might be particularly problematic in these vulnerable patients. Accordingly, programs aimed to facilitate pathways to care for patients with PTSD should be implemented.

The limitations of our study include potential transcultural measurement error and sampling bias. Although widely used in previous transcultural research and translated with standard back-translation procedures aimed at preserving conceptual equivalence, their psychometric performance in the current study was not tested.

Moreover, the generalization of our findings is restricted to those Western first-line primary care services specifically dedicated to immigrants in difficult social conditions. Indeed, they cannot be directly generalized to: a) all the primary care services, because in our sample the number and severity of PMLD were probably higher than in the general primary care population; b) the general population of immigrants, because our subjects were selected in a medical context; c) selected samples

of high-risk immigrants (*e.g.*, refugees, asylum seekers, detained) because the migratory status of our patients was quite heterogeneous.

Other limitations include the lack of a psychiatric diagnostic interview to confirm the results of the self-administered questionnaires.

CONCLUSION

In conclusion, this study found significant rates of PTE, PMLD, and consequent psychopathology in primary care patients visited in a Western service dedicated to immigrants in social difficulties. Accordingly, general practitioners (particularly those working in services for immigrants) should pay particular attention to the screening of PTE, PMLD and current psychopathological distress in first generation immigrants, independently from having or not a status of refugee. An early detection may offer the opportunity to reduce psychopathological morbidity, to avoid the risk of iatrogenic effects in non-recognized PTSD and to implement either first-line PTSD treatment approaches and collaborative care approaches with mental health consultants.

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Conflict of interest statement

There are no potential conflicts of interest or any financial or personal relationships with other people or organizations that could inappropriately bias conduct and findings of this study.

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REFERENCES

1. Freedy JR, Magruder KM, Zoller JS, Hueston WJ, Carek PJ, Brock CD. Traumatic events and mental health in civilian primary care: implications for training and practice. *Fam Med* 2010;42:185-92.
2. Carrer S, Meuti V, Catino E, Pucci D, Lafuente M, Colosimo F, Aragona M, Mazzetti M, Maisano B, Geraci S. Immigrazione, traumi, difficoltà vitali e psicopatologia: uno studio preliminare in un setting di medicina generale. *Riv Psichiatr* 2011;46:129-39. DOI: 10.1708/626.7313
3. Fortuna LR, Porche MV, Alegria M. Political violence, psychosocial trauma, and the context of mental health services use among immigrant Latinos in the United States. *Ethn Health* 2008;13:435-63. DOI: 10.1080/13557850701837286
4. Kaltman S, Green BL, Mete M, Shara N, Miranda J. Trauma, depression, and comorbid PTSD/depression in a community sample of Latina immigrants. *Psychol Trauma* 2010;2:31-9. DOI: 10.1037/a0018952
5. Tagay S, Zararsiz R, Erim Y, Düllmann S, Schlegl S, Brähler E, Senf W. Traumatische Ereignisse und Posttraumatische Belastungsstörung bei türkischsprachigen Patienten in der Primärversorgung. *Psychother Psychosom Med Psychol* 2008;58:155-61. DOI: 10.1055/s-2008-1067357
6. Nickerson A, Steel Z, Bryant R, Brooks R, Silove D. Change in visa status amongst Mandaean refugees: relationship to psychological symptoms and living difficulties. *Psychiatry Res* 2011;187:267-74. DOI: 10.1016/j.psychres.2010.12.015
7. Schweitzer RD, Brough M, Vromans L, Asic-Kobe M. Mental health of newly arrived Burmese refugees in Australia: contributions of pre-migration and post-migration experience. *Aust N Z J Psychiatry* 2011;45:299-307. DOI: 10.3109/00048674.2010.543412
8. Silove D, Sinnerbrink I, Field A, Manicavasagar V, Steel Z. Anxiety, depression and PTSD in asylum-seekers: Associations with pre-migration trauma and post-migration stressors. *Br J Psychiatry* 1997;170:351-7. DOI: 10.1192/bjp.170.4.351
9. Steel Z, Momartin S, Silove D, Coello M, Aroche J, Tay KW. Two year psychosocial and mental health outcomes for refugees subjected to restrictive or supportive immigration policies. *Soc Sci Med* 2011;72:1149-56. DOI: 10.1016/j.socscimed.2011.02.007
10. Fazel M, Wheeler J, Danesh J. Prevalence of serious mental disorder in 7000 refugees resettled in western countries: a systematic review. *Lancet* 2005;365(9467):1309-14. DOI: 10.1016/S0140-6736(05)61027-6
11. Eisenman DP, Gelberg L, Liu H, Shapiro MF. Mental health and health-related quality of life among adult Latino primary care patients living in the United States with previous exposure to political violence. *JAMA* 2003;290:627-34. DOI: 10.1001/jama.290.5.627
12. Holman EA, Silver RC, Waitzkin H. Traumatic life events in primary care patients. *Arch Fam Med* 2000;9:802-10. DOI: 10.1001/archfami.9.9.802
13. Galea S, Rockers PC, Saydee G, Macauley R, Varpilah ST, Kruk ME. Persistent psychopathology in the wake of civil war: long-term posttraumatic stress disorder in Nimba County, Liberia. *Am J Public Health* 2010;100:1745-51. DOI: 10.2105/AJPH.2009.179697
14. Johnson K, Scott J, Rughita B, Kisielewski M, Asher J, Ong R, Lawry L. Association of sexual violence and human rights violations with physical and mental health in territories of the Eastern Democratic Republic of the Congo. *JAMA* 2010;304:553-62. DOI: 10.1001/jama.2010.1086
15. Thabet AA, Abu Tawahina A, El Sarraj E, Vostanis P. Exposure to war trauma and PTSD among parents and children in the Gaza strip. *Eur Child Adolesc Psychiatry* 2008;17:191-9. DOI: 10.1007/s00787-007-0653-9
16. Williams SL, Williams DR, Stein DJ, Seedat S, Jackson PB, Moomal H. Multiple traumatic events and psychological distress: the South Africa stress and health study. *J Trauma Stress* 2007;20:845-55. DOI: 10.1002/jts.20252
17. Mollica RF, Caspi-Yavin T, Bollini P, Truong T, Tor S, Lavelle J. The Harvard Trauma Questionnaire: Validating a cross-cultural instrument for measuring torture, trauma, and posttraumatic stress disorder in Indochinese refugees. *J Nerv Ment Dis* 1992;180:111-6. DOI: 10.1097/00005053-199202000-00008
18. Shoeb M, Weinstein H, Mollica R. The Harvard Trauma Questionnaire: Adapting a cross-cultural instrument for measuring torture, trauma and posttraumatic stress disorder in Iraqi refugees. *Int J Soc Psychiatry* 2007;53:447-63. DOI: 10.1177/0020764007078362

19. Parloff MB, Kelman HC, Frank JD. Comfort, effectiveness, and self-awareness as criteria for improvement in psychotherapy. *Am J Psychiatry* 1954;3:343-51.
20. Hesbacher PT, Rickels K, Morris RJ, Newman H, Rosenfeld H. Psychiatric illness in family practice. *J Clin Psychiatry* 1980;41:6-10.
21. Mumford DB, Bavington JT, Bhatnagar KS, Hussain Y, Mirza S, Naraghi MM. The Bradford Somatic Inventory. A multi-ethnic inventory of somatic symptoms reported by anxious and depressed patients in Britain and the Indo-Pakistan Subcontinent. *Br J Psychiatry* 1991;158:379-86. DOI: 10.1192/bjp.158.3.379
22. Mumford DB, Tareen IAK, Bhatti MR, Bajwa MA, Ayub M, Pervaiz T. An investigation of "functional" somatic symptoms among patients attending hospital medical clinics in Pakistan. II: Using somatic symptoms to identify patients with psychiatric disorders. *J Psychosom Res* 1991;35:257-64. DOI: 10.1016/0022-3999(91)90079-4
23. Aragona M, Tarsitani L, Colosimo F, Martinelli B, Raad H, Maisano B, Geraci S. Somatization in primary care: A comparative survey of immigrants from various ethnic groups in Rome, Italy. *Int J Psychiatry Med* 2005;35:241-8. DOI: 10.2190/2G8N-MNNE-PGGP-PJJQ
24. Aragona M, Catino E, Pucci D, Carrer S, Colosimo F, Lafuente M, Mazzetti M, Maisano B, Geraci S. The relationship between somatization and posttraumatic symptoms among immigrants receiving primary care services. *J Trauma Stress* 2010;23:615-22.
25. Aragona M, Rovetta E, Pucci D, Spoto J, Villa AM. Somatization in a primary care service for immigrants. *Ethn Health* 2012;17(5):477-91. DOI: 10.1080/13557858.2012.661406
26. Mollica RF, Mcinnes K, Sarajlic N, Lavelle J, Sarajlic I, Massagli M. Disability associated with psychiatric comorbidity and health status in Bosnian refugee living in Croatia. *JAMA* 1999;282:433-9. DOI: 10.1001/jama.282.5.433
27. Smith Fawzi MC, Pham T, Lin L, Nguyen TV, Ngo D, Murphy E. The validity of posttraumatic stress disorder among Vietnamese refugees. *J Trauma Stress* 1997;10:101-8. DOI: 10.1002/jts.2490100109
28. Smith Fawzi MC, Murphy E, Pham T, Lin L, Poole C, Mollica RF. The validity of screening for posttraumatic stress disorder and major depression among Vietnamese former political prisoners. *Acta Psychiatr Scand* 1997;95:87-93.
29. American Psychiatric Association. *Diagnostic and statistical manual of mental disorders* 3rd ed., rev. Washington, DC: Author; 1987.
30. Hasanović M, Herenda S. Post traumatic stress disorder, depression and anxiety among family medicine residents after 1992-95 war in Bosnia and Herzegovina. *Psychiatr Danub* 2008;20:277-85.
31. Tinghög P, Al-Saffar S, Carsensen J, Nordenfelt L. Immigrant- and non-immigrant-specific factors' association with mental ill health among immigrants in Sweden. *Int J Soc Psychiatry* 2010;56:74-93. DOI: 10.1177/0020764008096163
32. Aragona M, Monteduro MD, Colosimo F, Maisano B, Geraci S. Effect of gender and marital status on somatization symptoms of immigrants from various ethnic groups attending a primary care service. *Germ J Psychiatry* 2008;11:64-72.
33. Momartin S, Steel Z, Coello M, Aroche J, Silove DM, Brooks R. A comparison of the mental health of refugees with temporary versus permanent protection visas. *Med J Aust* 2006;185:357-61.
34. Silove D, Steel Z, McGorry P, Mohan P. Trauma exposure, postmigration stressors, and symptoms of anxiety, depression and post-traumatic stress in Tamil asylum-seekers: comparison with refugees and immigrants. *Acta Psychiatr Scand* 1998;97:175-81. DOI: 10.1111/j.1600-0447.1998.tb09984.x
35. Lindencrona F, Ekblad S, Hauff E. Mental health of recently resettled refugees from the Middle East in Sweden: the impact of pre-resettlement trauma, resettlement stress and capacity to handle stress. *Soc Psychiatry Psychiatr Epidemiol* 2008;43:121-31. DOI: 10.1007/s00127-007-0280-2
36. Schweitzer RD, Melville F, Steel Z, Lacherez P. Trauma, post-migration living difficulties, and social support as predictors of psychological adjustment in resettled Sudanese refugees. *Aust N Z J Psychiatry* 2006;40:179-87.
37. Herman JL. Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *J Trauma Stress* 1992;5:377-91. DOI: 10.1007/BF00977235
38. Van Der Kolk BA. Developmental trauma disorder: toward a rational diagnosis for children with complex trauma histories. *Psychiatr Ann* 2005;35:401-8.
39. Herman JL. *Trauma and recovery. The aftermath of violence-from domestic abuse to political terror*. London: Basic Books; 1997.
40. Van Der Kolk BA, Pelcovitz D, Roth D, Mandel FS, McFarlane A, Herman JL. Dissociation, somatization and affect dysregulation: the complexity of adaptation to trauma. *Am J Psychiatry* 1996;153:83-93.
41. Aragona M, Pucci D, Mazzetti M, Geraci S. Post-migration living difficulties as a significant risk factor for PTSD in immigrants: a primary care study. *IJPH* 2012;9:67-74. DOI: 10.2427/7525