

A study of aggression among mass-evacuated Kosovo Albanians

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Abstract

Aggression among a sample of traumatized, mass-evacuated adults from Kosovo was studied, using a prospective design with a baseline study, follow-ups at three months and six months in Sweden, and an additional follow-up after one and a half years in both Sweden and Kosovo. Aggression was measured with the Revised Swedish Version of Aggression questionnaire (AQ-RSV). Traumatic events and PTSD-related symptoms were measured by the Harvard Trauma Questionnaire (HTQ), and depression with HSCL-25. At the additional follow-up after one and a half years, the same measures were used, as well as clinical diagnostic interviews with the SCID. Verbal aggression correlated positively with age and educational level. No gender differences were found. The trauma level was high – the mean experienced number of the 16 trauma events derived from the HTQ was 9.65 (SD 3.55) – and significant correl-

ations were found between trauma and aggression at the first follow-up after three months – torture, for instance, correlated with total aggression scores ($p < 0.003$) – but not in later follow-ups. Aggression increased over time and was linked with both mean scores of PTSD and depressive symptoms, as well as with the diagnoses PTSD ($p < 0.0001$) and depression ($p < 0.0001$), especially if both diagnoses were present. Implications are discussed.

Keywords: aggression, PTSD, depression, trauma, Kosovars

Introduction

Trauma in refugee populations and its relation to both PTSD and depression has been the subject of many studies during the past decade.^{1,2}

Aggression and its correlation to PTSD together with the social consequences of trauma related aggression have also been investigated in many studies, mainly among Vietnam veterans.³ In this population, for instance, increased interpersonal violence has been connected with both the diagnosis and severity of PTSD.⁴ Dangerous weapon use⁵ and attitudes towards violence have also been found to be related to PTSD among Vietnam veterans.⁶ In one study the PTSD diagnosis, and not combat exposure itself, was found to be correlated with increased aggression among veterans.⁷ In another

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study of veterans with PTSD it was found that impulsive reactions were more frequently directed toward unknown persons whereas verbal aggression was more often aimed at people known to the veteran. It was also found that educational level and socioeconomic status played an important role in the occurrence of violence in this group.⁸ Lastly, comorbid alcohol addiction has been found to increase aggression levels among Vietnam veterans with PTSD.⁹ Despite these findings, very little is known about aggression among traumatized refugee populations with PTSD. In two cross-sectional studies among Kosovo Albanians conducted in Kosovo just after, and one year after, the end of the war it was found that PTSD symptoms increased at the same time as feelings of hatred towards the Serbs decreased.¹⁰ It would be of even greater importance to study aggression and its correlation to trauma, PTSD and depression in vulnerable populations such as mass-evacuees who are living under post-migration stressors and have less social support, so that the consequences of aggression are supposedly more severe both on an inter-individual and a societal level.

In this study, which is a part of a larger project¹¹ in which both PTSD,¹² depression and coping strategies were studied,¹³ we focused on aggression and its correlations to these diagnoses. The population and the context are described elsewhere.¹¹

The aim of this study was to investigate aggression and its connections with PTSD and depression. The study was conducted by questionnaires and clinical diagnostics in a sample of mass-evacuated and traumatized adults from Kosovo, using a prospective design with several follow-ups.

Materials and methods

Design and the study population

In the original design we intended to study

the mass-evacuated persons granted permission by the Swedish government to stay 11 months in Sweden at baseline and two follow-ups (after three and six months), with questionnaires. Later, due to new Swedish political decisions, their stay in Sweden was prolonged. A new opportunity then arose to perform an additional long-term follow-up of the studied sample after one and a half years. This had not been planned in the original design. However, after one and a half years, many in the original study population had voluntarily repatriated to Kosovo and this follow-up was therefore conducted both in Sweden and Kosovo (i.e. at baseline, and at follow-up at three and six months). We also decided to include clinical diagnostics in this follow-up. This means that at baseline and at the three month, six month and one and a half year follow-ups the self-reporting instrument, the Harvard Trauma Questionnaire (HTQ) was used. At the three month, six month and one and a half year follow-up the self-reporting instruments Hopkins Symptom Checklist (HSCL-25) and the Swedish version of AQ, AQ-RSV (Aggression Questionnaire, Revised Swedish Version) were used. Finally, at the one and a half year follow-up the self-reporting instruments were used together with clinical interviews.

A sample of 402 of the 2,930 Kosovars (about one in five) that in June 1999 had participated in a mass-evacuation to Sweden and were between 18 and 65 years old was randomly selected from airline passenger lists. They were supposed to stay at four of the five centres (Northern, Western, Central, and South regions) of the Swedish Migration Board. Participation in the study was voluntary and informed consent was obtained before participation. The baseline study began in August 1999, after the Swedish Migration Board assistants and interpret-

ers who were to interview participants at the centres had undergone a one-day training programme conducted by the second author (SE) and her research group. The inclusion period was August to September 1999. Communication between the project group and the field was maintained by a contact person from each of the four regions who was responsible for contacting the assistants during the study.

Informed consent procedures and the study design were approved by the Regional Ethics Committee at the Karolinska Institutet (KI Dnr. 99-245 and 00-444).

Assessment tools

The information and questions in the self-reporting instruments were translated and back-translated according to the standards of cross-cultural research.¹⁴ The instruments, back translated into Albanian and used in this study, were designed as a self-report questionnaire. However, in the few cases where the participants were more or less illiterate, the questions were read aloud by assistants (in Swedish) of the Swedish Migration Board and an authorized interpreter (in Albanian). We were aware that this affected the standardisation of the instruments; to avoid this problem, the assistants had training and regular supervision. Part 1 of the HTQ, that measures trauma experiences, was used only at the baseline measurement.

The essential problem in measuring human aggression with self-reporting instruments is to distinguish traits from states of aggression, i.e. baseline level versus episodic aggression. Therefore one must be aware that different forms of aggression-rating instruments measure different aspects of the aggressive process, and that the various aggression components of different instruments can only be compared on the most general level.¹⁵

On the other hand, self-report scales or questionnaires have the advantage that their uncomplicated administration and objective comparability render them valuable research instruments. Careful selection of items can enable the self-report technique to allow for a balanced representation of spectacular and subtle aggressive behaviours; still, the subjectivity and social desirability bias inherent in the method are obvious drawbacks.¹⁶

Diagnostic interviews, using the SCID instrument,¹⁷ at the one and a half year follow-up were conducted by the first author (GR), a psychiatrist. The interviews were conducted at the selected four of five Centres of the Migration Board in Sweden, and in Kosovo either in the participant's home or in a special interview room set up in a hotel in Pristina. Prior to the interviews, each respondent was to read an information letter (in Albanian) of informed consent that indicated the voluntary nature of participation and guaranteed strict confidentiality.

Harvard Trauma Questionnaire

The Harvard Trauma Questionnaire (HTQ) was used to assess for trauma history and PTSD symptom criteria. The instrument has been widely translated and used in a number of studies among diverse cultural groups and validated against clinical diagnoses.^{18,19} The reliability and validity of the PTSD-HTQ symptoms have been found to be high. Cronbach alpha, a reliability analysis measure of internal consistency based on the average inter-item correlation, has been estimated at 0.89.²⁰ For the PTSD-HTQ symptoms, a validation study conducted among 91 Southeast Asian refugee outpatients at the Indochinese Psychiatry Clinic in Boston reported a sensitivity of 78% and a specificity of 65%. In terms of reliability, one-week

test-retest reliability has been reported as 0.92 and interrater reliability among Bosnian refugees living in Croatia was estimated as 0.98.²⁰

The second author (SE) was granted permission to use the HTQ. The latter is a structured interview in which each participant responds to questions under four headings: traumatic events (Part One), personal description (Part Two), injury to head (Part Three), and trauma symptoms (Part Four). Parts two and three have been published¹¹ elsewhere. Part four, trauma symptoms, consisted of 30 symptoms and each participant was asked to report the extent to which each symptom had bothered him/her within the past week with reference to a four-point scale (1-4), ranging from “not at all”, “a little”, “quite a bit”, to “extremely”. The first 16 of the 30 symptoms reflect DSM-IV criteria for PTSD. We defined the occurrence of PTSD according to a scoring algorithm proposed by the Harvard Refugee Trauma Group.²⁰

The Hopkins Symptom Checklist

The Hopkins Symptom Checklist (HSCL-25) includes a 15-item depression sub-scale and a 10 item sub-scale of anxiety symptoms and in this study for practical reasons we used the depression sub-scale. This instrument has been widely translated and used in a number of studies among diverse cultural groups. It has proved to be internally consistent and valid for measuring depression and anxiety, for instance among Southeast Asian refugees and Bosnian refugees living in Croatia.²⁰ In another study with the same population¹³ the authors found that the best sensitivity and specificity for having a clinically diagnosed depression was with a cut-off point of 3.3 on the HSCL-25 depression sub-scale.

Aggression Questionnaire – revised Swedish Version (AQ-RSV)

The Swedish version of the Aggression Questionnaire, standardized on a normal Swedish population, was used.²¹ The 29 item questionnaire has four sub-scales measuring hostility (eight items), anger (seven items), verbal aggression (five items) and physical aggression (nine items). For the purposes of neutral answers avoidance, the items are arranged in a randomized order in four scale steps (from 1 = “least characteristic” to 4 = “most characteristic”). Among the main advantages of AQ-RSV is the possibility to assess gender and age specific aggression, which is widely used in other studies.^{22, 23}

SCID interview

The participants were interviewed by the first author (GR), at the one and a half year follow-up both in Sweden and Kosovo, using the clinical version of the Structured Clinical Interview for DSM-IV – Axis I disorders.¹⁷ Several studies have demonstrated the superior validity of the SCID over standard clinical interviews.²⁴⁻²⁶ The reliability of the SCID in diagnosing PTSD has been assessed at 0.8-1.0 in earlier studies.^{27, 28}

Statistical analyses

The Statistical Package for the Social Sciences (SPSS) 10.0 for Windows was used. A variety of statistical tests were used in the analysis of the data. The quantitative items are described by means \pm standard deviation. The differences between means were tested with the non-parametric Mann-Whitney test. The correlations between variables were tested with the non-parametric Spearman correlation coefficient. Chi-square tests were used concerning observed differences of proportions. The changes of mean scores over time were measured with the non-parametric Friedman test. A probability level of

0.05 was adopted a priori as the minimum level to be considered statistically significant for differences among groups. Internal consistency was estimated with Cronbach's alpha.

Results

Participants

Prior to the baseline study, 59 of the 402 possible participants had left Sweden. Of the remaining 343 persons, 218 participated at baseline (64% response rate). Women numbered 122 (56%) and men 96 (44%). No background data were available via the passenger lists due to logistic limitations and a chaotic situation at the time of departure and arrival in Sweden. For this reason it was not possible to carry out a drop-out analysis at baseline.

Between the baseline and the three month follow-up, 38 participants (17%) had repatriated out of the 218 participating at baseline. Of the remaining 180 persons, 131 (70 women and 61 men) participated in the first follow-up, three months after the baseline, giving a response rate of 73% (i.e. percentage of participants out of available subjects in the follow-up study).

At the six month follow-up, 91 participated (44 women and 47 men), that is 65% of those who participated at the three month follow-up. At that point of time we were unable to estimate how many had repatriated between the three and six month follow-ups.

At the additional follow-up, after one and a half years, of both those that had remained in Sweden and applied for asylum and those having repatriated to Kosovo, a total of 56 participated, i.e. 62% of those who had participated at the six month follow-up. Thirty-five of them (18 women and 17 men) were applying for asylum in Sweden and 21 (11 women and 10 men) had voluntarily returned to Kosovo.

Drop-out analysis

The drop-out rates were 87/218 between baseline and the three month follow-up, 40/131 between the three month and the six month follow-ups and 35/91 between the six month follow-up and the additional one and a half year follow-up. This means that the overall attrition rate was 162/218.

In an analysis of the drop-outs between the four investigations (baseline, three month, six month, and one and a half year follow-ups), there were no significant differences between participants and drop-outs regarding gender, age and educational level. The only socio-demographic difference was that participants at the three month follow-up were significantly more often married or cohabiting compared to the drop-outs. Regarding experience of torture, we found no differences between the drop-outs and participants. The drop-outs at the three month follow-up had significantly more PTSD-related symptoms scored with the HTQ than the participants. At the other follow-ups, the drop-outs did not differ from the participants with regard to HTQ scores. The drop-outs did not differ significantly from the participants at any of the follow-ups regarding HSCL-25 and AQ-RSV.

Trauma exposure

The mean experienced number of the 16 trauma events derived from the HTQ was 9.65 (SD 3.55). The rate for all individually experienced traumas, with the exception of the two items "rape or sexual abuse" and "imprisonment", ranged from 20% for "serious injury" to 91% for combat situation. Torture had been experienced by 53%. Women showed a significantly higher frequency of having experienced ill health without access to medical care ($p < 0.002$) and combat situations ($p < 0.013$).

Age, gender, educational level and aggression measured with AQ-RSV

A significant positive correlation was found between age and verbal aggression at the one and a half year follow-up ($r = 0.332$, $p < 0.016$) but not between age and any of the other sub-scales measuring aggression. We could not find any significant gender differences regarding aggression on any occasion, either total aggression scores or sub-scale scores. A significant positive correlation was seen between educational level (years at school) and verbal aggression ($r = 0.280$, $p < 0.014$) at the 6-month follow-up but not for the other expressions of aggression. In order to measure the trends of aggression levels over time the Friedman test was used. In Table 1 it is shown that total aggression scores, anger scores, hostility scores, verbal aggression scores and physical aggression scores increased significantly over time, especially between the six month and one and a half year follow-up. However verbal aggression scores did not increase significantly over time.

Trauma and aggression measured with AQ-RSV

At the first follow-up after three months, but not at the later follow-ups, we found that those having experienced the following five

traumas scored significantly higher on all the AQ-RSV scales or some of them:

1. Torture: total aggression scores ($p < 0.003$), hostility scores ($p < 0.001$), anger scores ($p < 0.014$), verbal aggression scores ($p < 0.013$) and physical aggression scores ($p < 0.012$).
2. Serious injury: total aggression scores ($p < 0.016$), hostility scores ($p < 0.006$), anger scores ($p < 0.036$) and physical aggression scores ($p < 0.013$).
3. Murder of stranger or strangers: verbal aggression ($p < 0.014$) and physical aggression ($p < 0.019$).
4. Forced isolation from family: total aggression scores ($p < 0.044$) and hostility scores ($p < 0.028$).
5. Lost or kidnapped: hostility scores ($p < 0.040$).

Aggression among those who repatriated or remained in Sweden

At the final follow-up after one and a half years, those who remained in Sweden scored significantly higher regarding aggression ($p < 0.017$); they also scored significant higher on hostility ($p < 0.010$) and physical aggression ($p < 0.002$). We investigated whether the difference in levels of AQ-RSV between those who had voluntarily remained in Sweden and those who had voluntarily re-

Table 1. Self-rated measures of aggression. Mean scores and significant changes over time measured with Friedman's test.

	AQ-RSV-scores mean values (SD)					Friedman's test, significant changes over time, p-values and mean ranked AQ-RSV-scores				
	total	hostility	anger	verbal	physical	0.0001 total	0.0001 hostility	0.003 anger	0.060 verbal	0.0001 physical
3-month follow-up	56.5 (18.3)	16.9 (5.3)	15.2 (4.2)	10.9 (3.6)	16.7 (5.8)	1.79	1.73	1.95	2.05	1.51
6-month follow-up	57.4 (17.5)	17.6 (5.6)	15.2 (4.5)	10.4 (3.5)	16.6 (5.4)	1.74	1.77	1.66	1.74	1.89
1.5 year follow-up	71.3 (17.4)	20.9 (5.8)	17.7 (4.2)	12.0 (3.5)	20.8 (6.3)	2.47	2.50	2.38	2.22	2.60

Table 2. Differences in Aggression scores measured with AQ-RSV between those diagnosed, clinically and by questionnaires, with or without PTSD and Depression.

<i>Clinically diagnosed PTSD</i>			
	PTSD	No PTSD	p-value
3-month follow-up, AQ-RSV mean scores (SD)			
6-month follow-up, AQ-RSV mean scores (SD)			
1.5 year follow-up, AQ-RSV mean scores (SD)	77.1 (15.1)	56.9 (14.1)	<0.0001
<i>Clinically diagnosed depression</i>			
	Depression	No Depression	p-value
3-month follow-up, AQ-RSV mean scores (SD)			
6-month follow-up, AQ-RSV mean scores (SD)			
1.5 year follow-up, AQ-RSV mean scores (SD)	82.3 (13.9)	65.0 (16.1)	<0.0001
<i>PTSD diagnosed with HTQ</i>			
	PTSD	No PTSD	p-value
3-month follow-up, AQ-RSV mean scores (SD)	62.7 (18.3)	52.5 (13.4)	<0.009
6-month follow-up, AQ-RSV mean scores (SD)	65.6 (19.2)	52.3 (13.8)	<0.002
1.5 year follow-up, AQ-RSV mean scores (SD)	74.8 (15.8)	55.3 (15.1)	<0.003
<i>Depression diagnosed with HSCL-depression sub-scale</i>			
	Depression	No Depression	p-value
3-month follow-up, AQ-RSV mean scores (SD)	82.8 (13.5)	55.2 (17.5)	<0.003
6-month follow-up, AQ-RSV mean scores (SD)	74.3 (18.4)	56.6 (16.1)	<0.006
1.5 year follow-up, AQ-RSV mean scores (SD)	85.3 (16.3)	66.2 (14.8)	<0.0001

patriated at the final follow-up could be explained by the fact that those who were less traumatized or had lower aggression scores returned to their home country more readily. However, we could not see any significant differences regarding trauma levels or aggression at baseline or earlier follow-ups between those who later decided to repatriate or not.

PTSD, depression and aggression

Those diagnosed with PTSD at the one and a half year follow-up scored significantly higher on AQ-RSV regarding total aggression scores ($p < 0.0001$) and all four sub-scales: hostility scores ($p < 0.0001$), anger scores ($p < 0.002$), verbal aggression scores ($p < 0.0019$) and physical aggression scores ($p < 0.003$). The participants diagnosed with depression at the one and a half year follow-up scored also to a significant

degree higher on AQ-RSV regarding total aggression scores ($p < 0.0001$) and the four sub-scales: hostility scores ($p < 0.001$), anger scores ($p < 0.004$), verbal aggression scores ($p < 0.008$) and physical aggression scores ($p < 0.001$).

We found also that those diagnosed with both PTSD and depression, compared with those diagnosed with only PTSD, scored significantly higher on AQ-RSV regarding total aggression scores ($p < 0.031$), hostility scores ($p < 0.046$) and physical aggression scores ($p < 0.034$). See also Table 2.

Among those judged to have PTSD-diagnoses according to HTQ, and those assessed as having a depression diagnosis according to HSCL-25 depression sub-scale (scored above 3.3), significantly higher scores of aggression were observed at the different follow-ups, as seen in Table 2.

A significant positive correlation was

found at all three follow-ups between mean scores of HTQ and AQ-RSV scores as follows: At the three month follow-up: total aggression scores and HTQ scores ($r = 0.483, p < 0.0001$), hostility scores and HTQ scores ($r = 0.464, p < 0.0001$), anger scores and HTQ scores ($r = 0.394, p < 0.0001$), verbal aggression scores and HTQ scores ($r = 0.277, p < 0.015$), physical aggression scores and HTQ scores ($r = 0.390, p < 0.001$).

At the six month follow-up: total aggression scores and HTQ scores ($r = 0.450, p < 0.0001$), hostility scores and HTQ scores ($r = 0.581, p < 0.0001$), anger scores and HTQ scores ($r = 0.481, p < 0.0001$), verbal aggression scores and HTQ scores ($r = 0.499, p < 0.0001$), physical aggression scores and HTQ scores ($r = 0.438, p < 0.0001$). At the one and a half year follow-up: total aggression scores and HTQ scores ($r = 0.450, p < 0.0001$), hostility scores and HTQ scores ($r = 0.346, p < 0.010$).

A significant positive correlation was also explored at all three follow-ups between mean scores of HSCL-25 depression subscale and AQ-RSV scores as follows: At the three month follow-up: total aggression scores and depression scores ($r = 0.501, p < 0.0001$), hostility scores and depression scores ($r = 0.531, p < 0.0001$), anger scores and depression scores ($r = 0.461, p < 0.0001$), verbal aggression scores and depression scores ($r = 0.407, p < 0.0001$), physical aggression scores and depression scores ($r = 0.455, p < 0.0001$). At the six month follow-up: total aggression scores and depression scores ($r = 0.526, p < 0.0001$), hostility scores and depression scores ($r = 0.563, p < 0.0001$), anger scores and depression scores ($r = 0.477, p < 0.0001$), verbal aggression scores and depression scores ($r = 0.449, p < 0.0001$), physical aggression scores and depression scores ($r = 0.432, p < 0.0001$). At the one and a half year follow-up: total

aggression scores and depression scores ($r = 0.510, p < 0.0001$), hostility scores and depression scores ($r = 0.561, p < 0.0001$), anger scores and depression scores ($r = 0.474, p < 0.0001$), verbal aggression scores and depression scores ($r = 0.369, p < 0.007$), physical aggression scores and depression scores ($r = 0.393, p < 0.004$).

Reliability analysis

The internal consistency of the instruments was evaluated on all occasions by Cronbach's alpha: HTQ 0.90 (baseline), 0.92 (three month follow-up), 0.92 (six month follow-up), 0.93 (one and a half year follow-up). HSCL-25 0.94 (three month follow-up), 0.97 (six month follow-up), 0.96 (one and a half year follow-up). AQ-RSV 0.91 (three month follow-up), 0.92 (six month follow-up), 0.92 (one and a half year follow-up).

Discussion

Important findings

The trauma level in the population was high, especially the number of participants that had been exposed to torture (53%). This is in line with the result from another study of Kosovars where 49% had been exposed to abuse/torture,²⁹ although a broader definition of the latter was used than in our study. Age as well as educational level was connected with more verbal aggression. One interpretation of this is that increased age and educational level leads to a more mature form of aggression, verbal instead of for instance physical aggression. This is in line with the results from an earlier study among Vietnam veterans with PTSD⁸ in which educational level was of importance regarding expression of aggression. No significant gender differences were seen regarding aggression level on any of the occasions. This is remarkable as when the AQ-RSV was tested

on a Swedish general population men scored higher on total aggression and all subscales except the anger subscale.²¹ One explanation for this is that women had a greater degree of PTSD and were more traumatized in this material, which is shown in an earlier study by the authors.¹²

It was also found that aggression increases over time. However, we could see that up to the three month follow-up a significant correlation was seen between trauma, especially torture and aggression, but this was not observed at the later follow-ups (at six months and one and a half years). This might be explained by the fact that later on post migration stress factor played a more important role in the cause of aggressive feelings and also that basic trust among the participants was impaired during the waiting time. This might also explain the fact that those who decided to remain and apply for asylum in Sweden also expressed significantly more aggression. This is in line with the findings in the same sample that an increase in both PTSD and depression was accompanied by a decrease in Sense of Coherence (in terms of comprehensibility, manageability, and meaningfulness), which is assumed to be of importance for the ability to cope with post-migration stress factors in daily life and for prevention of ill health.^{12,13} A significant correlation between both the diagnosis PTSD and the severity of PTSD symptoms and aggression was observed, which is in line with findings from earlier studies among Vietnam veterans.⁴ In the present study we also found that depression, severity of depressive symptoms and PTSD with comorbid depression were correlated to high levels of aggression. This may seem remarkable because depressed people usually do not express or are unaware of their aggression. However, the role of aggression in depressive disorders has been understood in terms of inner-directed hostility

in a psychodynamic context. In a biological context, van Praag hypothesized that there is a subtype of depression, “anxiety/aggression-driven depression”, with anxiety and aggression as primary symptoms and mood lowering as a secondary symptom.³⁰

Limitations and strengths

One limitation of this study is the relatively small sample and the drop-out rate (39% at three month follow-up, 30% at the six month follow-up, and 38% at the one and a half year follow-up). However, we did not find significant differences between the participants and the drop-outs regarding socio-demographic factors or exposure to torture. The finding in the drop-out analysis that the participants at the three month follow-up were more often married or cohabiting than the drop-outs hardly affects the conclusions of our results. The assumption is that single women and men may have returned to their social network in Kosovo. The conclusions are also not affected by the result that the drop-outs and not the participants scored higher on the HTQ at the three month follow-up. Another limitation is the fact that clinical diagnoses and saliva cortisol levels were only registered at the final follow-up after one and a half years.

Finally, it is important to point out that the measures have not yet been validated for Kosovars as an ethnic group. Due to practical and time limitations it was impossible to perform a pilot study with the aim of validating the measures for the Albanian mass evacuees at baseline. On the other hand, at the final follow-up the results from the HTQ and HSCL-25 could be verified by the clinical SCID-interviews. The strengths of the study are that we prospectively studied a sample of mass evacuees and measured morbidity not only with questionnaires but also with clinical diagnostics.

Conclusions

The study supports the clinical experience that anger and aggression may play an important role in problems associated with traumatized refugees. A clinical implication of the study is the need to be aware of, and to deal therapeutically with, outward expressions such as aggression in traumatized refugee populations with PTSD and depression. Research implications are to increase the knowledge of measuring aggressive feelings in traumatized populations and also to study the social and interpersonal consequences of aggression in these populations.

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