Screening for post-traumatic stress disorder among refugees in Stockholm

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A screening procedure (The Health Leaflet; HL) to assist social workers in finding subjects with possible post-traumatic stress disorder (PTSD) in recently resettled refugees is presented. It is compared with two established self-rating instruments, the Harvard Trauma Questionnaire (HTQ) and Impact of Event Scale-22 (IES-22), as well as structured clinical interview. Aim: To validate the screening interview and the rating scales in comparison to a clinical assessment for PTSD, and examine the feasibility of lay screening for PTSD. Findings: The Health Screening Interview with a cut-off value of 10 points identified cases with fully developed PTSD with both sensitivity and specificity about 0.7. Only two items—difficulties concentrating and having been exposed to torture—contributed to the discriminatory performance of the HL interview. In the HTQ symptom subscale, emotional detachment and a feeling of going mad contributed to the discriminatory performance. In the IES-22, recurring strong affects about the events, as well as intrusive memories, were the items with the highest canonical correlation coefficients. In the HL, the single screening question about difficulties concentrating identified 31/32 individuals diagnosed with PTSD in this group, with a relative risk of 24. Conclusions: A mental health screening procedure during refugee reception performed by lay persons is clearly feasible and can assist in identifying subjects with trauma-related healthcare needs, thus leading to more realistic demands in refugee reception.

Many studies have shown a high frequency of post-traumatic stress disorder (PTSD) among refugee populations. The diagnosis of PTSD is important because it represents a need for supportive measures, treatment or reduced demands on the subject in order to avoid harmful stress. Screening procedures such as self-rating instruments have been devised to a great extent. In refugee populations, the Harvard Trauma Questionnaire (HTQ) is predominant because it has been validated across several refugee populations.

The reception of refugees in the Swedish community requires the establishment of a plan for the introduction, in co-operation with the social service agencies and the individual refugee (1).

It turns out that many refugees with or without PTSD diagnosis have a high degree of healthcare utilization without a correct diagnosis (2–4). Thus, psychosomatic symptoms without underlying medical disorder, and not the condition itself, could become the focus of attention. Even in disaster survivors with previously good health and occupational function, psychosomatic symptoms have been shown to be associated with long-term disability (5).

If the necessary adjustments in the introduction plan of traumatized refugees are not implemented, the long-term prognosis for adaptation to the new society is probably poor. Resettled refugees only have access to specialized social workers with experience of traumatized refugees for a restricted period, normally 18 months with the possibility of extending this period to 30 months. It is therefore vital to identify subjects with specific healthcare needs during the introduction phase (6).

Because of concern for individuals suffering for PTSD, different healthcare agencies with responsibility for refugee issues in Stockholm County have tried to construct a practical screening interview that can be applied by case managers in refugee introduction after a brief education (6).

The present paper focuses on the ability of the present version of the screening interview, “The Health Leaflet” (HL), to identify refugees with PTSD.
Materials and Methods

In an ongoing longitudinal study, newly resettled refugees in the age range of 18–48, belonging to the Arabic- or Sorani-speaking ethnic groups of Iraq, were invited to a meeting where they were asked to participate in the study; with the aim of studying the effect of past and present life events on health. Eighty-six out of 321 individuals who were invited to a meeting decided to participate in the study.

The individuals who decided to participate in the study were scheduled for the interview (HL) with a case manager in refugee introduction.

The interview consisted of demographic topics and questions about psychological symptoms, network and attitude towards the future in the new country, and four questions about persecution; see Table 1 for a description of the questions. Answers were coded yes/no, the less healthy answers were coded 1, and summed with regard to signs of dysfunction.

Furthermore, the subjects completed HTQ (7) and Impact of Event Scale (IES-22) (8), as well as the General Health Questionnaire (GHQ-28) (9) and the Hopkins symptoms Checklist (HSCL-25) (10, 11).

Participants who scored five or more points in the HL interview were examined clinically for PTSD with a structured interview. Thus, 75/86 participants were assessed for PTSD. Initially, SCID was used—10 of the first 12 subjects were investigated using SCID, but since the CAPS is more precise regarding the topic of PTSD assessment (12), it was used for most participants.

The results of the assessment were coded into three categories: fully developed PTSD, sub-syndromal PTSD and no PTSD. Sub-syndromal PTSD was diagnosed when at least one B-criterion, two C-criteria and one D-criterion was fulfilled. The presence of sub-syndromal or partial PTSD includes both cases where the life-time diagnosis of PTSD were fulfilled, as well as cases that did not meet full criteria for PTSD. The diagnosis was no PTSD when none of the B-criteria could be elicited.

A diagnosis of depression was assumed when the sum of the depression subscale of HSCL-25 exceeded 22.5 points.

Statistical analysis was carried out with non-parametric methods ($\chi^2$), ROC curves and discriminant analysis. SPSS statistical package version 10.1 was applied.

Ethical issues

The study was approved by the regional research ethical committee of the Karolinska Institute (96-282).

During the planning phase of the study and in similar contexts, the issue of a risk of “mobilizing” traumatic memories was raised. Thus, fear of asking refugees about traumatic experiences seems to be an important factor. During the screening procedure (interviews and completion of questionnaires), the first author was accessible in the same building.

Results

Eighty-six individuals underwent the screening interview, and 75 scored above the chosen cut-off value of 4 points and thus were referred for clinical assessment of PTSD.

The prevalence of fully developed PTSD was 38.1%, of partial PTSD 28.6%, and of no PTSD was 33.3%. The prevalence of fully developed PTSD was 42.6% among men and 30% among women.

With regard to symptoms, the analysis of the HL responses showed no general differences among men and women, but the question regarding a hopeful attitude to

<table>
<thead>
<tr>
<th>Question</th>
<th>$\chi^2$</th>
<th>P-value</th>
<th>Odds ratio for PTSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you have sleeping problems?</td>
<td>2.99</td>
<td>0.085</td>
<td>2.45</td>
</tr>
<tr>
<td>2. Are you worried or nervous?</td>
<td>4.52</td>
<td>0.034</td>
<td>7.38</td>
</tr>
<tr>
<td>3. Do you have nightmares?</td>
<td>3.27</td>
<td>0.07</td>
<td>2.37</td>
</tr>
<tr>
<td>4. Do you feel depressed?</td>
<td>7.56</td>
<td>0.006</td>
<td>5.56</td>
</tr>
<tr>
<td>5. Are you scared of unexpected sounds?</td>
<td>1.57</td>
<td>0.218</td>
<td>1.76</td>
</tr>
<tr>
<td>6. Are you irritated or angry?</td>
<td>5.18</td>
<td>0.023</td>
<td>4.29</td>
</tr>
<tr>
<td>7. Is your mood unstable?</td>
<td>0.107</td>
<td>0.744</td>
<td>1.19</td>
</tr>
<tr>
<td>8. Do you suffer from aches or tension?</td>
<td>4.312</td>
<td>0.038</td>
<td>2.83</td>
</tr>
<tr>
<td>9a. Do you sleep well?</td>
<td>4.312</td>
<td>0.038</td>
<td>2.83</td>
</tr>
<tr>
<td>9b. Have you got problems concentrating?</td>
<td>15.71</td>
<td>0.000</td>
<td>23.57</td>
</tr>
<tr>
<td>10. Have you got trusted friends in Sweden, do you believe in a future in</td>
<td>0.743</td>
<td>0.389</td>
<td>1.47</td>
</tr>
<tr>
<td>11. Have you been persecuted?</td>
<td>3.78</td>
<td>0.052</td>
<td>3.56</td>
</tr>
<tr>
<td>12. Have you been imprisoned?</td>
<td>4.17</td>
<td>0.041</td>
<td>2.54</td>
</tr>
<tr>
<td>13. Have you been exposed to torture?</td>
<td>12.92</td>
<td>0.000</td>
<td>5.67</td>
</tr>
<tr>
<td>14. Have you been violently assaulted?</td>
<td>3.23</td>
<td>0.072</td>
<td>2.27</td>
</tr>
</tbody>
</table>

Reported here is significance for fully developed post-traumatic stress disorder (PTSD), and odds ratio for PTSD.
the future, or having friends in Sweden, showed that negative expectations or lack of trusted friends in Sweden were more prevalent among males ($\chi^2 = 4.8$, Fisher’s exact test $= 0.029$). Also, significantly more men than women reported persecution ($P < 0.000$), imprisonment ($P < 0.000$), torture ($P < 0.004$) and violent assault ($P < 0.000$).

The questions on the HL turned out to be relevant for the assessment of PTSD. Table 1 presents the results in terms of significance of single items in the $\chi^2$ test and relative risk of PTSD.

The obvious single non-intrusive screening question for identifying PTSD cases is whether there are difficulties concentrating (Table 2). This question was also important for identifying depression (GHQ-28 “severe depression” subscale: $\chi^2 = 9.6$, $P = 0.002$, HSL-25 depression subscale: $\chi^2 = 17.4$, $P = 0.000$).

In order to characterize the efficacy of the screening interview, a discriminant analysis was performed. It showed that the HL with a cut-off of 10 points correctly identified 75.9% of cases with full PTSD. The single question about difficulties concentrating identified 64.7%.

In comparison with the self-rating instruments IES-22 and HTQ, HTQ symptoms of trauma, correctly identified 100% of the cases with PTSD in discriminant analysis, while the corresponding frequency for IES-22 was 85.1%. In Table 3, it can be seen that the interview behaves differently in comparison with the self-rating questionnaires.

ROC curves showed that a cut-off value for HTQ of 77.5 lead to a sensitivity of 0.8 with a specificity of 0.78. For IES-22, a cut-off value of 65 was the best, with a sensitivity of 0.72 and a specificity of 0.71.

During the interviews and while the self-rating questionnaires were completed, no severe psychological reactions occurred. On several occasions though, the subjects cried during the interview, when they revealed traumatic experiences, but it seems to have led to relief. In some cases, participants remarked that until now, no one had shown any interest in their experiences, and welcomed the procedure.

**Discussion**

The main conclusion is that it is feasible to carry out a screening interview for PTSD in recently resettled refugees.

Furthermore, the findings point at modest results of the present version of the interview and indicate that standard screening instruments established in refugee psychiatry, especially HTQ, are slightly superior to the HL interview. However, the interview seems to have the added importance that the social worker is alerted to the situation, and thus the information can influence the introduction plan directly.

While the present study has focused on PTSD, it must be borne in mind that refugees—because of separations, flight and worries (13, 14)—might suffer from multiple psychological stressors. In the present study, the issue of cumulative trauma was ever present. Many subjects described lifelong persecution because of a background in minority groups.

The question regarding difficulties concentrating had a very high sensitivity in relation to PTSD, but a low specificity. The cause is that depression or distressing life circumstances that are predominant in the population also influence the ability to concentrate. However, individuals with the complaint of difficulties concentrating should be identified because they are probably the most likely cases to be in need of intervention, whether the diagnosis is PTSD or otherwise.

The issue of whether the collection of information in order to make up a realistic introduction plan should rely on a structured interview, or might as well be carried out through the completion of self-rating questionnaires is important. In an early paper, Mollica (15) observed that refugees with PTSD did not expect others to have symptoms as well; the mere existence of questionnaires pointed to the fact “that the disorder had a name” and was a common problem for traumatized populations. On the other hand, an interview performed by the social worker responsible for the introduction plan creates a situation that facilitates collection of necessary information. It is thus important to improve the acuity of the HL or similar procedures in order to increase the capacity to identify PTSD and other relevant disorders. Apart from difficulties concentrating, it might be

### Table 2. Difficulties concentrating versus CAPS-assessed post-traumatic stress disorder (PTSD) and depression according to HSL-25.

<table>
<thead>
<tr>
<th></th>
<th>No difficulties concentrating</th>
<th>Difficulties concentrating</th>
<th>$\chi^2$</th>
<th>$P$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-PTSD</td>
<td>15</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partial PTSD</td>
<td>7</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fully developed PTSD</td>
<td>1</td>
<td>31</td>
<td>19.082</td>
<td>&lt; 0.000</td>
</tr>
<tr>
<td>No depression</td>
<td>22</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>2</td>
<td>34</td>
<td>17.431</td>
<td>&lt; 0.000</td>
</tr>
</tbody>
</table>
It is recommended that individuals who affirm difficulties concentrating, or experiences of torture, are always referred for further examination.

**Limitations**

From the point of view of methodological limitations, it is hard to conceive of any. Yet, the issue of whether people chose to participate in the study might be influenced by the promised access to healthcare that was necessary for ethical reasons, such that an over-representation of PTSD might exist (12). However, the variance in the data, with regard to the fact that about one-third of the participants turned out to belong to the categories of non-PTSD, partial PTSD and fully developed PTSD, respectively, satisfies the conditions necessary for statistical analysis of the procedures.

The slightly worse performance of the HL interview in comparison with the questionnaires could be explained in part by the fact that the HL had fewer and dichotomous items, and that the discriminant analyses were performed with flexible cut-off points for the established instruments.

**Conclusions**

A health interview for newly resettled refugees focusing on symptoms of PTSD is described. Feasibility and validity have been described. The single question with the strongest association with a diagnosis of PTSD turned out to be ‘difficulties concentrating’. The specificity is low, but the question captures other individuals with unmet healthcare needs.

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**References**


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