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The role of post-migration living difficulties on somatization among first-generation immigrants visited in a primary care service

Massimiliano Aragona, Daniela Pucci, Sara Carrer, Elena Catino, Adriana Tomaselli, Francesco Colosimo, Montserrat Lafuente, Marco Mazzetti, Bianca Maisano and Salvatore Geraci

Caritas Health Service Network, Rome, Italy

Summary. The role of post-migration living difficulties (PMLD) on somatization was studied in 101 first generation immigrants visited in primary care. Premigratory traumas and post-traumatic stress disorder (PTSD) were also assessed. About one third of patients somatized. Sociodemographic variables were similar in somatizers and non-somatizers. Premigratory traumas, PTSD and the likelihood to report at least one serious or very serious PMLD were higher in somatizers. Four kinds of PMLD were more frequent in somatizers: worries about unavailability of health assistance, working problems, discrimination and poor social help. Traumas and PTSD influenced the effect of PMLD on somatization. Findings suggest that in specific samples of primary care immigrants severe premigratory traumas increase the sensitivity to PMLD and in turn distress due to PMLD amplifies the tendency to somatize.

Key words: somatization, migration, family medicine, psychopathology, mental health.

Riassunto *(Il ruolo delle difficoltà di vita post-migratorie sulla somatizzazione tra gli immigrati di prima generazione visitati in servizi di medicina generale)*. Lo studio valuta il ruolo delle difficoltà di vita post-migratorie (PMLD) in 101 immigrati visitati in medicina generale. Sono stati considerati anche i traumi premigratori e il disturbo post-traumatico da stress (PTSD). Circa un terzo dei pazienti somatizza. Le variabili sociodemografiche sono simili tra somatizzatori e non. I traumi premigratori, il PTSD e la probabilità di avere almeno una PMLD grave o molto grave sono aumentati nei somatizzatori. Nei somatizzatori sono più frequenti quattro tipi di PMLD: paura di non ricevere assistenza medica, difficoltà lavorative, discriminazione e scarsa assistenza sociale. I traumi e il PTSD influenzano l'effetto delle PMLD sulle somatizzazioni. I risultati suggeriscono che, in campioni specifici di immigrati visitati in medicina generale, gravi traumi premigratori aumentino la sensibilità alle PMLD e che il disagio dovuto alle PMLD amplifichi la tendenza a somatizzare.

Parole chiave: somatizzazione, immigrazione, medicina di famiglia, psicopatologia, salute mentale.

INTRODUCTION

Vague physical complaints (*e.g.* indistinct pain, fatigue, dizziness, gastrointestinal disturbances) are among the most important reasons for visiting in primary healthcare and often remain medically unexplained [1]. In many cases these symptoms might be reframed as somatizations, defined as "A tendency to experience and express somatic distress and symptoms unaccounted for by pathological findings, to attribute them to physical illness, and to seek medical help for them. It is often assumed that somatization becomes manifest in response to psychosocial stress brought about by life events that are personally stressful to the individual" [2].

Previous research showed that somatizations are quite frequent among immigrants visited in primary care, their prevalence rates ranging between 25.6 and 35.2% [3, 4]. Moreover, somatizations are often undiagnosed in primary care settings, being habitually misdiagnosed as nonspecific somatic disorders: thoracic pain, gastralgia, tingling, and so on [4, 5].

Among psychosocial stressors that have been previously considered as possible reasons of the increased tendency to somatize in immigrants there were: a) pre-migratory traumatic experiences, through the development of a "complex post-traumatic stress disorder" [6]; b) stressful life events and post-migration living difficulties (PMLD). In this last case early reports found a temporal relationship between significantly stressful life events and onset of somatization which was unnoticed by patients

Address for correspondence: Massimiliano Aragona, Sapienza Università di Roma, Via Carlo Fea 2, 00161 Rome, Italy. E-mail: massimiliano.aragona@uniroma1.it.

who tended to deny it [7]. Some studies had found a significant number of serious or very serious PMLD in refugees, and in these populations PMLD were: a) correlated to anxiety, depression and DSM-IV post-traumatic stress disorder (PTSD); b) more frequent in subjects with uncertain migratory status (temporary visa) than in subjects with permanent visa; c) together with low perceived social support from the migrant's ethnic community, correlated to poorer mental health outcomes (anxiety, depression, post-traumatic symptoms [8, 9], somatization [10]).

Moreover, even in cases of non-forced migration (that is, subjects that were not forced to leave their countries due to traumatic events as it is usual in the case of refugees) PMLD might be a significant source of distress, because the experience of migration is often per se a traumatic event related to poor adjustment in the hosting country [11]. As far as we know the effect of PMLD on somatizations in groups of non-selected immigrants has not been studied yet.

The aim of this study is to explore rates of PMLD in subjects attending a primary care service dedicated to immigrants in poor social condition and to test the hypothesis that PMLD are more frequent among somatizers. Different rates of PMLD in somatizers and non-somatizers will be studied adjusting the analysis for significantly intervening variables like experience of pre-migratory traumas and comorbid PTSD.

METHODS

Participants

The study was carried out at the Caritas Health Service for Immigrants, Rome, Italy. The study population was a specific subset of the Italian immigrant patients: it was composed of patients attending a primary care service specifically dedicated to those immigrants that due to their sanitary condition need a medical evaluation but due to socio-cultural reasons are unable/find it very difficult to access the Italian National Healthcare Service (NHS). All subjects were first-generation immigrants. A systematically selected sample of consecutive patients visiting the service for their first medical examination in the period February-November 2007 was requested to enter the study. Participants were assigned at their arrival in our clinic; selected patients were asked to complete self-administered questionnaires. Every 15th patient who was on a first visit to our center was approached. Those agreeing to the study were entered in the study sample, but only those with completed questionnaires were statistically analyzed. In order to be included in the study subjects at the primary care service had to be: a) immigrants speaking/having a good comprehension of at least one of the study languages (Arabic, Bengali, Chinese, French, Italian, Polish, Rumanian, Russian, and Spanish); b) age 18 or older; c) being scheduled for a first visit at the primary care service. Subjects with significant cognitive impairment were excluded. All participants received the same health assistance independently from having accepted or not to enter the study.

One-hundred and twelve patients were asked to participate to the study. Of these, 101 duly fulfilled the questionnaires and were included in the analysis. All subjects were able to self-administer the questionnaire without needing reading assistance. The average age was 38.76 ± 10.96 (range 19-67 years); 59 (58.4%) were males. All of them were new patients, attending for their first visit at our primary care centre. The length of time between the reported arrive in Italy and the first visit in our service was of 76.59 months (± 372.18). This huge standard deviation was due to a minority of patients arrived in Italy more than 15 years early; after excluding these 6 patients, the length of time decreased to months 24.83 ± 26.69. More than one third of subjects (38.61%) were illegal immigrants. Although not illegal, European citizens coming from countries recently included in the European Union, here called "neo-communitarians" (47.52%) were in similar conditions due to media-conveyed racism (in the period of the study this was particularly evident for Rumanians) and difficult access to the Italian NHS. In general, although not directly measured with standardized instruments, social conditions were rather poor in almost all the immigrants included in our sample, and this was mainly due to the characteristic of our Centre, specifically dedicated to immigrants unable to accede to the NHS. Patients were immigrants coming from developing countries of Asia, Africa and America, as well as from Eastern Europe. The majority of subjects were Rumanian (43.56%).

Data collection

Participants were asked to complete the following instruments validated for use in transcultural research: the 21-item Bradford Somatic Inventory (BSI-21), the living difficulties questionnaire (LDQ) and the Harvard trauma questionnaire (HTQ). All this instruments were translated into 9 languages, namely Arabic, Bengali, Chinese, French, Italian, Polish, Rumanian, Russian, and Spanish. Following this translation, the documents underwent blind back translation by a separate mother-tongue linguist. Reconciliation of the two translations was made after reviewing for cultural and linguistic accuracy. The questionnaires were self-administered, but if needed they could be read out to patients with reading difficulties.

Socio demographic data were collected by the interviewer by writing the responses that participants provided on a separate *ad hoc* questionnaire. Information on gender, age, and immigrant residence status (legally or illegally living in Italy) was collected from all participants.

The BSI-21 is a widely validated self-assessment questionnaire specifically designed for use in transcultural research [12, 13], deemed appropriate for

this type of study [14], and formerly used to assess somatization among groups of immigrants similar to those studied herein, attending primary care services [3, 15]. 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 [6, 15], a cut-off score of 14 was used to split the sample in two groups: somatizers and non-somatizers. The basic construct of the BSI-21 is that the somatic symptoms enlisted herein are: a) somehow "unusual" compared to those symptoms that are usually reported in somatic diseases with clear pathophysiology (*e.g.* "fluttering or feelings of something moving in the stomach), or b) general and/or vague (*e.g.* headache), and that the coexistence of a number of symptoms scoring at least 14 is an index of the association of symptoms of various kind implausibly based on a common pathophysiology. Previous research has shown that using this cut-off score the BSI-21 has a sensitivity of 0.87 and a specificity of 0.75 in differentiating psychiatric cases (somatic symptoms related to psychopathological conditions) from noncases (symptoms due to a medical condition) among patients presenting with somatic symptoms [13].

The LDQ is a self-evaluated questionnaire used to assess recent adverse life experiences typical of immigrants [8]. It consists of a list of 24 possible post-migration living difficulties assessed on a five-points scale, ranging from "no problem at all" to "a very serious problem".

Respondents are requested to indicate the extent to which they were troubled by any of these living problems in the last year. Accordingly to previous studies [8], only "serious" and "very serious" problems were entered in the statistical analyses.

The HTQ [16, 17] is a widely used measure firstly developed for Indochinese populations but later applied to other cultural groups [18]. The validity and reliability of the HTQ have been demonstrated in several studies [16, 19, 20]. The sections used in the present study included the scale listing nine traumatic events and the 16 post-traumatic stress items originally derived from DSM-III-R criteria for PTSD [21]. The respondents were asked to indicate the extent to which they were bothered by each symptom in the previous week, ranging from 1 = not at all to 4 = extremely. The cut-off was 2.5.

Statistical analysis

Descriptive statistics were calculated and expressed as means ± SD when due. Student's t test and χ^2 test were used to analyse differences in demographic and general variables between somatizers and non-somatizers. Chi square test (or Fisher test) was used to compare somatizers and non-somatizers on the followings: a) the frequency of subjects having at least one serious or very serious living difficulty; b) differences in any single serious or very serious living difficulty in the two groups; c) the frequency of subjects having experienced at least one pre-migratory trauma; d) the frequency of subject having a PTSD. Logistic regression analyses evaluated the effect of having or not PMLD and of the number of PMLD on the risk of being considered as a somatizer. Finally, a logistic regression analysis was used to evaluate the effect of having had traumas on the risk of having at least one serious/very serious PMLD, and a linear regression analysis was used to study the influence of the number of traumatic experiences on the number of serious/very serious PMLD reported. Statistical significance was set at $p < 0.05$.

RESULTS

In the whole sample 39 patients (38.6%) scored 14 or more at the BSI-21 and were considered somatizers. As shown in *Table 1*, there were not statistically significant differences in age, gender, educational level and migratory status between somatizers and non-somatizers. Having experienced at least one traumatic event and having a PTSD were both significantly more common in somatizers than in non-somatizers (respectively, 69.2% *vs* 40.3%, p = 0.003; and 30.7% *vs* 6.4%, p = 0.001) and were included as significantly intervening variables in the regression analyses.

As shown in *Table 2*, the number of somatizers reporting at least one serious or very serious living difficulty was significantly higher than that of non-somatizers (p = 0.016). In particular, the increased frequency of PMLD in somatizers appeared to be mainly due to differences in 10 of the 24 possible liv-

Table 1 | *Sociodemographic variables*

	Gender		Age		Years of study		Migratory status		
	Males	Females	Mean	± SD	Mean	± SD	Neo-communitarians	No visa (illegal)	Visa
Somatizers (no. = 39)	58.9%	41.1%	39.8	10.5	11.95	4.36	46.15%	41.02%	12.82%
Non somatizers (no. = 62)	58.1%	41.9%	38.1	11.3	11.3	3.63	48.38%	37.09%	14.51%

All differences are not significant.

Table 2 | *Serious/very serious post-migration living difficulties (PMLD) in somatizers and non somatizers*

	Somatizers		Non somatizers		*p*
	no.	%	no.	%	
Presence/absence of serious/very serious PMLD[a]					
Any serious/very serious PMLD	35	89.74	44	70.96	0.016
No serious/very serious PMLD	4	10.25	18	29.03	
Item analysis of serious/very serious PMLD[a]					
1. Communication difficulties	8	20.51	10	16.13	0.177
2. Discrimination	8	22.86	4	7.14	0.027
3. Separation from family	9	25.00	19	33.30	0.13
4. Worries about family back at home	16	45.71	19	32.20	0.075
5. Unable to return home in emergency	14	37.84	20	34.48	0.163
6. No permission to work	22	61.11	26	50.00	0.102
7. Not being able to find work	21	58.33	18	32.14	0.008
8. Bad job conditions	10	27.78	6	12.24	0.045
9. Being in detention	4	11.76	6	11.54	0.266
10. Interviews by immigration	4	11.43	2	3.77	0.133
11. Delays in processing your application	9	29.03	11	22.00	0.16
12. Conflict with immigration officials	4	11.11	5	10.00	0.271
13. Fears of being sent home	12	35.29	14	25.45	0.115
14. Worries about not getting treatment for health problems	17	42.50	17	28.33	0.059
15. Poor access to emergency medical care	15	38.46	11	18.97	0.02
16. Poor access to long term medical care	14	38.89	10	17.54	0.015
17. Poor access to dentistry care	13	36.11	12	21.05	0.054
18. Poor access to counselling services	11	31.43	6	11.32	0.015
19. Little Government help with welfare	16	45.71	8	16.00	0.002
20. Little help with welfare from Charities	8	21.62	3	5.45	0.019
21. Poverty	18	50.00	16	28.07	0.019
22. Loneliness and boredom	14	41.18	13	22.41	0.032
23. Isolation	7	19.49	7	12.50	0.153
24. Poor access to the foods you like	7	18.42	5	8.33	0.085

[a] *Fisher test.*

ing difficulties considered *(Table 2)*. Logistic regression analyses show *(Table 3)* that: a) having at least one serious/very serious PMLD significantly increases the risk of being a somatizer; b) the number of serious/very serious PMLD is also correlated with an higher risk of somatization. This effect of PMLD on somatization appears to be mainly due to the concurrent effect of pre-migratory traumas: indeed having experienced at least one trauma significantly influenced the possibility of having at least one PMLD, and the number of pre-migratory traumas significantly increased the number of reported serious/very serious PMLD *(Table 3)*.

DISCUSSION

This study addressed the role of post-migration living difficulties (PMLD) in a sample of 101 immigrants attending a primary care service dedicated to immigrants and compared the relative frequency of PMLD in somatizers and non-somatizers. According to previous research [3], more than one third of subjects scored above the BSI-21 cut off and were considered as somatizers. In this study somatizers and non-somatizers had similar gender distribution, age, educational level and migratory status, while they differed significantly in the likelihood of having experienced pre-migratory traumas and on having a PTSD.

Somatizers were significantly more likely to have experienced at least one serious or very serious PMLD. An item analysis showed that this difference was mainly due to 10 PMLDs. It should be noted that typical migratory problems such as communication difficulties, separation from and worries about family remained in the country of origin do not appear to significantly influence somatizations. Similarly, the frequent condition of having no visa to work does not discriminate between somatizers and non-somatizers, being a transnosografic, general condition. Finally, even bureaucratic and legal problems appear to be general PMLD that do not vary significantly between somatizers and non-somatizers. Our findings indicate that somatizers appear to be significantly more sensible to four kind of PMLD. First of all, somatizers

are frequently worried about not having access to appropriate medical help; this is significant in the case of emergency ($p = 0.02$) and long term medical care ($p = 0.015$) but it tends to significance even in the case of worries about not getting general health assistance ($p = 0.059$) and dentistry care ($p = 0.054$). Taken as a whole, these worries are PMLD that might be considered as comprehensibly secondary to the typical cognitive style of somatizers (independently of the country of origin). In our opinion this is in line with common knowledge about somatizers in general, namely: a) their well known tendency to overuse medical services; b) their typical worry of not being cured adequately; c) their usual sensation that physicians do not recognised their disease; d) their belief that somewhere there must be a super-specialised service where doctors will eventually discover the real causes of their real illness.

If this is true even for Western somatizers, in immigrant somatizers it is further complicated by the so called "general hospital syndrome" [22], that is the tendency of immigrants at their first arrive in Western countries to expect super-technological services with computer-based diagnostic devices. As it was discussed in early studies this amplify unrealistic expectations that are inexorably disappointed when the subject receives a "simple" clinical evaluation [22]. It was shown that a similar dynamic is operative in the case of immigrated somatizers when after a first "honey moon" phase the physician seems to have no idea of the causes and treatment of such unexplained somatic symptoms [4].

A second kind of PMLD which resulted to be significantly more frequent in somatizers was about work (not being able to find work and bad job conditions). Our suggestion is that in this case work difficulties should be interpreted as reasons of increased distress that eventually leads to somatization. It should be considered that having a good work is not only of practical importance, it is also very important for having a good self-esteem, a clearer sense of identity and for social recognition. This is particularly remarkable in first-generation immigrants whose migratory project is very often related to their success in finding a work (and to be able to send money home as well). Related to this are the other two kinds of PMLD significantly more frequent in somatizers: discrimination at one side, and poor social help (poor access to counselling services, little help with welfare from both Government and Charities), poverty and loneliness/boredom at the other side. It should be noted here that "macro" factors like the Government programs for the social integration of immigrants and "micro" (individual) factors like loneliness and boredom merge together in a unique picture. We suggest that in this picture poverty, discrimination and social exclusion may play a remarkable role in increasing the life stress and that the associated feelings of loneliness, boredom and low self-esteem may contribute to passive stances and social withdrawal which in turn amplify their marginalization, their distress, and somatization as one of the few possible permissible ways to express it.

Regression analyses showed that PMLD are significant factors influencing somatization, but also that pre-migratory traumatic experiences are highly correlated to the possibility of experiencing PMLD and to their number. As a result, our findings suggest that pre-migratory traumatic experiences might be responsible of psychosocial distress eventually leading to somatization. This finding is consistent with previous studies showing that in immigrants PTSD and somatization are strictly connected [6, 23] and that pre-migratory traumatic events may also have ongoing indirect effects by increasing the vulnerability of individuals to future stressors [24], thus leading to more frequent PMLD. This interplay between pre-migratory traumas, PMLD and psychopathological symptoms is relevant because it stresses that traumatic experiences are key factors in immigrants psychopathology. Their effect appears not only directly on the onset of the typical symptoms of PTSD but also indirectly by increasing immigrants' sensitivity to PMLD. In turn, PMLD can impact on mental health by increasing the vulnerability to retraumatization and consequent distress leading to psychopathological symptoms of various kind, somatization included. This is supported by previous studies that found that, traumatic experiences being relevant but comparable, psychopathological differences in different groups of immigrants

Table 3 | *Influence of PMLD on somatization and of premigratory traumas on PMLD*

	B	Standard error	OR	IC 95%	p
Influence of having at least one serious/very serious PMLD on the risk of somatisation[a]	1.27	0.78	6.44	1.39-29.79	0.017
Influence of the number of serious/very serious PMLD on the risk of somatization[a]	0.09	0.41	1.09	1.01-1.18	0.036
Influence of having at least one premigratory trauma on the risk of having at least one serious/very serious PMLD[a]	3.29	1.05	27.1	3.44-213.57	0.002
Influence of the number of premigratory traumas on the number of serious/very serious PMLD[b]	1.16	0.2	–	0.76-1.56	0.000

[a]logistic regression analyses; [b]linear regression analysis. PMLD: post-migration living difficulties.

were significantly linked to psychosocial factors including PMLD [8-10].

The principal limitations of our study include the characteristics of the sample and potential transcultural measurement error. Because of the relatively low number of subjects, it should be considered a pilot study that needs to be replicated in larger samples. In addition, the migratory status of our patients should be discussed; while other studies had focused on homogeneous groups (*e.g.* refugees), our sample was heterogeneous, representing a subgroup of first-generation immigrants accessing our primary care service whose migratory status was variable, ranging from illegal immigrants through neo-communitarians to a minority of subjects with regular visa (and among them refugees and asylum seekers, subjects emigrated for economical reasons, for family reunification, and so on). In general, our sample is representative of a typical group of first-generation patients visiting those healthcare centers that are specifically dedicated to immigrants unable to access the NHS. Due to this center-based selection bias, subjects with worse social conditions were more likely to be included in this study than immigrants in better social conditions. Moreover, the study was carried out in Italy where migration is relatively recent. Consequently, our sample is quite specific and cannot be directly generalized neither to the general population of immigrants in Italy (because they are selected on the base of their request of primary care assistance and also because they are likely to be a selection of those in lower social conditions), nor to the primary care population of immigrants visited in countries with a longer tradition of immigration. Moreover, measures were specifically chosen because of their psychometric performance across cultures and standard translation-back translation methods were applied. However, scores on self-administrated questionnaires were used to determine rates of psychopathological disorders without independent and blind psychiatric clinical assessment. Although the transcultural validity of these instruments was known, the lack of a confirmatory clinical assessment could be a limit. Another limit is that the cross-sectional design of this study and the characteristics of the assessment instruments made it impossible to calculate the length of time between the independent variables (traumatic events and PMLD) and the onset of somatization. Finally, we inferred the low socio-economical level of our immigrants on the basis of direct experience and of the above reported peculiar characteristics of our service. A direct measurement of the social level was not performed because in a busy service like our the number of administered tests had to be reduced as much as possible; however, further studies should avoid this limitation by directly assessing this variable.

In conclusion, in a sample of non-selected first-generation immigrant patients in a primary health care service, our study confirms previous research on selected samples (mainly of refugees and asylum seekers) that pre-migratory traumatic experiences have a strong impact on psychosocial adjustment in the Host Country. Our study suggests that trauma not only has a direct effect on later onset of psychopathological symptoms but also that it can have an indirect effect via PMLD. This effect can be realized via different ways: 1) by reducing the resilience and increasing the sensitivity to PMLD; 2) by impairing the coping competence in answering to their needs (as example, those traumatized patients that do not find ways to obtain their right to accede to the NHS). Accordingly, conceptualizing the mental health of immigrants requires the recognition of the role of both pre-migration trauma and post-migration stressors and the awareness that psychological distress can manifest in various ways, somatization included. In particular, our data on somatization and PMLD suggest that a few kinds of PMLD are significantly involved in somatizers respect to non-somatizers. Taken together, they are descriptors of a general condition of marginalization and social exclusion. This is in all probability directly responsible of increased distress that in turn amplifies the tendency to somatize. Moreover, we suggest that it also operates indirectly by influencing self-esteem in relation to the accomplishment of the migratory project (whose failure was regarded as one of the main factors increasing the risk of psychological sufferance [11, 25]). Such an hypothesis is consistent with previous findings showing that dissatisfaction with the present living condition in comparison to pre-migratory expectations is one of the few living factors significantly increasing somatization [26].

Even though we found that in our sample PMLD were not the only factor responsible for somatization, their importance in practice is relevant because they may increase the vulnerability to re-traumatization and consequent distress leading to somatization. The migratory phenomenon is extremely complex and this study must limit itself to suggest a few practical consequences. Our findings are consistent with previous studies [8, 9] showing that low levels of protection in the Host Country are significantly related to increased PMLD and psychopathology. Accordingly, the implementation of better politics of social protection for immigrants, leading to the reduction of those PMLD that in our study increase the risk of somatization might be considered as a viable strategy to prevent mental sufferance and to increase the possibility of a satisfying social integration.

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. Kroenke K, Arrington ME, Mangelsdorff AD. The prevalence of symptoms in medical outpatients and adequacy of therapy. *Arch Intern Med* 1990;150:1685-9.
2. Lipowski ZJ. Somatization: the concept and its clinical application. *Am J Psychiatry* 1988;145:1358-68.
3. 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.
4. Aragona M, Catino E, Carrer S, Colosimo F, Monteduro M, Maisano B. Una sfida per la medicina di base in ambito transculturale: le sindromi da somatizzazione. In: Affronti M, Geraci S (Ed.). *Atti del X Consensus Conference sull'Immigrazione. Congresso Nazionale della Società Italiana di Medicina delle Migrazioni (SIMM)*. Trapani, 5-7 February 2009. Palermo: SIMM; 2009. p. 136-9.
5. Aragona M, Colosimo F. Le sindromi da somatizzazione in un ambulatorio di medicina generale per gli immigrati, in Italia. I: Dati epidemiologici e psicopatologia clinica. *Psichiatria e Territorio* 2000;17:1-6.
6. Aragona M, Catino E, Pucci D, Carrer S, Colosimo F, Lafuente M, Mazzetti M, Maisano B, Geraci S. The relationship between somatization and post-traumatic symptoms among immigrants receiving primary care services. *J Trauma Stress* 2010;23:615-22.
7. Isaac M, Janca A, Burke KC, Costa e Silva JA, Acuda SW, Altamura AC, Burke JD Jr, Chandrashekar CR, Miranda CT, Tacchini G. Medically unexplained somatic symptoms in different cultures. A preliminary report from phase I of the World Health Organization International Study of Somatoform Disorders. *Psychother Psychosom* 1995;64:88-93.
8. 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.
9. 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. *MJA* 2006;185:357-61.
10. Schweitzer R, Melville F, Steel Z, Lacherez P. Trauma, postmigration living difficulties, and social support as predictors of psychological adjustment in resettled Sudanese refugees. *Aust NZJ Psychiatry* 2006;40:179-87.
11. Mazzetti M. Trauma and migration. A transactional analytic approach toward refugees and torture victims. *TAJ* 2008;38: 285-302.
12. 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. *Brit J Psychiatry* 1991;158:379-86.
13. 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.
14. Colosimo F, Aragona M. Le sindromi da somatizzazione in un ambulatorio di medicina generale per gli immigrati, in Italia. II. Confronto tra i principali test e valutazione del Bradford Somatic Inventory. *Psichiatria e Territorio* 2000;17:7-12.
15. 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. *German J Psychiatry* 2008;11:64-72.
16. Mollica RF, Caspi-Yavin Y, Bollini P, Truong T, Tor S, Lavelle J. The Harvard Trauma Questionnaire. Validating a cross-cultural instrument for measuring torture, trauma, and post-traumatic stress disorder in Indochinese refugees. *J Nerv Ment Dis* 1992;180:111-6.
17. Shoeb M, Weinstein H, Mollica RF. The Harvard Trauma. Questionnaire: Adapting a cross-cultural instrument for measuring torture, trauma and post-traumatic stress disorder in Iraqi refugees. *Int J Soc Psychiatry* 2007;53:447.
18. 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.
19. Smith Fawzi MC, Murphy E, Pham T, Lin L, Poole C, Mollica RF. The validity of screening for post-traumatic stress disorder and major depression among Vietnamese former political prisoners. *Acta Psychiatr Scand* 1997;95:87-93.
20. Smith Fawzi MC, Pham T, Lin L, Nguyen TV, Ngo D, Murphy E. The validity of post-traumatic stress disorder among Vietnamese refugees. *J Trauma Stress* 1997;10:101-8.
21. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders.* 3. ed., revised (DSM III-R). Washington, DC: American Psychiatric Association; 1987.
22. Mazzetti M. Il dialogo transculturale in medicina. In: Geraci S (Ed.). *Argomenti di medicina delle migrazioni.* Busseto: Perì Tecnès; 1995. p. 231-43.
23. Catino E, Carrer S, Aragona M, Pucci D, Lafuente M, Mazzetti M, Maisano B, Geraci S. Il ruolo delle esperienze traumatiche nelle somatizzazioni dei migranti in primary care. In: Affronti M, Geraci S (Ed.). *Atti del X Consensus Conference sull'Immigrazione. Congresso Nazionale della Società Italiana di Medicina delle Migrazioni (SIMM)*. Trapani, 5-7 February 2009. Palermo: SIMM; 2009. p. 190-5.
24. Mollica RF, McInnes K, Poole C, Tor S. Dose-effect relationships of trauma to symptoms of depression and post-traumatic stress disorder among Cambodian survivors of mass violence. *Brit J Psychiatry* 1998;173:582-8.
25. Mazzetti M. *Strappare le radici. Psicologia e psicopatologia di donne e uomini che migrano.* Torino: L'Harmattan Italia; 1996.
26. Martinelli B, Raad H, Colosimo F, Aragona M, Tarsitani L, Bindi L, Maisano B, Geraci S. Le somatizzazioni in un ambulatorio di Medicina Generale per immigrati. *Quaderni Italiani di Psichiatria* 2008;XXVII:4-10.