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Patterns of somatic distress among conflict-affected persons in the Republic of Georgia

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ABSTRACT

Background: There are substantial risk factors for somatic distress (SD) among civilian populations affected by armed conflict in low and middle income countries. However, the evidence is very limited. Our aim was to examine patterns of SD among conflict-affected persons in the Republic of Georgia, which has over 200,000 internally displaced persons (IDPs) from the wars over separatists regions in the 1990s and with Russia in 2008.
Methods: A cross-sectional household survey was conducted with 3600 randomly selected IDPs and former IDPs (returnees). SD was measured using the Patient Health Questionnaire (PHQ-15). Post-traumatic stress disorder (PTSD), depression, anxiety, and disability were measured using the Trauma Screening Questionnaire, Patient Health Questionnaire 9, Generalised Anxiety Disorder 7, and WHO Disability Assessment Schedule 2.0, respectively. Descriptive, tetrachoric and multivariate regression analyses were used.
Results: Forty-two percent of respondents (29% men; 48% women) were recorded as at risk of SD (PHQ-15 score >5). In tetrachoric analysis, SD scores were highly correlated with depression ($r = 0.60$; $p < 0.001$), PTSD ($r = 0.54$; $p < 0.001$), and anxiety ($r = 0.49$; $p < 0.001$). Factors significantly associated with SD in the multivariate regression analysis were depression, PTSD, anxiety, individual trauma event exposure, cumulative trauma exposure, female gender, older age, bad household economic status, and being a returnee compared to an IDP. SD was also associated with increased levels of functional disability ($b = 6.73$; $p < 0.001$).
Conclusions: The high levels of SD among IDPs and returnees in Georgia indicate significant suffering. The findings have implications for both mental and physical health services in Georgia.

Background

Almost 50 million people have been forcibly displaced from their home areas by armed conflict globally, the vast majority of whom live in low- and middle-income countries. These comprise over 33 million internally displaced persons (IDPs) who remain within the borders of their countries and over 16 million refugees and stateless persons who are living in other countries [26,47]. There are millions more civilians who are resident in conflict-affected areas or in places that were, until recently, beset by conflict. High rates of mental disorders such a post-traumatic stress disorder (PTSD), depression and anxiety have been reported among conflict-affected civilian populations due to exposure to violent and traumatic events, impoverishment, poor living conditions, and other daily stressors [32,39,46]. However, less attention appears to have been paid to somatic distress (SD).

SD is characterized by symptoms that suggest physical illness or injury but which cannot be explained fully by a general medical condition or by the direct effect of a substance, or by another mental disorder [1]. The types and meaning of somatic symptoms vary between cultures, with each culture having particular beliefs on the meaning of somatic symptoms [19]. SD commonly gives rise to a high burden on individuals as well as health services [2,5,17,41]. While research on SD is complicated by variation in the definition and measurement of SD [6,11,14] and poorly understood pathophysiological mechanisms ([31], Clauw, Engel, et al. 2003, [11]), SD has been shown to be a valid construct from a transcultural perspective [17].

SD might be expected to be common in conflict-afflicted populations given the high levels of known risk factors for its development such as exposure to traumatic events, existing mental disorders, and socioeconomic

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deprivation [10,22,38,46]. The importance of studying SD in traumatized populations has been highlighted, particularly from a transcultural perspective [22]. Such work highlights how SD can be generated by trauma associations, arousal, and catastrophic cognitions [21,22]. Yet despite the high frequency of potential risk factors for SD, there is very limited evidence on SD among conflict-affected civilian populations in low- and middle-income countries, reflecting the limited evidence base on SD in low- and middle-income settings more generally [38,43,50], with most of the existing evidence limited to high-income countries [18,20,37]. Two relevant exceptions include a study on levels of SD among 1574 primary care users in post-conflict Bosnia [5], and a cross-sectional study of 163 Kosovar civilian war survivors that analyzed the relationship between SD, exposure to traumatic events, and disability [35].

In this study, we seek to narrow this gap by using data we collected for a study on mental disorders among conflict-affected persons in the Republic of Georgia. Georgia has been afflicted by armed conflict multiple times in the last few decades. The first phase of conflict began in the early 1990s following separatist movements in Abkhazia and South Ossetia, leading to over 300,000 people being internally displaced, of whom around 200,000 have not yet returned to their homes. The second main phase arose from the conflict with Russia over South Ossetia in August 2008 in which over 120,000 ethnic Georgians were displaced elsewhere in Georgia and around 20,000 remain as IDPs. Despite the high numbers of conflict-affected persons in Georgia, there have been very few epidemiological studies there on mental health and none on SD. The risk factors for SD were potentially present among conflict-affected persons in Georgia, such as exposure to traumatic events, elevated mental disorders, and socioeconomic deprivation. In addition, anecdotal reports from conflict-affected persons and health workers in Georgia had indicated the presence of unexplained symptoms. Understanding levels of SD among the conflict-affected population in Georgia could help identify previously undocumented suffering and inform responses.

The overall aim of the study was to examine patterns of SD among conflict-affected persons in the Republic of Georgia. The specific objectives were (i) to measure levels of SD; (ii) to examine association of mental disorders, trauma exposure, and demographic and socioeconomic characteristics with SD; and (iii) to examine the association between SD and functional disability.

Methods

Data collection

The project used a cross-sectional survey design and multi-stage random sampling with stratification by region and displacement status, seeking maximum representation of the conflict-affected populations in Georgia. A total sample size of 3,600 was determined to provide adequate statistical power for the overall study and consisted of 1,200 respondents from each of the three main conflict-affected populations groups in Georgia: those displaced from the conflicts in the 1990s ("1990s IDPs"), those displaced from the 2008 conflict ("2008 IDPs"), and former IDPs from the 2008 conflict who have returned to their home areas ("returnees").

Three hundred and sixty primary sampling units (PSUs) (120 PSUs for each of the three study population groups of 1990 IDPs, 2008 IDPs, and returnees) were selected based on probability proportion to size, using a sampling frame from data provided by the Ministry of Internally Displaced Persons and the Governor's office of the Shida Kartli region. The number of PSUs was selected to meet the statistical requirements of the overall study, particularly for conducting multilevel modeling used in a separate analyses [42]. The random walk method was then used to randomly select households in each primary sampling unit. This involved selecting a random starting direction from a central location in the cluster, with households lying on this transect from the center to the border of the cluster counted, with one of them then chosen at random and the next X nearest households subsequently visited [53]. Within the selected household, a member of the household (aged ≥18 years) was randomly selected for interview based on nearest birthday. Up to three visits were made on different days and times if the household was empty or selected respondent not available. After the third attempt, a replacement household was visited. Trained fieldworkers conducted face-to-face interviews in the respondents homes, with all interviews held in Georgian. Data collection took place between October and December of 2011. The response rate was 79%. Informed consent was provided by all respondents. Ethics approval was provided by the National Council on Bioethics in Georgia and the Ethics Committee of the London School of Hygiene and Tropical Medicine.

Measurement

Somatic symptoms were measured with the widely used 15-item Patient Health Questionnaire (PHQ-15) [28,51]. To test the psychometric properties of the PHQ-15 with the study sample, we conducted a factor analysis that revealed a solid structure of 1 factor (eigenvalue = 4.6). All items had relatively high loadings to factor one (0.42 to 0.72), except for items 4 (menstruation problems) and 5 (pain during intercourse), which had factor loadings of 0.13 and 0.14, respectively. This is consistent with previous validation studies recommending exclusion of both items from analysis [51], which we did. Following the PHQ-15 guidelines, symptoms were scored as 0 ("not bothered at all"), 1 ("bothered a little"), or 2 ("bothered a lot"), except for fatigue and sleep disturbance, which were scored as 0 ("not at all"), 1 ("several days"), or 2 ("more than half the days" or "nearly every day"). A final score is calculated by summing each item, and based on the PHQ-15 guidelines, a total score ≥15 indicates high SD severity, while a score of >5 indicates risk of SD and this is the recommended and most commonly cutoff for the PHQ-15 [28,51].

PTSD was measured using the Trauma Screening Questionnaire (TSQ), which consists of 10 items on PTSD symptoms over the past 1 week, with *No* (=0) and *Yes* (=1) responses, which are summed to produce an overall score range of 0–10, with the TSQ's cutoff of >5 used to indicate possible PTSD [4,52]. Depression was measured using the Patient Health Questionnaire (PHQ-9), which consists of 9 questions on depression symptoms over the last 2 weeks, with responses of *not at all* (=0), *several days* (=1), *more than half the days* (=2), and *nearly every day* (=3), with item scores summed to produce a total score range of 0–27, with the PHQ-9's suggested cutoff of ≥10 used to indicate at least moderate depression [27]. Anxiety was measured using the Generalised Anxiety Disorder (GAD-7) instrument, which consists of 7 questions on anxiety symptoms over the last 2 weeks, with the same response options and scoring as the PHQ-9, producing a total score range of 0–21, with the GAD-7's suggested cutoff of ≥10 used to indicate at least moderate anxiety [45]. Functional disability was assessed using the WHO Disability Assessment Schedule (WHODAS 2.0) (12 items version), which consists of 12 items on six activity domains for functional disability (cognition, mobility, self-care, getting along, life activities, and participation) with a recall period of the previous 30 days, with response option scores ranging from 0 (*none*) to 4 (*severe*). These are recoded to produce a general disability score which is rescaled from 0–36 to 0–100 (with higher scores representing higher levels of disability) [48,49].

The study instruments were translated using standard procedures involving the following: (i) translation from English into Georgian using professional translators, with translations reviewed by Georgian mental health experts individually and then as a group for cultural relevance, content and concept consistency, clarity, and understanding; (ii) a back-translation to check for accuracy, consistency, and equivalence, with adjustments made accordingly; and (iii) piloting and field testing to refine the instruments further.

The PHQ-15 showed good validity and reliability. The factor analysis described above indicates good construct validity. For known groups