Prospective one-year treatment outcomes of tortured refugees: a psychiatric approach

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Abstract

The treatment of torture survivors from diverse cultures has been a difficult task involving issues of loss, massive trauma, cultural style, and adjusting to a new country. Research on treatment outcomes has shown inconsistent results. This report presents a prospective one year treatment outcome of 22 severely tortured patients from Ethiopia, Somalia, Iran and Afghanistan. Treatment was provided by psychiatrists and counselors with interpreters from each culture involved. The specific treatment included psychiatric evaluation, medicine, education, supportive psychotherapy and assisting some social needs. All 22 were diagnosed with depression and 17 of these also had post-traumatic stress disorder (PTSD). Twenty of 22 patients showed marked significant improvement on all of the scales for depression, PTSD, disability, and quality of life. Medicine was particularly useful in treating depression and the symptoms of flashbacks, nightmares and irritability. Standard psychiatric treatment with evaluation, diagnosis, appropriate medicine, supportive psychotherapy and counseling by ethnic counselors provided good outcomes.

Key words: Torture, refugees, survivors, treatment, outcome

Introduction

According to the United Nations High Commissioner for Refugees, in 2007 there were 16 million refugees in the world. In addition, there were 26 million internally displaced persons from conflict. A review of the prevalence of refugees and internally displaced persons who have experienced torture showed a range between 3 and 76%, but the usual range for refugees in western countries has been reported at between five and 35%.[1] Despite the large population of refugees affected by torture, there are few reports on treatment of tortured refugees, possibly because of the complex issues of language and cross-cultural psychiatric treatment. The reported approaches have included psychoanalytic therapy,[2] group therapy,[3,4] treatment by lay counselors in Africa,[5] cognitive behavior therapy,[6-9] narrative expressive therapy,[10] and trauma focused therapy.[11] There were two reports on using psychopharmacology. One used newer anti-depressants among Bosnian refugees and showed symptomatic improvement,[12] while another used prazosin and showed good improvement in nightmares.[13]

It has been difficult to document the efficacy and effectiveness of the treatment programmes. A comprehensive multidisciplinary treatment following tortured refugees for nine months and 23 months found no clinical significant improvement.[14,15] Two re-

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cent reviews of treatment studies of tortured refugees found that no treatment was firmly supported, but there was some preliminary evidence in one study for using narrative exposure in cognitive therapy[16] and in another study for trauma-focused therapy.[17] The general consensus has been treatment for tortured refugees is behind in research and clinical development as compared to other trauma fields.

In a thoughtful recent review of treatment outcome studies, the complexities involved in torture rehabilitation have been well established, but the authors wisely suggested proceeding with the resources available.[18]

Jaranson and Quiroga[19] further described the clinical and research difficulties on evaluating torture rehabilitation/treatment programmes. They suggested that without a control group (usually not ethically possible) a quasi-experimental design with a pre and post treatment evaluation is a valid research approach. Clearly there is a need for evaluation of treatment outcomes for torture survivors even with limited resources, i.e., there is almost no funding support for this research. Our goal is to describe the pre treatment and one-year follow-up clinical status of torture survivors in an established and ongoing torture treatment programme.

The major psychiatric disorders of tortured refugees are PTSD and major depressive disorder,[20,21] It would seem appropriate that the psychiatric approach with cross-cultural influence would be very helpful. The purpose of this report is to describe such an approach utilizing psychiatrists, ethnic counselors, psychiatric evaluations, DSM IV diagnosis, medication, supportive psychotherapy, and case management, providing necessary social and medical needs, in a long established refugee clinic. This report is on 22 torture victims and describes the result of one-year treatment outcome.

Methods

The protocol was approved by the Institution Review Board of Oregon Health & Science University. The setting is a large refugee psychiatric clinic which has been operating for 35 years. It currently treats over 1,300 patients. The research was carried out by the normal clinical staff and, for the clinical staff members, this research study represented an increase in their usual clinical responsibilities. At intake, an administrative assistant administered the scales to patients in a standardized manner, with the clinical ethnic counseling staff acting as interpreters. However, there was no special research funding for this study.

There were no exclusion criteria, and the patients were recruited as they presented to the clinic based on time availability of the staff. Groups specifically chosen for this study were Farsi-speaking patients from Iran and Afghanistan, and patients from Ethiopia and Somalia.

During the time of intake for this study, from February 2009 to January 2010, there were 57 individuals presenting as new patients from these groups, and 33 of these were available and consented to become a part of the study. There were three refusals, all from Somalia.

During the year-follow up, five moved from Portland or discontinued therapy. Therefore, we have a one-year follow-up on 28 patients. This report is on the 22 who were torture victims. The other six were not torture victims. Diagnoses of these six patients not qualifying as torture victims included major depressive disorders (three), social phobia and attention deficit disorder (one), and schizophrenia (one). The treatment of these 22 subjects differed in no way from the usual treatment given to all patients in our clinic with the exception of a more thorough evaluation at intake and at one-year

follow-up. Treatment involved comprehensive evaluation, supportive psychotherapy, education, medicine, and counseling by ethnic counselors. This treatment approach will be further described later in this paper.

The Patients

All the patients in this study met the definition of torture, defined as "an act committed by persons acting under the color of law, and specifically intended to inflict physical or mental pain or suffering other than the pain or suffering incidental to lawful sanctions upon another person within his custody or lawful control"[22] and was documented in the initial psychiatric interview.

The patients came from diverse backgrounds, eight were from Iran, five from Afghanistan, six from Ethiopia, and three from Somalia. There were 13 females, with a range of education from none (six), to college (five), four with some high school completion and seven with some elementary education. The ages ranged from 19 to 76, with an average age of 48. Nine had a diagnosis of hypertension, and five, a diagnosis of diabetes. These two diagnoses have been found to be especially high in refugee populations.[23]

The traumas endured by these patients generally came from security forces in Ethiopia and Iran, from the Taliban in Afghanistan, and from associated war lords in Somalia. The patients endured severe trauma, averaging nine events on the Harvard Trauma Scale. Specifically, 14 were physically assaulted, 18 were assaulted with a weapon, 17 experienced forced separation from family members, 11 had murder of family and friends, 16 had unnatural deaths of family and friends, and 19 reported they experienced other incidents that were very frightening or felt that their lives were in danger. Although it was difficult to specifically describe the onset of symptoms in these patients, the patients usually attributed onset as coming right after the last torture period or on entering the United States. Nevertheless, the symptoms in this group of patients are quite chronic, ranging in duration from one to 18 years, with an average duration of eight years at the time of intake.

The Harvard Trauma Scale does not do justice to the severe and appalling traumas these 22 individuals endured. One man was in prison for over a year, tied and beaten regularly at night with arms and legs pulled; a brother in prison never returned. After prison he was deliberately run over by a car and denied medical treatment. A second man was in prison for six years, beaten with barbed wire, had open wounds in his abdominal cavity and face, and has been unable to lift his left arm due to torture. A man's brother and mother were killed while he watched, in hiding. A woman's brother tried to stop her rape by the paramilitary rapist and was killed in front of her. She subsequently was raped. Stories such as these are a regular feature of the histories of our patients.

The psychiatric diagnoses were made by the two psychiatrist authors (JDK & JMK) after a diagnostic interview using DSM IV criteria. All patients received a psychiatric diagnosis of major depressive disorder. Additionally, 17 had a diagnosis of PTSD associated with the major depressive disorder; two had panic disorders associated with depression and attention deficit hyperactivity disorder, one obsessive compulsive disorder and two with PTSD and major depression also had psychotic symptoms. The GAFs at intake averaged 50, with a range of 35-55.

Instruments

Instruments routinely administered by ethnic counselors in our clinic and used in this

study included the Harvard Trauma Scale, which has been used in other studies on torture survivors,[24] and the Sheehan Disability Scale, a scale used to determine disability and treatment effects.[25,26] Additionally, our own analog instrument, similar to the Sheehan Disability Scale, rated nightmares, irritability, and flashbacks following ethnic counselors' reading of the scale.

Instruments administered by a research assistant in a standardized manner, with interpretations by the ethnic counselors, and used specifically for this study at intake included the Center for Epidemiological Studies Depression Scale, a well used scale for detecting depression.[27-30] A test for PTSD was an eight-item SPRINT test, a brief global assessment for PTSD disorder[31] and has been used in treatment studies for PTSD.[32,33]

Quality of life was measured by the WHOQOL-Bref, a 26-item brief test which was fully tested by the World Health Organization in 1998. It has four domains: physical, psychological, social, and environmental. The WHOQOL-Bref has been used to evaluate the quality of life of schizophrenic patients,[34] and there is an Italian version used by De Girolamo and colleagues.[35] This scale also has been used to determine the quality of life of Iranian diabetic patients,[36] as well as mothers of children with asthma in Taiwan.[37]

We chose instruments which would evaluate various aspects of the patients' lives – symptoms, diagnoses, disabilities affecting family and social relationships, and patients' perspectives on their quality of life.

At one year regular follow-up visits, which ranged from 11 to 14 months after intake, the scales were again administrated. All scales were read to patients in their native language by their ethnic counselors, attempting to use the same standardized approach done at intake. Patients' answers were recorded immediately. Medication(s), number of visits, and any special events were recorded from a chart review by the two psychiatrists. JDK and JMK had no knowledge of the research scale results until after one year of treatment.

Treatments

After an original evaluation of about one and a half hours, in which a thorough history of trauma was also taken by the treating psychiatrist with the ethnic counselor acting as interpreter, there were ongoing sessions of supportive psychotherapy, education, and medication, with adjustments of medication, as necessary. All ongoing sessions involved the same psychiatrist and ethnic counselor-interpreter working with the patient, in effect, forming a consistent treatment team.

The psychotherapy emphasized a warm, genuine personal relationship with the patient with safety and continuity. Safety meant a similar approach in each meeting without an abrupt, unpredictable change in therapeutic style or confrontation. Continuity was assured with one counselor and one psychiatrist assuming care from intake to throughout treatment, as long as the patient felt it was helpful, i.e., not time limited. The goal was to provide a relationship as opposite to perpetrators as possible. The ongoing sessions dealt with issues of daily life, adjustment problems in the U.S., stressful contacts with family in the home country, living in poverty, and raising children in the culturally complex schools.[38-40] Medicine education required much explanation as most patients have little experience with a complicated medical system (getting prescriptions filled, obtaining refills, and confusion about side effects).

Treatment also involved letters of support written for patients when necessary for help in finding a job, receiving benefits,

asylum support and citizenship. The counselor also saw the patients independently to assist in social needs and provide supportive counseling. Over the year, the psychiatrists averaged 8 visits, range 4-17, while the counselors' visits averaged 6, range 1-25.

Medication

All patients were prescribed medication by psychiatrists' choice, and all were on at least some form of antidepressant medicine for the entire treatment period. Thirteen patients were on SSRIs, six on tricyclics, one on buproprion, and two on duloxetine. In addition, seven patients were on clonidine, one on prazosin, for which there is evidence for CNS noradrenergic activity in PTSD.[41] Eleven patients were also on an antipsychotic, two for clear psychotic symptoms and nine, usually at a lower dose of respiridone, a medicine that has been found to be effective in irritable aggression and agitation in PTSD.[42]

Results

The patients scored extremely high on all the scales at intake. On the CES-D scale at intake, all but one was in the pathological range of 16 and above. The average score was 43. On the Sprint test for PTSD, 21 scored above 13, considered in the pathological range, with an average of 28.5. On the Sheehan Disability Scale, possible scores range from 1-10, with 10 being the worst. The patients averaged 8.6 on social impairment and 8.5 on family impairment at intake. Since few of the patients were employed, the work scale was not used. The WHO Quality of Life Scale is complicated. It showed a low range of quality of life on three dimensions for all patients. The social dimension was not used since it had questions on sexual satisfaction, which were not scored by many patients.

Table 1 indicates the scores of the major scales at intake and at one-year. Chi-Square tests for related groups showed significant differences between intake and one-year follow-up. All tests were highly significant, usually at the 0.000 level.

The more meaningfully clinically useful information is to determine how many of the patients did improve. We had several independent measures including the CES-D, SPRINT, the Sheehan Disability Scale and the Quality of Life Scales. The results are shown in Table 2. On the CES-D of those who scored higher than 16 at intake (N = 21), after one year, nine dropped out of the depressed range, and eleven dropped at least 10 points, showing over a 30% reduction. On the PTSD Scale at intake, all patients had scores higher than 13, indicating the presence of PTSD. At one-year follow-up, 11 patients' scores dropped below a score of

Table 1. *Group average results at 1 year.*

	CES-D[1]	SPRINT[2]	Sheehan Social[3]	Sheehan Family[4]	QOL 1[5]	QOL 2[6]	QOL 3[7]
Score at Intake	43	25.8	8.8	8.5	15.6	13.1	22.5
Score at 1 year	21.7	13.5	4.3	4.2	21.3	17.6	26.6
Sig (2 tailed)	.000	.000	.000	.000	.000	.000	.004

1) Center for Epidemiological Studies—Depression Scale
2) Sprint-Short Posttraumatic Rating Interview
3) Sheehan Disability Scale-Social Life
4) Sheehan Disability Scale-Family Life
5) WHO Quality of Life Scale, Physical Health
6) WHO Quality of Life Scale, Psychological Health
7) WHO Quality of Life Scale, Environmental Health

13, showing significant improvement. Eight patients' scores dropped to show at least a 25% reduction of PTSD symptoms. Three did not show improvement on the PTSD Scale.

On the Sheehan Disability Scales, improvement was counted as dropping at least three out of the 10 points; On the Sheehan scale of social disability, 10 improved by this measure, while four did not. On the Family Disability Scale, all but four showed improvement. The WHOQOL Scale is more difficult to evaluate, as there are no established norms. We used a positive change of two in the raw score as showing improvement.

By this definition, 17 patients showed improvement, and five patients were worse or the same on physical health. On psychological health, 18 showed improvement, but four were worse or the same. On environmental health, 18 showed improvement, and four did not improve.

Almost all patients showed improvement on the majority of the scales. Two patients, however, both Iranian, showed no or minimum improvement in all of the scales. Neither of these two patients improved on the depression or PTSD Scales and showed no improvement on the Sheehan Social and Family Scales. The remaining 20 patients showed improvement on a majority of scales.

In summary, after one year of psychiatric treatment for torture victims, 20 out of 22 showed significant to moderate improvement on scales measuring psychiatric symptoms, social and family relationships, and quality of life; two did not show improvement and accounted for most of the non-improvement in scale scores.

We are aware that treatment is not the only event that can affect outcome. To try to capture other significant events which occurred in the lives of these 22 patients, significant events were documented at each psychiatric visit and recorded in patients' charts. Looking at these significant events, eight patients had experienced "positive" events including five who received citizenship, two who found work, and one who separated from a difficult marriage.

Eight patients had experienced "negative" events, including serious illnesses, losing jobs, finding out about unfaithfulness of a spouse, and being laid off from work. The presence or absence of these significant events did not seem to be related to improvement as judged or shown on the scales.

Discussion

This study represents an approach of using available clinical resources to provide information on treatment outcome of torture survivors, as Montgomery and Patel[18]

Table 2. *Results at 1 year N=22.*

	CES-D	SPRINT	Sheehan Social	Sheehan Family	QOL 1	QOL 2	QOL 3
Much improved (n)	9[1]	10[1]	18[3]	18[3]	17[4]	18[4]	18[4]
Improved (n)	11[2]	10					
Not improved (n)	2	2	4	4	5	4	4

1) Out of pathological range
2) Improved >25% but still in pathological range
3) 3 or more improvement in Sheehan.
4) 2 or more reduction in raw score.

suggest as a very useful and acceptable research plan. In a field lacking in treatment outcome, we have shown in the sample that the majority of severely tortured survivors can improve in symptoms, disability, and quality of life with comprehensive psychiatric treatment. The programme had many years to develop its treatment approach, and subjectively it seemed effective, but this is the first demonstration of positive result in a prospective study.

Our clinical approach differs from approaches described in much of the literature on treatment of torture survivors, i.e., the majority of reports quoted in the introduction of this paper used psychological therapies alone as a treatment modality. The field has relied on psychological treatment with the apparent belief that psychological trauma is best handled by psychological therapies. This seems to miss a basic observation that torture can or often leads to major psychiatric disorders, including major depression in addition to PTSD. Indeed all of our subjects had major depression while only 17 also had PTSD.

Concentrating on trauma as occurs in trauma focused therapy may miss the symptoms of depression and lead to a further sense of loss and depressed mood. Many of these studies use rating scales for diagnosis of depression and also for PTSD. These scales are screening instruments but lack the subtleties and relationships that are involved in a face-to-face psychiatric interview and treatment.

Our psychotherapy was supportive in nature, emphasizing a relationship of safety and continuity and dealing with current stresses and problems in a new country, and providing information on the welfare system, family distress, and particularly on raising children. Early therapy sessions dealt with medication compliance, clarifying the value of medicine and the difficulties in getting medicine refilled. This was not a trauma focused therapy and after the first session the basic traumas, which were often multiple, were discussed only as the patient led the way and as psychiatrists' felt it was necessary to discuss the traumas for therapy to proceed effectively.

Medications, antidepressants, adrenergic blocking agents such as clonidine and antipsychotics, were used individually to reduce symptoms. These were very effective for specific symptoms. On an analogue scale 1 to 10 with 10 being the worst, Table 3 shows the scores on flashbacks, nightmares and irritability.

The medication was well accepted by the patients and after medical education we had good compliance with minimal side effects. At our clinic, anti-psychotics were used in half the patients, in two patients for psychotic symptoms of hallucination, and in the remaining nine for agitation and insomnia. Irritability is another critical symptom which can cause much social distress and which is well controlled by medicine. It seems clear that individualized medical treatment can

Table 3. *Own analog symptom scale, administered at intake and one-year follow-up N = 22.*

	Flashbacks	Nightmares	Irritability
At intake	7.73	6.27	5.90
One year follow up	3.86	2.68	3.14
Exact Sig (2 tailed)	.000	.000	.007

Chi Square / Sign test binomial distribution used.

reduce some major symptoms associated with torture, improve the quality of life and provide good relief.

The study has advantages and disadvantages. One advantage is having a clinic with a long history, over 34 years, with a good reputation among the refugee population, and a critical mass of patients, in which the newer patients would feel at least familiar and less disturbed about being in a psychiatric clinic. Obviously the most important aspect of this clinic, besides culturally sensitive psychiatrists, is counselors who come from the culture, speak the language of the patient, and offer support and continuity of treatment. We have a good retention rate in our clinic. During the year of this study, five patients involved in our study dropped out or moved, which gave us a dropout rate of 17%. This is not a high dropout number for minority mental health clinic, in which patients usually have the tendency to move frequently and lack accurate knowledge about long term psychiatric care.

Among the limitations of the study is first of all the fact that there were only 22 patients who were followed for a year. Secondly, there was no control group. In our opinion, withholding treatment to obtain a control group to these severely traumatized patients was unethical, i.e., to withhold treatment to a severely suffering patient seeking relief. Also withholding treatment would greatly affect our programme's credibility in the refugee community which has relied on our programme for receiving some immediate care.

This report has the problems of a real clinical approach. The diverse ethnic groups, diverse torture experiences, and diverse medicine perhaps make it challenging to suggest guidelines which might be universally appropriate. A special concern may be that the counselors themselves administered the instruments to the patients at the one-year post treatment date. We had no research assistance at that time. The counselor may have had a positive bias which influenced how the results were recorded. This is unlikely as these were quite diverse responses, and two survivors' responses were totally negative, i.e., totally not improved. For the study, the psychiatrists gave an independent GAF rating after every session with the patient.

Psychiatrists' independent GAF ratings at one year follow up correlate well with patients' responses as recorded by counselors (Spearman rho correlation coefficient is .56; sig <.01).

A special note should be made of the two patients who did not improve, both are Iranians, college graduates. One who had been tortured, raped and imprisoned, had no housing, no job and was moving around to different parts of the area. Her marriage fell apart during this time. Although special sessions were set aside to discuss the details of the rape, the patient was unable to talk about it. The other patient, a male, came from a well-to-do family, was highly protected by family members who refused his desire to marry a girlfriend. He seemed unable to live independently with the family maintaining control over him. It is unknown to what extent this prevented his improvement. These cases are unique but seem not qualitatively or quantitatively different from most of the other cases.

We would like to make a special appeal that torture survivors be given the benefit of a thorough in-person psychiatric evaluation and supportive treatment, emphasizing continuity, safety and meeting their ongoing social needs, as well as given appropriate medication. We hope that this information will be readily available and that other studies could duplicate our results.

Conclusion

A psychiatric approach emphasizing thorough psychiatric interview evaluation, diagnoses, supportive psychotherapy and ethnic counselors as case managers and interpreters in this report has demonstrated good treatment for 20 of 22 patients in a one-year follow-up study of torture survivors. Emphasis was not placed on therapy for the various traumas encountered. Rather, the long term relationship with the psychiatrist, medicine, and counselor-case managers from the patients' culture provide the effective ingredients of the treatment programme. We encourage other programmes to adopt aspects of this approach and research the treatment outcomes.

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References

1. Wenzel T. Torture. Curr Opin Psychiatry 2007;5:491-6.
2. Varvin S. Psychoanalytic psychotherapy with traumatized refugees: integration, symbolization, and mourning. American Journal of Psychotherapy 1998;152:64-71.
3. Drozdek B, De Zan D, Turkovic S. Short-term group psychotherapy of ex-concentration camp prisoners from Bosnia-Herzegovina. Acta Med Croatica 1998;52:119-25.
4. Kira EA, Ahmed A, Mahmoud V et al. Group therapy model for refugee and torture survivors. Torture 2010;20:108-13.
5. Neuner F, Onyut PL, Erti V et al. Treatment of posttraumatic stress disorder by trained lay counselors in an African refugee settlement: a randomized controlled trial. Journal Consult Psychol 2008;76:686-94.
6. Hinton DE, Pham T, Tran M et al. CBT for Vietnamese refugees with treatment-resistant PTSD and panic attack: a pilot study. J Trauma Stress 2004;17:429-33.
7. Hinton DE, Otto MW. Symptom presentation and a symptom meaning among traumatized Cambodian Refugees: Relevance to a somatically focused cognitive-behavior therapy. Cognitive Behavior Prac 2006;13:249-60.
8. Palic S, Elkit A. An explorative outcome study of CBT-based multidisciplinary treatment in a diverse group of refugees from a Danish treatment centre for rehabilitation of traumatized refugees. Torture 2009;19:248-70.
9. Hinton DE, Hofmann SG, Pollack MH et al. Mechanisms of efficacy of CBT for Cambodian refugees with PTSD: improvement in emotion regulation and orthostatic blood pressure response. CNS Neurosci Ther 2009;15:255-63.
10. Halvorsen JO, Stenmark H. Narrative exposure therapy for posttraumatic stress disorder in tortured refugees: a preliminary uncontrolled trial. Scand J Psychol 2010;51:495-502.
11. Kruse J, Joksimovic L, Cavka M et al. Effects of trauma-focused psychotherapy upon war refugees. J Trauma Stress 2009;22:585-92.
12. Smajkic A, Weine S, Djuric-Bijedic Z et al. Sertraline, paroxetine, and venlafaxine in refugee posttraumatic stress disorder with depression symptoms. J Trauma Stress 2005;14:445-52.
13. Boynton L, Bentley J, Strachan E et al. Preliminary findings concerning the use of prazosin for the treatment of posttraumatic nightmares in a refugee population. J Psychiatr Pract 2009;15:454-9.
14. Carlson JM, Mortensen EL, Kastrup, M. A follow-up study of mental health and health-related quality of life in tortured refugees in multidisciplinary treatment. J Nerv Ment Dis 2005;193:651-7.
15. Carlson JM, Olsen D, Katrup M et al. Late mental health changes in tortured refugees in multidisciplinary treatment. J Nerv Ment Dis 2010;198:824-8.
16. Crumlish N, O'Rourke K. A systematic review of treatments for post-traumatic stress disorder among refugees and asylum-seekers. J Nerv Ment Dis 2010;198:237-51.
17. Nickerson A, Bryant RA, Silove D et al. A critical review of psychological treatments of posttraumatic stress disorder in refugees. Clin Psychol Rev 2011;31:399-417.
18. Montgomery E, Patel N. Torture rehabilitation: reflections on treatment outcome studies. Torture 2011;21:141-5.
19. Jaranson JM, Quiroga J. Evaluating the services

of torture rehabilitation programmes: History and recommendations. Torture 2011;21:98-140.
20. Husain F, Anderson M, Lopes CB et al. Prevalence of war-related mental health conditions and association with displacement status in postwar Jaffna District, Sri Lanka. JAMA 2011;306:522-31.
21. Momartin S, Silove D, Manicavasagar V et al. Comorbidity of PTSD and depression: associations with trauma exposure, symptom severity and functional impairment in Bosnian refugees resettled in Australia. J Affect Disorders 2004;80:231-8.
22. Torture Victims Relief Act, section 2340(1) of Title 18, United States Code, 1998.
23. Kinzie JD, Riley C, McFarland B et al. High prevalence rates of diabetes and hypertension among refugee psychiatric patients. J. Nerv Ment Dis 2008;196:108-12.
24. Mollica RF, McInnes K, Pham T et al. The dose-effect relationships between torture and psychiatric symptoms in Vietnamese ex-political detainees and a comparison group. J Nerv Ment Dis 1998;186:543-53.
25. Leon AC, Olfson M, Portera L et al. Assessing psychiatric impairment in primary care with the Sheehan Disability Scale. Int J Psychiatry Med 1997;27:93-105.
26. Sheehan KH, Sheehan DV. Assessing treatment effects in clinical trials with the discan metric of the Sheehan Disability Scale. Int Clin Psychopharmacol 2008;23:70-83.
27. Radloff LS. The CES-D Scale: a self report depression scale for research in the general populations. Appl Psychol Meas 1977;1:385-401.
28. Thomas JL, Jones GN, Scarinci IC et al. The utility of the CES-D as a depression screening measure among low-income women attending primary care clinics. The Center for Epidemiologic Studies-Depression. Int J Psychiatry Med 2001;31:25-40.
29. Wood AM, Taylor PJ, Joseph S. Does the CES-D measure a continuum from depression to happiness? Comparing substantive and artifactual models. Psychiatry Res 2010;177:120-3.
30. Klinkman MS, Coyne JC, Gallo S et al. Can case-finding instruments be used to improve physician detection of depression in primary care? Arch Fam Med 1997; 6:567-73.
31. Connor KM, Davidson JR. SPRINT: a brief global assessment of post-traumatic stress disorder. Int Clin Psychopharmaco 2001;16:279-84.
32. Norris FH, Hamblen JL, Brown LM et al. Validation of the short posttraumatic stress disorder rating interview (expanded version, Sprint-E) as a measure of postdisaster distress and treatment need. Am J Dis Med 2008;3:201-12.
33. Vaishnavi S, Payne V, Connor K et al. A comparison of the SPRINT and CAPS assessment scales for posttraumatic stress disorder. Depress Anxiety 2006;23:437-40.
34. Galuppi A, Turola MC, Nanni MG et al. Schizophrenia and quality of life: how important are symptoms and functioning? Int J Ment Health Syst 2010;4:31.
35. De Girolamo G, Rucci P, Scocco P, Becchi A, Coppa F, D'Addario A, et al. Quality of life assessment: validation of the Italian version of the WHOQOL-Brief. J Nerv Ment Dis 2000;9:45-55.
36. Jahanlou AS, Alishan KN. WHO quality of life-Bref 26 questionnaire: reliability and validity of the Persian version and compare it with Iranian diabetics quality of life questionnaire in diabetic patients. Prim Care Diabetes 2011;5:103-7.
37. Gau BS, Chen YC, Lo LH et al. Clinical applicability of the World Health Organization Quality of Life Scale Brief Version (WHOQOL-Bref) to mothers of children with asthma in Taiwan. J Clin Nurs 2010;19:811-9.
38. Kinzie JD. Psychotherapy for massively traumatized refugees: the therapist variable. Am J Psychother 2001;55:475-90.
39. Kinzie JD. Combined psychoocial and pharmacological treatment of traumatized refugees. In: Wilson JP, Tang CCS-T, eds. Cross-cultural assessment of psychological trauma and PTSD. Springer US, 2007:359-69.
40. Kinzie JD. Guidelines for psychiatric care of torture survivors. Torture 2011;21:18-26.
41. Boehnlein JK, Kinzie JD. Pharmacologic reduction of DNS noradrenergic activity in PTSD: the case for clonidine and prazosin. J Psychiatr Pract 2007;13:72-8.
42. Monnelly EP, Ciraulo DA, Knapp C et al. Low-dose resperidone as adjunctive therapy for irritable aggression in posttraumatic stress disorder. J Clin Psychopharmacol 2003;23:193-6.

Social support, coping and posttraumatic stress symptoms in young refugees

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Abstract

Young refugees from the former Yugoslavia commonly testify to having been exposed to multiple, traumatic experiences, which may contribute to the development of serious mental health problems such as posttraumatic stress disorder (PTSD), anxiety, and depression. Using self-report scales the present study investigated the prevalence of PTSD as well as factors associated with PTSD in a group of 119 Bosnian refugee youths (mean age 18.5). The group was special in that they had no right to seek asylum in the host country for the first couple of years of their stay. It is suspected that this circumstance had an effect on their wellbeing. Between 35-43% of the youth were found to be in the clinical range for a PTSD diagnosis. Female gender, problem-focused, and avoidant coping strategies, were significant predictors of PTSD. The protective effects of social support were, however, not observed for this group. There is a need for more studies, which address the factors that mediate and moderate effects of social support and effectiveness of different coping strategies in refugee youth dealing with different circumstances of the refugee experience.

Keywords: Refugee youth, posttraumatic stress disorder, perceived social support, coping strategies, asylum.

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In recent warfare, civilian populations have recurringly been the targets and victims of torture, political violence, massacres, ethnic cleansing, shelling, imprisonment without a trial, persecution, and other atrocities.[1,2] As a result 15.4 million refugees and 27.5 million internally displaced people have migrated worldwide.[3]

Experiences of war, political violence, uprooting, and resettlement are a source of great psychological distress, which leaves refugees at high risk of developing PTSD.[4,5] From a developmental psychopathological perspective, it is possible that adolescents distinguish themselves from children and adults in their responses to war-trauma. Being at a stage where the development of identity and autonomy is a central issue, refugee youth may be particularly vulnerable in terms of psychological problems, given that war traumatization and refugee resettlement may cause disturbances in important developmental tasks.[6] An epidemiological study of refugee adolescents in Canada[7] found that the prevalence of psychopathology in the refugee group was twice as high compared to a group of Canadian peers.

In their review, Lustig et al.[8] identify anxiety, depression, PTSD, anger, insomnia and related stress reactions as rather common in refugee children and adolescents. However, prevalence of symptoms of distress

is known to fluctuate with contextual factors such as, nationality, trauma exposure and the stage of refugee experience (pre-flight, flight, resettlement). According to the same study, versions of ecological systems theory are often employed to understand the complex interplay of factors which influence the development of children and adolescents in times of war and exodus.[8] These theories describe development as occurring in the dynamic interaction between the individual and environmental systems on different levels (i.e. the society, the child's close community, the family, and individual factors). The individual developmental course is then understood as a result of the interplay of resources and risk factors in these systems during the difficult times of war, flight and resettlement.[9] The review also identifies coping strategies and social relations as important mediators of stress reactions in refugee children.[8] There is however limited research on the association between coping strategies, social support, and subsequent stress reactions in adolescents exposed to war trauma. A search of the literature shows only a handful of studies of war exposed adolescents where coping strategies and/or social support have been used as predictors of traumatic distress.[9-13] Furthermore, their results are often mutually contradicting, and inconsistent with well-established findings from traumatized adult populations.

Traumatic distress and coping strategies

Research has shown that forced migration and war traumatization prompts adaptation efforts and coping activity in the affected refugees.[2,14-16] Problem-focused coping, also known as rational coping, has been suggested to be more effective than emotion-focused and avoidant coping in managing traumatic stress. In fact, emotion-focused and avoidant coping strategies are typically perceived as somewhat maladaptive or ineffective psychological strategies, when it comes to enduring and overcoming trauma.[17,18]

Consistent with the adult trauma populations, Braun-Lewinsohn et al. reported that problem focused coping was negatively linked to general stress reactions in Israeli adolescents who were exposed to prolonged missile attacks.[10] Emotional coping strategies, such as "reference to others" (i.e. seeking social support) and "non-productive" coping were positively linked to distress. A study of Bosnian war exposed adolescents also found that emotional and avoidant coping strategies were associated with a higher risk of PTSD. Furthermore, adaptive coping strategies could not be identified for this group of highly traumatized individuals who have experienced four years of siege in Sarajevo.[9]

Elbedour et al.[11] reported, contrary to the Brawn-Lehwinsohn findings,[10] that low levels of "seeking guidance and support coping" (i.e. low seeking of social support coping) were associated with PTSD in refugee adolescents from the Gaza strip. Also contrary to the expected, in a study on general mental health, disengaged coping strategies were found to protect the psychological well-being of adolescents, who had experienced the war in Bosnia-Herzegovina.[2]

Posttraumatic distress and social support

As the literature review on coping shows, one form of social support, namely social support seeking in times of crises, is studied as a coping strategy. In our view, the perceived availability of social support is subjectively different from the act of active seeking of social support. Social support in this paper is therefore understood as an aspect of the social environment of the young refugees, rather than an aspect of individual cop-

ing. When studied as an aspect of the social environment, social support has been shown to affect the mental health following exposure to war, political violence, and exodus. The effects are double-sided in the sense that social support holds great potential for buffering against psychological distress and alleviating trauma-related strain,[1,15,19] whereas inadequate or lack of support may contribute to the maintenance or aggravation of psychopathological symptoms. In adult populations, a meta-analysis on PTSD risk factors[20] found that individuals, who gave appraisals of either absent or low levels of social support in the aftermath of trauma exposure, displayed higher rates of current PTSD and increased PTSD symptom severity. Furthermore, perceived social support was the second strongest predictor of PTSD risk in this study.

The literature on the association between social support and symptoms of posttraumatic distress in war exposed adolescents is scarce and inconclusive. An American study found that perceived social support from friends and family predicted lower PTSD and depression in Khmer refugee adolescents, who had resettled in the USA many years ago.[12] On the other hand, in the study of recently war exposed adolescents from Sarajevo[9] perceived social support was found to be a protective factor against depression but not PTSD. Similarly, others reported that higher levels of perceived social support were predictive of lower depression scores in war-exposed children from Croatia.[13]

Trauma exposure and PTSD

A growing body of evidence suggests that exposure to repeated, war-related events over longer periods of time has been found to increase the risk of PTSD development and contribute to the maintenance and aggravation of the symptoms.[14,15] A number of studies of refugee adolescents, internally displaced, and unaccompanied minors have consistently found the number of war related traumatic events to be a predictor of PTSD outcome.[6,21-23] Because the studies employ different means of assessing war trauma it is for the time being not possible to identify which war related traumas have the most adverse effects on wellbeing of the refugee youth. One study found personal trauma types (loss, personal life threat, and life threat to significant others) to be associated with PTSD, while general war related events (displacement, etc.) were unrelated to PTSD. In fact in this study, the trauma of "loss" was the strongest predictor of PTSD amongst a vast number of predictors like coping strategies and social support.[9]

Gender and PTSD

The findings about the association between PTSD and gender in war exposed adolescents are also inconclusive. In several studies of different groups like unaccompanied minors, Bosnian refugee adolescents in Slovenia, and Bosnian war exposed adolescents from Sarajevo, female gender has been identified as a risk factor for PTSD.[9,21,22,24,25] On the other hand, this association was not supported in Somalian and Cuban refugee adolescents in the USA, internally displaced and non-displaced war affected youth from Congo, and refugee adolescents from the Gaza strip.[6,11,23,26]

In sum, the findings from the literature on the predictors of PTSD and trauma related distress in adolescent refugees and non-displaced war exposed youth are rather conflicting. For the time being, the indications are that we are unable to identify common predictors of mental health outcomes for war traumatized youth across different contexts. Rather the question being answered in the existing studies is what works

for whom, and under which circumstances. Also, there are too few studies of the association between coping, social support and mental health outcomes in adolescent refugees to allow accumulation of knowledge of active factors in specific stages of the refugee experience.

The aim of the present study was to explore the association between PTSD, a number of contextual factors (change of refugee camps, duration of stay in host country), individual factors (age, gender, traumatization history), perceived social support and coping strategies in adolescent refugees in a specific social environment of refugee settlements in Denmark. In designing the study we had the following hypothesis:

1) The number of war traumas, and female gender were expected be positively associated with PTSD.
2) Personal traumas were assumed to have a stronger positive association with PTSD than the total of experienced traumas.
3) Lower levels of social support during exodus and resettlement were expected to be linked to a presence of PTSD.
4) In accordance with the mainstream literature, avoidant and emotional coping strategies were expected to be associated with a presence of PTSD, while problem focused coping was assumed to be associated with the group without PTSD.

Method

Background of the studied population

The study took place at two Danish-Bosnian boarding schools in Denmark. These schools were created when the refugees from Bosnia and Herzegovina still had temporary living permits. The temporary permits meant that the refugees, some of whom have lived in Denmark up to two and a half years, were housed in refugee camps. They were unable to work in the Danish labour market, and neither children nor adolescents were able to attend Danish schools. The Danish Refugee Aid organized the boarding schools with volunteer Bosnian teachers. The aim was to provide continuation of education for the adolescents in the absence of other educational possibilities.

Only two such schools existed, which were popular amongst the adolescents, as it was an opportunity to escape the refugee camps, where whole families lived in small rooms without any privacy. The boarding schools could at maximum house about 300 students. At times there were waiting lists for admission.

Even though the schools only housed a smaller number of Bosnian refugee adolescents living in Denmark, the students were considered to be a fairly representative sample. The schools had students with different academic skills following educational lines either of standard high school education or technical school education (e.g. auto mechanic and electrician lines). As the political situation changed, the Bosnians refugees were able to seek asylum in Denmark. The study was undertaken in the period when the most students were waiting for the resolution of their asylum applications. The atmosphere amongst the students was generally hopeful. The majority of Bosnian refugees were granted asylum at the time. However, there was also a lot of uncertainty amongst the youth about the future and obstacles of having to start a new life "from scratch".

Participants and Procedure

The participants were recruited at both Bosnian-Danish boarding schools. One hundred and nineteen Bosnian youths between the ages of 15-27 (M = 18.5; SD = 1.8) participated. Most of the participants were in the age range of 17-20 years (85%). Two-thirds

were males, 85% were Muslim, 6% atheist, and 6% reported another religion.

Eighty three percent of the participants had both parents living in Denmark, 8% with only one parent and the rest was unaccompanied. Participants had lived in refugee camps outside Denmark for 7.3 months (SD = 8.6). Their mean length of stay in Danish asylum centres before coming to the boarding schools was 22.8 months (SD = 10.7). They had fled from the civil war in the former Yugoslavia in the 1990s, and their stay in Denmark ranged from 5 to 54 months (M = 29.7, SD = 11.3).

The data in the present study were collected through self-report questionnaires. Seventy two percent of the students at the boarding schools participated. The questionnaires were translated from Danish to Serbo-Croatian, and further adjusted to the Jecavic dialect, using a translation-back-translation procedure. This dialect is spoken and written in the region of Bosnia-Herzegovina and now known as the Bosnian language. The study was approved by the board of the Danish Refugee Aid and conducted according to the ethical guidelines for the Nordic

Table 1. *Direct and indirect exposure to trauma.*

Traumatic Events	Direct Exposure (%)	Indirect Exposure (%)
1. Death threats	49.6	44.5
2. Physical violence (beaten, kicked)[T]	27.7	41.2
3. Psychological harassment	72.3	46.2
4. Rape[T]	3.4	8.4
5. Other forms of sexual abuse[T]	1.7	6.7
6. Held captive[T]	17.6	41.2
7. Loss of close family members[T]	38.7	30.3
8. Loss of friends	65.5	41.2
9. Loss of home	76.5	44.5
10. Loss of possessions	78.2	49.6
11. Home destroyed	33.6	33.6
12. Firing/shelling	74.8	44.5
13. Believed one would die	50.4	27.7
14. Prolonged hunger/thirst	26.9	31.3
15. Killings[T]	9.2	24.4
16. Seen dead or wounded people	54.6	31.9
17. Injuries	35.3	32.8
18. Torture[T]	22.7	25.2
19. Forced labour	16.8	37
20. Ill health without access to medical care	25.2	30.3
21. Not knowing whether family members or friends are alive	61.3	32.8
22. Feeling completely helpless and powerless	65.5	33.6
23. Other	20.2	13.4

T) Signifies trauma types in the Personal Trauma Taxon.

psychologists. The survey was supported by the Danish Refugee Aid.

Measures

The first section of the questionnaire included sociodemographic questions about age, gender, religion, refugee camp internment, and stay at asylum centres.

The Harvard Trauma Questionnaire (HTQ)

Exposure to trauma was reported using a modified version of the HTQ Part I (HTQ-I)[27] which measures lifetime exposure to 23 traumatic war events (see Table 1). It includes both direct trauma exposure and indirect trauma exposure. In the present study the HTQ-I was modified in order to reflect the circumstances that are characteristic of European civil war and ethnic cleansing, for instance, physical violence, psychological harassment, loss of home, forced labour, and death threats. The items "brain wash" and "lack of shelter" were removed. Following the results of the Durakovic-Belko et al. study,[9] a taxon of traumas with more personal content was created. It comprised traumas types: physical violence, rape, other forms of sexual abuse, held captive, loss of close family members, killing, and torture. A personal trauma taxon was made for both witnessed and directly experienced personal trauma types. The HTQ Part IV (HTQ-IV) was used to assess trauma symptoms and PTSD symptomatology. The scale is believed to be sensitive to cultural-specific PTSD symptomatology and was used as an estimate of a PTSD diagnosis as specified in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV).[28] The first 16 items contain the three main clusters of PTSD in DSM-IV: alertness (five items), avoidance (seven items), and reexperiencing (four items). For assessing the presence of PTSD by the HTQ, an algorithm according to DSM-IV criteria for diagnosis of PTSD was applied. According to the algorithm, presence of at least one re-experiencing symptom, at least three avoidance/numbing symptoms and at least two symptoms of alertness, with a score of three or four, are indicative of PTSD. Also, a cut-off score of < 2.5 on the HTQ is estimated to differentiate between clinical and non-clinical presence of PTSD.[29] Both methods were used in the study. The reliability of the HTQ-IV for the present sample was high (α = .92).

The Coping Style Questionnaire (CSQ)

The CSQ was used to assess coping strategies on three subscales: problem-focused (10 items), emotion-focused (nine items) and avoidant (10 items).[30] A duplicate item about faith in God was removed from the emotion-focused coping subscale. Each item was rated on a four-point Likert scale. In the current study the internal consistency of the subscales ranged from modest to satisfactory (rational coping α = .79; emotion-focused coping α = .58; avoidant coping α = .68).

Crisis Support Scale (CSS)

Perceived social support was measured by the CSS which assesses the accessibility or availability of other people, who provide emotional and practical support when required, and who are willing to listen, and help with practical things in times of crises.[30-32] In this study, the CSS comprised 7 items and was used to measure levels of perceived social support during the war (T1), and at the present time (T2). The respondents rated their answers on a seven-point Likert scale. A higher score indicated a higher level of perceived crisis support. The CSS appears to be a reliable and effective instrument for the assessment of social support, mainly by reason of its brevity and the

inclusion of multi-dimensional features of social support. Internal consistencies of the CSS were good in the study (CSS T1 α = .70; CSS T2 α = .80).

Data Analysis

Analyses were conducted using SPSS version 18. Prior to analysis, the data set was screened for errors. The percentage of missing values was acceptable (5.9-17.6%). Thus, the Expectation Maximization algorithm, which has been demonstrated to be an effective method of dealing with missing data,[33] was performed to impute missing data on all standardized scales. We conducted bivariate analyses of probable PTSD diagnosis cases versus non-PTSD cases with each of the variables to identify any significant differences (Chi-square test of independence for categorical variables, and one-way between groups ANOVA for the continuous independent variables). Next, we conducted a binary logistic regression analysis using the variables that were significant in the bivariate analysis.

Results

Trauma Exposure

Statistical analyses showed that 98% of the participants reported direct exposure to at least one traumatic war event. The frequency of direct events ranged from 0-20, and each participant had on average been exposed to nine events (SD = 4.5). The most frequently reported direct exposures were loss of possessions (78%), homelessness (76%), firing or shelling (75%), psychological harassment (72%) and loss of one or more friends (66%; see Table 1). Thirty seven percent did not experience any traumas from the "personal trauma taxon", one third had experienced one personal trauma, and the remaining had experienced more than one.

With respect to total indirect exposure, 68% of the Bosnian youths reported to have witnessed at least one traumatic events (range 0-23 events). The average number of indirect events was 7.5 (SD = 7.2). The most commonly recorded indirect events were loss of possessions (50%), psychological harassment (46%), death threats (45%), homelessness (45%) and firing or shelling (45%; Table 1). Forty percent was not indirectly exposed to any traumas from the "personal trauma taxon", 16% had indirect exposure to one personal trauma, and 44% to more than one. Overall, it could be inferred that most of the participants had many different war related trauma, as each individual on average had been exposed to 17 traumatic events (directly or indirectly). Approximately 60% had directly experienced and witnessed trauma of a more personal kind.

PTSD prevalence

When using the diagnostic algorithm from DSM-IV, 43% of the participants met the criteria for a PTSD diagnosis. Moreover, 14% met the criteria of subclinical PTSD, that is, they were one symptom short of a full PTSD diagnosis. Using the cut-off score for the HTQ, 38% of the youth were found to be in the clinical range for PTSD.

Bivariate Analysis

The bivariate analysis (Table 2) showed no differences between refugee youths with or without PTSD in regard to age, months spent in refugee camps, months spent in asylum centres, or duration of stay in Denmark. Moreover, the mean number of indirect and direct war traumas in total, as well as direct experience to traumas of personal content, did not differ significantly between the two groups. Interestingly enough, adolescents with PTSD had witnessed significantly more personal traumas, than those without PTSD. Gender was the only other significant factor

Table 2. *Descriptive statistics and comparisons between PTSD and non-PTSD participants (N=119).*

Variable	Non-PTSD (n = 68)	PTSD (n = 50)	Test (Chi-square or ANOVA)
	Mean (SD) or n		
Age	18.4 (1.6)	18.5 (2.1)	*ns*
Gender, male/female	50/18	27/23	$\chi^2 = 4.85$*
Months spent in refugee camps	7.5 (9,5)	7.2 (7.5)	*ns*
Months spent in asylum centres	23 (11.5)	22.6 (9.9)	*ns*
Months spent in Denmark	29.9 (11.2)	29.4 (11.5)	*ns*
Direct trauma exposure	9 (4.2)	9.7 (4.8)	*ns*
Indirect trauma exposure	6.5 (6.7)	8.9 (7.7)	*ns*
Direct exposure to severe trauma	1.1 (1.3)	1.4 (1.4)	*ns*
Indirect exposure to severe trauma	1.4 (1.7)	2.3 (2.2)	*F* = 5.96*
Problem-focused coping	11.3 (4.8)	14.9 (4.2)	*F* = 17.91***
Emotion-focused coping	9.6 (3.9)	11.9 (3.9)	*F* = 10.69**
Avoidant coping	9.5 (3.6)	12.5 (5.4)	*F* = 13.54***
Perceived social support (during trauma exposure)	33.6 (5.9)	32.7 (6.2)	*ns*
Perceived social support (present)	36.1 (5.3)	33.6 (7.2)	*F* = 4.63*

PTSD = Posttraumatic Stress Disorder; F = F-ratio; χ^2 = Chi-square.
* $p < .05$. ** $p < .005$. *** $p < .0005$.

between the groups, indicating that girls had a higher prevalence of PTSD.

The analysis also revealed that there was no significant difference between the groups in their reports of perceived social support during the war, but the group with PTSD reported lower levels of perceived social support at present than the group without PTSD. Furthermore, differences were found between the groups relating to their coping activity during the war and the flight on all three coping dimensions.

Logistic Regression Analysis (LRA)

We analysed the data by the means of more stringent analytical methods to confirm the results of the bivariate analysis and its suggestion of links between PTSD, gender, witnessing of personal traumas, perceived present social support, and the three coping strategies. The variables in question were included in a LRA with PTSD or non-PTSD as the dependent variable, and the remaining factors as independent variables. The results of the LRA are summarised in Table 3. In this final analysis, witnessing of personal traumas, perceived social support at present, and emotion-focused coping did not reach statistical significance. Gender was found to be a strong predictor of PTSD risk (OR: .32, $p < .05$), with the female refugee youths exhibiting higher PTSD rates than their male counterparts. Avoidant coping strategies (OR: 1.12, $p < .05$) and problem-focused coping strategies (OR: 1.16, $p < .0005$) also achieved significant predictive power. The association between problem focused coping and PTSD was in the opposite direction

Table 3. *LRA with PTSD as a dependant variable*

Variable	Odds Ratios	95% CI
1. Gender (male)	.37*	.15-.94
2. Perceived social support (at present)	.93	.86-1.00
3. Rational/problem-focused coping	1.17**	1.04-1.31
4. Emotion-focused coping	1.08	.94-1.23
5. Avoidant coping	1.13*	1.01-1.25
6. Indirect severe trauma	1.24	.99-1.56
7. Nagelkerke R2	.36	
8. Cox & Snell R2	.27	

* p < .05. ** p < .005. ***

than hypothesised. The PTSD group had significantly higher scores on the two coping strategies, that is, the PTSD group made more frequent use of both problem-focused and avoidant coping strategies (Table 3).

Discussion

Between 38-43% of the participants met the criteria for a PTSD diagnosis. A high PTSD prevalence of this calibre was somewhat expected in the light of the multiple traumas that these youths had experienced. Even so, the estimated PTSD prevalence is rather high. Studies of asylum seeking unaccompanied minors in European countries yield PTSD prevalence of approximately 20%.[2,21] As being unaccompanied is associated with a number of mental health risk factors[22] the prevalence of PTSD is alarmingly high in this sample with relatively intact family structures. The level of PTSD in this study is comparable to early adolescents and children living in African and Asian refugee camps, where prevalence ranges between 35-75%.[8]

As the HTQ was not validated for Bosnian populations at the time of this study, we cannot be sure of the sensitivity of the instrument. On the other hand, the HTQ had excellent internal consistency in the presents study, and it is the only validated screening instrument for PTSD in the Bosnian language today. The high prevalence of PTSD in the present sample can perhaps be understood in light of the living circumstances of the young Bosnians, which were characterized by a long lasting "stand by" position. A meta analysis of post-displacement factors associated with mental health outcomes for adult and adolescent refugees, points to institutionalised living, and restricted working possibilities as the strongest predictors of poorer mental health outcomes.[34] Both of these were characteristic of the present sample. The asylum centres and the boarding schools were institutionalized accommodation in which the young refugees were waiting for up to two and a half years until they were granted the right to seek asylum. As already mentioned, the refugees were unable to work or go to Danish schools in this period.

Predictors of PTSD

In studies of Bosnian war exposed youth, the Durakovic-Belko et al. study[9] resembles the present study the most both in terms of the participants (Bosnian high school students) as well as the choice of PTSD predictors (trauma exposure, coping and social support). Of course, the main difference is that the adolescents from their study were mostly non-displaced war exposed youth, while our population is living in exile in Denmark. As the discussion will show, the predictors of PTSD in the two studies have also fallen out somewhat differently.

As consistent with the majority of previous research[9,21,22,24,25] female participants were more vulnerable to develop PTSD than

males in this study. Gender constitutes a key variable in research on PTSD rates and accumulated cross-cultural evidence indicates that women develop PTSD at higher rates than men, even when the type,[35] severity, and extent[36] of the trauma is controlled for. This study thus adds to two other identified studies of war exposed Bosnian adolescents, where female gender has been found to be one of the strongest risk factors of PTSD.[9,13]

In contrast to Durakivic-Belko et al.,[9] the single direct exposure to personal trauma could not be linked to PTSD in the present group. The same was the case with the total amount of witnessed and directly experienced trauma. In the final analyses, the association of trauma exposure and PTSD was overruled by the predictive power of coping strategies. This is somewhat puzzling, especially in light of the existing studies with war exposed adolescents, which point to a strong link between trauma exposure and PTSD. However, the Durakovic-Belko et al. study[9] is to our best knowledge the only existent study which evaluated the effect of coping strategies on PTSD as well as trauma exposure in war exposed adolescents. As the difference between our two studies mainly pertains to the status of participants as non-refugee vs. refugee, an explanation for the salience of coping strategies in the current sample could be the uncertain living circumstances of the refugee youth, indicating that they were more concerned with coping with the difficult present situation, than coping with past trauma.

An unexpected finding of our study was that both problem-focused and avoidant coping strategies were related to PTSD. Once again, the seemingly ineffective coping strategies can be understood in light of their life circumstances. Their "stand by" circumstances in terms of asylum meant that they had little impact on life decisions for a long time. There was therefore no real difference between the outcomes of different coping strategies. They were equally ineffective, and therefore equally symptom related. Jones reported that Bosnian adolescents who exhibited an engaged coping style had more PTSD symptoms compared to the adolescents who exhibited a disengaged /detached coping style, characterized by a lack of emotional association with the traumatic experiences.[2] The youth who engaged more, were more aware of the threats and problems in their present lives, and therefore generally more fearful and anxious. Thus, the association between more coping and more PTSD symptoms, found in this study, could be mediated by a greater awareness of helplessness and the problematic life circumstances.

A seemingly concerning trend in the literature on Bosnian war exposed adolescents is that adaptive coping strategies are seldom reported for this group. However, as there are only few studies and most have been conducted right after the ending of the war, and during the asylum seeking period for the refugees, they could reflect the chaotic characteristics of the adolescents' close environment and society rather than their inability to cope effectively. Coping strategies in adolescence are also expected to change rapidly as the young individual becomes more aware of the complexity of the social world, and especially as the opportunities in the environment change. In a longitudinal study of Khmer adolescents 12 years after their arrival in the USA, it is reported that they exhibited remarkable good adaptation in spite of their high PTSD symptom levels.[37]

Finally, like in the Durakovic-Belko et al. study[9] study, the association between social support and PTSD was not found in our sample. It may be that social support in general, has a stronger association with depression than PTSD in war traumatized ado-

lescents. This has already been reported in two previous studies of Bosnian war exposed adolescents.[9,13] Having said that, little is known about the precise mechanisms, which underlie the association between social support and PTSD. More studies are needed to unravel the contribution of social support on depression and PTSD in traumatized adolescents, especially since the two disorders are highly comorbid and share some of the same symptoms.

In sum, the present study shows alarmingly high levels of PTSD symptoms in a non-clinical sample of refugee adolescents in Denmark. Even though female gender was found to be the strongest predictor of PTSD (as in other comparable studies), other predictors had somewhat unexpected associations with PTSD. The salience of coping strategies as significant predictors, in comparison to extensive traumatization of personal content and social support was remarkable. The most credible explanation seems to be that the youth were still trying to cope with the uncertainty of their situation, and have not begun to process the traumatic experiences from the war.

The situation of the refugees from Bosnia Herzegovina in Denmark was special. The Danish government chose to take in 20,000 Bosnian refugees when most European countries had closed their borders to refugees from the Balkans. At the same time, the expectation was that the refugees would repatriate, so there was a commitment to treat their asylum applications only if the war had not ended in two years. This meant that many people found refuge in Denmark when it was most needed, but they were also stuck in a very uncertain situation for a long time, without the possibility to seek asylum.

It seems that this uncertainty, which was grounded at the societal and political levels, could have had negative consequences for the mental health of the refugee adolescents, where protective factors such as social support lost their salience, and coping was associated with more distress. Of course, since there are no other studies of refugee youth in comparable situations, we cannot be sure of this association. Even so, there needs to be more awareness of possible adverse consequences of such long "stand by" arrangements.[38] If these situations cannot be avoided because of other societal concerns, there should be awareness on the societal level of the need for treatment and other actions, which can ameliorate these negative effects. Research suggests that youths, who have been exposed to multiple war traumas and suffer from PTSD, are at risk of developing comorbid psychiatric disorders, substance abuse as well as academic and behavioural problems.[12]

Limitations

It is important to recognize, that none of the applied measures were validated for use in Bosnian at the time of the study. Also, one item was removed from the Coping Style Questionnaire. This means that we cannot be quite sure that the translated measures have retained their original psychometric properties. As we cannot wait to do research in refugee populations until all the measures that we need have undergone a thorough validation, we put our faith in good translations of already well-established measures. Values of internal consistency are reported for each measure and can be compared to the original validation values of the measures in question.

This is a small study of a specific sample of Bosnian refugee adolescents in Denmark. The conclusions can therefore not easily be generalized to other adolescent refugee populations. Even so, as the review of the literature on predictors of PTSD in war

exposed youth shows, we need many more studies of specific contexts, so that we can begin to understand what works for whom, and under which circumstances.

References

1. Ehntholt KA, Yule W. Practitioner review: assessment and treatment of refugee children and adolescents who have experienced war-related trauma. J Child Psychol Psychiatry 2006;47:1197-210.
2. Jones L. Adolescent understandings of political violence and psychological well-being: a qualitative study from Bosnia Herzegovina. Soc Sci Med 2002;55:1351-71.
3. United Nations High Commissioner for Refugees. UNHCR Global Trends 2010. United Nations High Commissioner for Refugees, 2011. www.unhcr.org/4dfa11499.html.
4. Roth G, Ekblad S, Agren H. A longitudinal study of PTSD in a sample of adult mass-evacuated Kosovars, some of whom returned to their home country. Eur Psychiatry 2006;21:152-9.
5. Turner SW, Bowie C, Dunn G, Shapo L, Yule W. Mental health of Kosovan Albanian refugees in the UK. Br J Psychiatry 2003;182:444-8.
6. Ellis B, MacDonald HZ, Lincoln AK, Cabral HJ. Mental health of Somali adolescent refugees: the role of trauma, stress, and perceived discrimination. J Consult Clin Psychol 2008;76:184-93.
7. Tousignant M, Habimana E, Biron C, Malo C, Sidoli-LeBlanc E, Bendris N. The Quebec Adolescent Refugee Project: psychopathology and family variables in a sample from 35 nations. J Am Acad Child Adolesc Psychiatry 1999;38:1426-32.
8. Lustig SL, Kia-Keating M, Knight WG, Geltman P, Ellis H, Kinzie JD, et al. Review of child and adolescent refugee mental health. J Am Acad Child Adolesc Psychiatry 2004;43:24-36.
9. Durakovic-Belko E, Kulenovic A, Dapic R. Determinants of posttraumatic adjustment in adolescents from Sarajevo who experienced war. J Clin Psychol 2003;59:27-40.
10. Braun-Lewensohn O, Sagy S, Roth G. Coping strategies among adolescents: Israeli Jews and Arabs facing missile attacks. Anxiety Stress Coping 2010;23:35-51.
11. Elbedour S, Onwuegbuzie AJ, Ghannam J, Whitcome JA, Abu Hein F. Post-traumatic stress disorder, depression, and anxiety among Gaza Strip adolescents in the wake of the second Uprising (Intifada). Child Abuse Negl 2007;31:719-29.
12. Berthold MS. War traumas and community violence: Psychological, behavioral, and academic outcomes among Khmer refugee adolescents. J Multicultural Social Work 2000;8:15-46.
13. Brajsa-Zganec A. The long-term effects of war experiences on children's depression in the Republic of Croatia. Child Abuse Negl 2005;29:31-43.
14. Goodman JH. Coping with trauma and hardship among unaccompanied refugee youths from Sudan. Qual Health Res 2004;14:1177-96.
15. Paardekooper B, de Jong JT, Hermanns JM. The psychological impact of war and the refugee situation on South Sudanese children in refugee camps in Northern Uganda: an exploratory study. J Child Psychol Psychiatry 1999;40:529-36.
16. Veer Vd G. Counseling and therapy with refugees: psychological problems of victims of war, torture and repression. Chichester: John Willey, 1992:1-275.
17. Folkman S, Moskowitz JT. Positive affect and the other side of coping. Am Psychol 2000;55:647-54.
18. Roger D, Jarvis G, Najarian B. Detachment and coping - the construction and validation of a new scale for measuring coping strategies. Pers Indiv Differ 1993;15:619-26.
19. Charuvastra A, Cloitre M. Social bonds and posttraumatic stress disorder. Annu Rev Psychol 2008;59:301-28.
20. Ozer EJ, Best SR, Lipsey TL. Predictors of posttraumatic stress disorder and symptoms in adults: a meta-analysis. Psychol Bull 2003;129:52-73.
21. Derluyn I, Broekaert E. Different perspectives on emotional and behavioural problems in unaccompanied refugee children and adolescents. Ethnic Health 2007;12:141-62.
22. Hodes M, Jagdev D, Chandra N, Cunniff A. Risk and resilience for psychological distress amongst unaccompanied asylum seeking adolescents. J Child Psychol Psychiatry 2008;49:723-32.
23. Mels C, Derluyn I, Broekaert E, Rosseel Y. The psychological impact of forced displacement and related risk factors on Eastern Congolese adolescents affected by war. J Child Psychol Psychiatry 2010;51:1096-104.
24. Huemer J, Karnik N, Voelkl-Kernstock S, Granditsch E, Plattner B, Friedrich M, et al. Psychopathology in African unaccompanied refugee minors in Austria. Child Psychiatry Hum Dev 2011;42:307-19.
25. Slodnjak V, Kos A, Yule W. Depression and parasuicide in refugee and Slovenian adolescents. Crisis 2002;23:127-32.
26. Rothe EM, Lewis J, Castillo-Matos H, Martinez O, Busquets R, Martinez I. Posttraumatic stress

disorder among Cuban children and adolescents after release from a refugee camp. Psychiatr Serv 2002;53:970-6.
27. 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 posttraumatic stress disorder in Indochinese refugees. J Nerv Ment Dis 1992;180:111-6.
28. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4 ed. Washington, DC: APA, 1994.
29. Ichikawa M, Nakahara S, Wakai S. Cross-cultural use of the predetermined scale cutoff points in refugee mental health research. Soc Psychiatry Psychiatr Epidemiol 2006;41:248-50.
30. Joseph S, Williams R, Yule W. Crisis support, attributional style, coping style, and posttraumatic symptoms. Pers Indiv Differ 1992;13:1249-51.
31. Elklit A, Pedersen SS, Jind J. The Crisis Support Scale: psychometric qualities and further validation. Personality and Individual Difference 2000;31:1291-302.
32. Joseph S, Andrews B, Williams R, Yule W. Crisis support and psychiatric symptomatology in adult survivors of the Jupiter cruise ship disaster. Br J Clin Psychol 1992;31(Pt 1):63-73.
33. Bunting BP, Adamson G, Mulhall PA. Monte Carlo examination of MTMM model with planned incomplete data structures. Structural Equation Modeling 2002;9:369–89.
34. Porter M, Haslam N. Predisplacement and postdisplacement factors associated with mental health of refugees and internally displaced persons: a meta-analysis. JAMA 2005;294:602-12.
35. Tolin DF, Foa EB. Sex differences in trauma and posttraumatic stress disorder: a quantitative review of 25 years of research. Psychol Bull 2006;132:959-92.
36. Zlotnick C, Zimmerman M, Wolsdorf BA, Mattia JI. Gender differences in patients with posttraumatic stress disorder in a general psychiatric practice. Am J Psychiatry 2001;158:1923-5.
37. Sack WH, Him C, Dickason D. Twelve-year follow-up study of Khmer youths who suffered massive war trauma as children. J Am Acad Child Adolesc Psychiatry 1999;38:1173-9.
38. Schwarz-Nielsen KH, Elklit A. An evaluation of the mental status of rejected asylum seekers in two Danish asylum centers. Torture 2009;19:51-9.

Rape as a weapon of war in the Democratic Republic of the Congo

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Abstract

The Democratic Republic of the Congo has been appropriately acknowledged as "the rape capital of the world." While the country has been trapped in conflict, the use of rape as a weapon of war has been rampant and unyielding. The sexual violence inflicted upon women has been nothing less than brutal and destructive, physically, socially, and psychologically. This paper analyzes the use of rape as a weapon of war in the Congo, taking into context the ongoing war, cultural and social situations that facilitate its existence, and the many consequences the victims are forced to endure. Drawing information from various academic journals, articles, and field research from international organizations, this paper paints a concise picture of the sexual atrocities occurring in the Democratic Republic of the Congo.

Keywords: Rape, torture, Democratic Republic of the Congo.

The Democratic Republic of the Congo (DRC) is accurately referred to as "the rape capital of the world".[1] John Holmes, the under secretary general for humanitarian affairs for the United Nations has been reported saying, "the sexual violence in Congo is the worst in the world. The sheer numbers, the wholesale brutality, the culture of impunity – it's appalling".[2] With more than five million dead, tens of thousands of women raped all within the past decade, doctors and activists have called it an "epidemic." Michael Van Rooyen, director of Harvard's Humanitarian Initiative, has had experience in international disaster zones. He says, "even in a wartime setting, Congo is unusual and exceptional."[1] Such a reality is frightening and difficult to imagine, yet it is a reality many Congolese women have faced. This large-scale magnitude of sexual violence has potentially made eastern Congo the worst place on earth to be a woman. This paper will analyze various contexts and how they relate to rape in the Congo, specifically looking at war, poverty, and patriarchy, as well as the physical and psychological effects of sexual violence. For there to be any hope of change for women in the DRC, rape as a weapon of war must be addressed.

"Soldiers Who Rape, Commanders Who Condone"[3] is a report by Human Rights Watch that documents the sexual violence committed by the military in the DRC. Their research, done in North and South Kivu, consisted of interviews with victims, witnesses, members of NGOs and churches, staff of international agencies, and representatives from the government. This study

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is crucial to understanding the methods and effects of rape by those in the armed forces and the unique culture of sexual violence it creates. Human Rights Watch reports that during the past fifteen years, "tens of thousands of women and girls in Congo have become victims of sexual violence." In North Kivu alone there were 4,820 cases. The UNFPA "also reported that more than 65 percent of victims of sexual violence during the same period were children, the majority adolescent girls." Children less than ten years old comprise an estimated ten percent of victims.[3] Unfortunately, the conflict rages on, and hundreds of women continue to suffer every day as the war is being fought "on their bodies" as many rape victims have described the brutality endured during rape.[3]

Background

In order to gain a better understanding of rape as a weapon of war, it is essential to begin with looking at the conflict in which it occurs. Sadly, conflict has plagued the history of the DRC from when it achieved independence from Belgium in 1960 until today. Much of the conflict in the country today can find its roots in the aftermath of the Rwandan genocide in 1994. When the genocide ended, Rwandan Hutu militias, known as the Interahamwe, fled into Congo when the Tutsi's took control of the Rwandan government. These militia groups used Hutu refugee camps in eastern Congo as bases for their ongoing attacks against Rwanda.

As a result, troops from the Rwandan Patriotic Army entered the Congo two years later in hopes of disintegrating the Hutu militias. At the same time, the Alliance des Forces Democratiques pour la Liberation du Congo-Zaire, an armed coalition under the leadership of Laurent Kabila and supported by Uganda and Rwanda, entered the country to forcibly remove the dictator Mobutu Sese Seko from power. After much conflict and failed peace talks, Mobutu fled the country in exile in 1997. Laurent Kabila then rose to power as president of the DRC.[4]

A year later, Kabila cut relations with his Rwandan supporters, which sparked another conflict. This second civil war would become far more infamous than the first as neighboring countries got involved, which would brand this conflict as "Africa's first world war".[5]

In 2001, President Kabila was assassinated and his son Joseph rose to power. With his newfound authority, Joseph Kabila reversed a number of his father's policies, replacing them with his own, some of which have been considered thoughtless and ineffective. Within the year the United Nations deployed a peacekeeping mission into the country known as the United Nations Organization Mission in the Democratic Republic of the Congo (MONUC), and political negotiations on peace proceeded, known as the Inter-Congolese Dialogue.[4] As the United Nations got involved and talks occurred, neighboring nations involved in the conflict began to leave the country, as seen at the end of 2002. Angola, Namibia, and Zimbabwe withdrew from the country. However, even after the Pretoria Accord was crafted in July 2002, many armed forces associated with the Rwandan genocide remained in the Congo. As Human Rights Watch reported, the Rassemblement congolais pour la démocratie, a group many consider to be a proxy of the Rwandan government, and the Rwandan army still occupy large parts of eastern Congo.[6]

Throughout the following years, despite the peace agreements that were signed and international peacekeeping groups that intervened and provided assistance in the name of diplomacy, fighting still waged on,

especially from a rebel group led by Laurent Nkunda. General Nkunda claimed his goal was to protect the Tutsi ethnic group in the Congo from the Hutu extremists who fled into the country after the Rwandan genocide in 1994. Even the largest UN peacekeeping mission failed in 2008 to protect the atrocities committed not only by the rebel groups, but also by government troops and homegrown militias, such as the Mai Mai. The involvement of various groups only adds to the complexity of the conflict as well as the number of attacks on civilians. While some progress has been made, as seen with the arrest of General Nkunda in 2009, the population still lives under the uneasiness and lingering threat of being attacked.[5]

Unfortunately, the war still rages on as the vast amount of rare and valuable natural resources in the Congo enable the militia groups to continue their efforts in the regions of fighting. Such incredible reserves of resources, such as diamonds, gold, coltan, and cassiterite, are one of the primary reasons many of the ethnic militias are still in the country. In "The Trouble With Congo," an article published in Foreign Affairs, Autesserre writes about what has fueled the involvement of the many different ethnic militias in the conflict, and how the conflict has been able to persist. In regards to the fighting over these valuable minerals, he writes, "access to resources means the ability to buy arms and reward troops, and thus to secure political power; political power, in turn, guarantees access to land and resources".[7] While so many resources appear to be up for grabs, people will continue to die. It is important to consider the West's dependence on such minerals that, in turn, make them so valuable. Many of these minerals are used in the manufacturing of the variety of electronics that are used daily. If such a need did not exist, would the minerals be fought over for such a high price?

Enough Project is an American-based organization whose mission is to bring to light crimes against humanity being committed around the globe. Their extensive research has uncovered many of the underlying causes of the conflicts of the day. In the Congo specifically, they have investigated the pivotal role these "conflict minerals" play and how their existence is perpetuating the crisis. Many of the buyers of these resources are located in Europe and Asia, such as Thailand-based Thaisarco and the Malaysia Smelting Corporation, which both happen to be the world's leading tin smelters. Purchase of the minerals by international companies feeds money into these armed militia groups controlling the extraction areas in the Congo. With the money they are able to buy more weapons and equipment, increasing their control as well as their power within the conflict.[8]

Autesserre adds that during this war, "over a thousand civilians continue to die in Congo every day, mostly due to malnutrition and diseases that could be easily prevented if Congo's already weak economic and social structures had not collapsed".[7] In addition to that startling statistic, Kristof of The New York Times said it is estimated that more than 6.9 million people have been killed in the ongoing conflict in the Congo since 1998.[9]

With a foundational understanding of the conflict raging on in the DRC, we can then address the basic components of rape and how it has been seen in the country. What is important to know is that rape and other forms of sexual violence were first "noted in cross-border hostilities in 1991 but became more frequent in 1994 in the context of regional conflicts stemming from the Rwandan genocide".[10] While wartime rape is nothing new to the Congo, it has

only increased dramatically over the past decade. Therefore, such knowledge about rape is essential in grasping the bigger picture of the different ways rapes are committed, not to mention how rape is legally defined, in order to gain a greater understanding as to how sexual violence in conflict has continued to exist.

Rape and War

First, we will begin with how rape is described according to the International Criminal Court (ICC). Rape is considered a crime against humanity and is composed of four elements. The first describes the perpetrators' invasion of an individual's body "by conduct resulting in penetration, however slight, of any part of the body of the victim or of the perpetrator with a sexual organ." The penetration can be done by "any object or any other part of the body." Element number two states that "the invasion was committed by force, or by threat of force or coercion," which could have been caused by several factors. Some of these factors include detention, duress, violence, and psychological oppression, among others. The third and fourth elements explain that the sexual acts committed were done so "as part of a widespread or systematic attack directed against a civilian population," and that the perpetrators were aware of these intended motives.[11]

While these elements are pivotal by providing the legal qualifications of rape, especially as agreed upon on the international scale, there is one other essential fact that must be understood. Mullins examines the nature and implications of sexual violence in armed conflict in his study called "We Are Going to Rape You and Taste Tutsi Women."[12] He looks particularly at the sexual violence that occurred during the Rwandan genocide in 1994, gaining information from testimonies given at the International Criminal Tribunal for Rwanda. Though the location of this research is a different country, the use of rape is similar to that of the Congo. The effects are equally as haphazard and devastating. In his study of rape, Mullins makes this point: "rape itself is infused with gendered power dynamics; scholars have long acknowledged that rape is as much about power as it is about sex."[12] What can so easily be assumed is that rape is solely driven by the desire for sex. And while that desire may play a part in influencing an individual to commit rape, the drive for power is equally as influential, if not more so in some cases.

In the DRC, Pratt and Werchick conducted a three-week assessment, "Sexual Terrorism: Rape as a Weapon of War in Eastern Democratic Republic of Congo," on the sexual terrorism that is so prevalent in this region. They found that not only is wartime rape a common reoccurrence in the Congo throughout the many conflicts it has endured, there are also different categories of rape committed by virtually all the armed groups and militias involved. From their research they found that sexual and gender-based violence increased concurrently due to its effectiveness as a weapon of war. Together, these acts could "subdue, punish, or take revenge upon entire communities."[10] Though such statistics are often difficult to prove, the research done by Pratt and Werchick revealed that the victims of sexual violence range in age from four months to 84 years.[10]

"Women's Bodies as a Battleground," a study done by International Alert in the province of South Kivu, identified four types of rape through interviews with victims and even some members of the armed forces involved in the conflict. The four types are "individual rape, gang rape, rape in which victims are forced to rape each other, and rape involving objects being inserted into

the victims' genitals." Individual rape occurs when a victim is raped by one perpetrator. Of those interviewed, slightly over twenty percent had endured this type of rape. Gang rape, which 79% of the women interviewed had been subjected to, occurs when a woman is raped by at least two men, simultaneously or one after the other. Some victims of gang rape have said that in between rapes, the attackers would "clean" the woman by inserting the end of a rifle that had been wrapped by a soaked cloth into the woman's vagina. Forced rape between victims is pretty self-explanatory. Usually occurring after a gang rape, the perpetrators would force family members to have incestuous sexual relations with one another. Sons were forced to rape their mothers, fathers their daughters, and sometimes brothers and sisters were forced to commit sexual acts. The fourth type identified, rape involving the insertion of objects into the genitals, included some objects such as bananas, rifle barrels, pestles covered in chili pepper, bottles, and sticks. More often than not, the victims were tortured and murdered during or after the rape. Around 70% of rape survivors who partook in the study said they had been tortured during the rape, especially when they attempted to fight back. Some were beaten, had their genitals mutilated or burned, or were wounded by machetes. After being raped, some attackers killed the women by firing shots into their vaginas.[13] There is clearly no single way to commit rape. Unfortunately, the more types of rape there are, the more victims there will be.

Rape and Poverty

So what creates this kind of environment that allows such atrocities to be committed, especially with seemingly minimal accountability? The most obvious answer would be the war that has ravaged this country for over a decade. Further analysis opens our eyes to see that so many other factors playing a role in the perpetual use of rape in the Congo. This conflict has created dire circumstances within the country that have also perpetuated the existence of rape as a wartime weapon. The widespread effects of poverty on the population have created a culture of desperation. For instance, in the eastern parts of Congo, the war "has ravaged this region intermittently since 1996 [and] has destroyed the local economy." As a result, women who are the providers for their families must continue "going to the fields to cultivate, to the forest to make charcoal, or to markets to trade their goods even though doing so puts them at risk of sexual violence."[6] During these times of war, women are especially vulnerable. The burden of survival has fallen upon them, as they struggle to keep not only themselves but also the rest of their families alive. The lack of economic infrastructure and social development in the country only furthers this impoverishment of women, especially in semi-urban and rural areas.[13]

In South Kivu, for example, the position of women in economic terms is described as the "feminization of poverty," which is worsened "by the lack of any policies or mechanisms for women's advancement." All of these factors greatly increase a woman's vulnerability as well as help to legitimize gender-based violence.[13] This subordinate view of women fuels the use of rape as a weapon of war and magnifies the devastating effects it has on women, not just physically but socially and psychologically, all of which will be discussed in more detail later on.

Another ripple effect of poverty is that armies are unable to adequately pay their soldiers. This creates a build-up of frustration and restlessness among soldiers in the camps as they wonder how they will provide for their families or anyone else who is

dependent upon them. In an article about rape in the DRC titled "Rape and War in the Democratic Republic of the Congo", Carlsen uses theoretical frameworks to help understand why women and girls are raped so indiscriminately in this conflict. She writes, "economic desperation motivates much of the sexual violence in the DRC. Soldiers and rebel forces in eastern Congo live in notoriously squalid conditions."[14] With such limited options, soldiers result to using rape to steal whatever goods the woman may possess. These combatants may go months with very little pay, and thus may have no choice but to fend for themselves in order to compensate insufficient wages. This creates a terrible cycle of poverty as they find themselves stealing from local people just to survive each day, which in turn causes the locals to fall deeper into poverty, hindering economic development for the region. A member of the Congolese Rally for Democracy-GOMA, one of the many armed groups operating in the Congo, stated in an interview with International Alert that "fighters wait for months to get paid. They've got nothing to eat, they have to cope as best they can."[14]

These dire economic conditions greatly influence not only the occurrence of rape in general but also the frequency with which it occurs. For instance, countless incidents of rape and looting documented by International Alert took place "during months marked by the busy harvesting of coffee, cassava, and bananas. Rapes also took place the day before major market days." The day before the major market days are when the women would travel to the market with all their goods they planned to sell, thus making them ideal and vulnerable targets for hungry and needy soldiers. Though there are many motives for rape, as many as there are perpetrators, the poverty within the armed forces plays a significant role in its existence. In no way does this justify committing these sexual crimes, but it is important to consider that if such depraved circumstances were to be non-existent, the use of rape as a weapon of war could look drastically different in the DRC. In other words, improving a soldier's access to basic necessities and allowing them to look after their families could be incredibly beneficial and contribute to civilian protection.[3] Removing the depravity these soldiers live in might remove the need for them to loot, which creates the opportunities for them to rape as well.

The sexual violence that occurs in this context falls under one of the major theories on wartime rape known as the opportunistic theory. According to this theory, the primary motivation for sexual violence in wartime is economic gain. It "explores the relationship between sexual violence against women and the allocation of resources." As mentioned earlier, many soldiers involved in the war are grossly underpaid and underfed. This creates a kind of depravity that results in men using sexual violence in order to acquire and control resources to survive. Looting is encouraged as men thrive on the power advantage they have over women.[14] Conflict creates desperate conditions where men rape women to sustain themselves to continue fighting. Oftentimes, it is through women that food and resources are acquired the easiest for there is little risk of retaliation. Rape is not so much about sex as it is the power of men to get what they want in order to survive another day.

Rape and Patriarchy

An additional factor to consider would be the cultural view of women. As stated earlier, the effects of poverty greatly increase the subordination of women. But what must also be considered is how women are viewed in

the context of their society. Culturally, their inferiority is furthered "by the persistence of customs, practices, and legislations that discriminate women." Furthermore, these customs and practices "constitute an obstacle to women in getting access to property, education, modern technology and information."[13] Women are denied the necessary tools and resources that would not only benefit their individual well-being, but also that of their communities and provinces. From his research in Rwanda Mullins writes,

> Taken together, the cultural and structural research on rape establishes that within a civilian context, sexual assault is organized and regulated within a social order, as it reinforces male beliefs about sexual privilege and access.[12]

This view of women within the cultural context is important in how it relates and shapes these beliefs about the sexual privilege of males. Mullins also points out "when women are property, women are plunder. Women have historically been considered spoils of war."[12] Women are dehumanized to the point of being considered property. Such a mindset can, therefore, easily justify the abuse and violation of women for they are considered either less than human, or something that is owned and can thus be used however the owner desires. If women were viewed in a more positive, human light, how would these beliefs of sexual entitlement change? Again, the cultural view of women does not justify raping them, but it provides a helpful insight as to why men are able to commit such atrocities against women. How men view women significantly shapes how they treat women.

Such a patriarchal view towards rape is exemplified in the patriarchal militarized theory. Carlsen describes this theory succinctly in that the sexual violence occurring during wartime is "motivated by the desire to exert control and power over women and men who are perceived as feminine." The rape that occurs during conflict "is a by-product of a system of patriarchy where power relations are hierarchal and motivated by masculinity."[14] Rape serves as a type of reminder of the women's place in society and men's power over them.

As a result of this patriarchal society prevalent in the Congo, wartime rape is also very strategic. In "Explaining Wartime Rape", Gottschall analyzes historical and ethnographical societies in which rape has occurred. In this article, the strategic rape simply explained as "a tactic executed by soldiers in the service of larger strategic objectives."[15] There is a deliberate intention behind rape that transcends the physical into the psychological and sociological. Human Rights Watch provides further insight into this systematic use of rape, addressing that it was "used by all sides to deliberately terrorize civilians, to exert control over them, or to punish them for perceived collaboration with the enemy."[3] In this sense, rape is used as a mechanism to instill fear and terror into the minds of civilians, to discourage any interaction with the enemy.

Oxfam International and the Harvard Initiative teamed up to investigate this catastrophic use of sexual violence in the DRC. They conducted a study at Panzi Hospital, one of the major hospitals in the Congo that cares for victims of sexual violence, interviewing survivors about what they had endured. This study adds great insight into the culture of sexual violence in the Congo and the disastrous implications it can have upon the individual and community levels.

During their study, they found that "[rape] is strategically used to shame, demoralize and humiliate the enemy. By systematically raping women and girls, armed groups assert power and domination

over not only the women, but their men as well."[16] This use of rape sends a powerful message to the men of the community of which the rape victims belong. Mullins writes that rape is an assault on the husband's or father's masculinity. As a result of these "long-standing patriarchal value systems, both the men and the women simultaneously experience the destruction of their ability to enact enforced gender norms."[12] It highlights their inability to protect their women from attack, essentially calling into question the men's usefulness and masculinity. What this study also revealed collaborates with this idea. They found that sexual violence "is used by the opposing force to signify the weakness and inadequacy of the men in the targeted social grouping or community. These men absorb this message, perceiving their inability to protect women against assault as their own final humiliation in war."[16] Rape sends a psychological message to men through the physical brutalization of women.

In order to understand how significant the message rape sends to men, the societal implications of rape in the Congolese culture must be realized. The stigma attached to rape is incomprehensible. The men are humiliated as their masculinity is called into question by their inability to protect their women. Unfortunately, the consequences women face are much more devastating. Since rape is so highly stigmatized, victims are often abandoned by their spouse or are unable to be considered for marriage. Many are ostracized by their community, forced to leave their homes and families with an unbearable burden of shame on their backs. As a result, women are left homeless and isolated, many shunned by their own husbands. Furthermore, as this stigma disintegrates families and disturbs community life, social and cultural bonds are at risk of being destroyed as the effects of the stigma live on.[16] Through her examination, Carlsen found "women's bodies physically and symbolically provide the backbone of their communities."[14] So as women are forced to leave, communities lose reproductive power but also the symbolic significance that motherhood provides, whether it is the role of raising the children or acquiring resources for the household. Wartime rape has clear ripple effects that extend far beyond the victim herself.

Unfortunately, not only are communities at risk of disintegration but cultures themselves are also in danger. A group of researchers from the Harvard Humanitarian Initiative surveyed the victims of sexual violence at Panzi Hospital in Bukavu, located in the South Kivu province. In the article, "Surviving Sexual Violence in Eastern Democratic Republic of Congo", they analyzed the demographics of rape survivors and the physical and psychosocial consequences experienced in the eastern region of the DRC. According to their research, "mass rape is used during cultural and ethnic cleansing as a means of polluting bloodlines and forcibly impregnating women to produce 'ethnically-cleansed' children."[17] Through the rape of women, "soldiers split the familial atoms of which every society is composed." The enemy may impregnate these women, they may suffer physically and psychologically, their families may abandon them, or they may die. All of these could "degrade the ability of a culture to replenish itself through sexual reproduction."

There is also the notion of "genocidal rape [which is] designed, whether with full consciousness or not, to annihilate a people and a culture."[15] Continuing with this notion, Carlsen points out "genocidal rape is an assault against the victim with the aim of undermining a community's sense of secu-

rity and cohesion." She goes on to say that combatants who rape are aware of the physical and symbolic representation of women's bodies not just in their community, but in their state and nation as well. Thus, by way of raping women, "soldiers figuratively rape and dilute the community and nation."[14] When rapes from differing ethnic groups result in pregnancies, the offspring is no longer of one ethnicity and culture but two. One ethnic group could eventually start to dissolve as mixed offspring are produced from mass rape. This is very strategic, as it can wipe out entire groups without over time without firing a single gunshot. The passing down of the culture and heritage of the group will start to slowly fade as fewer "pure" children are born.

In addition to the strategic rape theory, the feminist theory can also be applied in light of this patriarchal society. Feminist theory takes into account the gender inequality and gender roles that could be used to explain the provocation and use of rape. While there are many distinct genres of feminist theory, the one that seems to be most applicable is that of socialist feminism. Looking specifically at the feminist models of rape, Martin, Vieraitis, and Britto look at how gender equality and rape rates are related. In their article, "Gender Equality and Women's Absolute Status", the absolute status of women together with gender equality is highly influential in the presence of rape in a society. In addition, they emphasize "the unique role of women as a class within the economic structure."[18] In other words, a woman's status, both socially and economically, plays a significant role in their victimization of rape.

Dr. Nutt of War Child Canada examines the unsettling challenges many women and girls face in the Congo. In her article, "Living in Fear", she points out, in the Congo, as with many other countries in the world, the society is largely male-dominated.[19] Thus, in this patriarchal society, women are treated as less, which could facilitate an environment that allows men to treat women harshly with little reprimand. Socialist feminists refer to this sexual hierarchy that gives women further disadvantage.[18]

This subjugation of women creates a clear pathway for men to exploit and abuse women. Baron and Straus produced an article called, "Four Theories of Rape: A Macrosociological Analysis", that provided incredible insight regarding the feminist theory and rape. They point out that men are able to use the fear of rape and rape itself as a means of establishing and maintaining their status and power in the system of gender stratification already at play in society. Furthermore, "rape is more likely to occur in societies where women are regarded as the sexual and reproductive possessions of men."[20] In societies such as these, men are able to maintain their power and privilege by means of threatening sexual violence or by the forcible acts themselves.

The main points behind the feminist theory on rape are that it serves as a means of exercising power and dominance over women. Under this theory, Gottschall explains, "rape in war, like rape in peace, is identified not as a crime of sexual passion but as a crime motivated by the desire of a man to exert dominance over a woman."[15] In a war setting, the dominance of men and weakness of women is further exemplified. It is an exercise for soldiers to overpower women, to remind them of their place, and to force them into submission. More often than not, women have no choice but to endure. In a subcategory of this theory, known as the pressure cooker theory, the socialization of men in these patriarchal societies ingrains in their minds this need to not only dominate women, but to distrust and despise them also. Soldiers who are

"rapists 'vent their contempt for women' while enforcing and perpetuating patriarchal gender arrangements from which all men benefit."[15] In this case, it is not so much a message to men as discussed earlier, but about exemplifying the domination men have over women by physically overpowering them and abusing them.

It may not be about a woman in particular, but instead may be about releasing frustration upon women. Such contempt for women may arise from men being forced to fight away from their homes and their families, risking their lives, while women are able to stay behind. But only the soldiers themselves know the roots of such disdain. Most scholars who have analyzed rape, "especially militarized rape, de-link rape from biologically 'natural' sex drives and (re)frame it as an act of violence and aggression that builds up upon sexist discourses at play in society."[21] In essence, these theorists argue,

> Rape in war is deemed as a result of a conspiracy, not necessarily conscious but still systematic, of men to dominate and oppress women. While men may fight on different sides and for different reasons, in one sense they are all warriors on behalf of their gender – and the enemy is woman.[15]

Again, women are seen as objects, forced to bear the brutalization of men's frustrations, usually stemming from this conflict that has raged on for far too long. Women are taken advantage of in their weakness, suffering the consequences that these men will feel themselves. Instead, men are able to walk away in satisfaction for their anger released while women are left scarred, humiliated, and physically damaged.

Physical and Psychological Effects of Rape

So far the social effects of rape in conflict have been described, but the physical and psychological effects make it all the more traumatic. In her article, Carlsen discusses the documentation retrieved by Human Rights Watch and Doctors Without Borders that found that "women and girls are tortured before, during, and after the rape takes place, with estimates that as many as 30 percent are sexually mutilated."[14] It seems that in such horrific attacks of sexual violence that is distinctive of wartime, physical and mental scarring are both present. For instance, International Alert found that in their sample of survivors interviewed, an overwhelming majority of 91%, "suffers from one or more rape-related physical or psychological problems.[13]

Considering that such results from rape are as numerous as the women who survive them, the most prevalent will be discussed. One of the most common injuries are fistulas. The Economist published an article titled, "Atrocities Beyond Words", that discussed the existence of rape in Congo and its devastating consequences. This article reports that in the eastern region of the DRC, rape attacks are believed to be one of the primary causes of fistula cases.[22] Fistulas, as described by Dr. Nutt, occur when the walls between the vagina, rectum, and bladder have been destroyed, leaving the victim with practically no control over her bowels. Such devastating damage can only be undone by "exhaustive and painful reparative surgery," which strikingly few women have access to since there are so few gynecologists in the Congo trained in the procedure.[19] Furthermore, "women suffering from this have to wear sanitary towels constantly or in most cases, because of the poverty in which most of them live, just a piece of cloth." Not only that, but women with fistulas are often forced to live apart from their communities because of the horrible smell of their excrement.[13] An incredible stigma accompanies

women with fistulas due to the incontinence and infertility they cause.[14]

Another health concern for victims to consider is acquiring HIV from the rapist. An estimate from UNICEF says that the HIV infection rate in Congo may be as high as twenty percent of the population.[19] International Alert reports an estimated 60% of combatants involved in this Congo conflict are HIV-positive.[13] For women, this statistic is frightening and is certainly not in their favor. Every time they are raped, they have a 60% chance of acquiring a death sentence and the stigma that comes with it. So not only do they have to suffer through the social isolation from the rape, if they get HIV, they will then have to endure that alone.

In Oxfam International and the Harvard Initiative's survey of survivors being treated at Panzi Hospital in Bukavu, a number of other physical symptoms were mentioned. Through their analysis, a number of women experienced "pelvic, lumbar, and abdominal pain as well as reproductive abnormalities such as infertility and premature labor and delivery." Concerns about infection, especially with HIV, were also expressed.[16] Amnesty International provided more specific physical trauma reported by rape survivors. Many of the women they interviewed suffered from infection with HIV and other sexually transmitted diseases, uterine prolapses (the descent of the uterus into the vagina or beyond), fistulas and other injuries to the reproductive system or rectum, often accompanied by internal and external bleeding or discharge, urinary or fecal incontinence, a broken pelvis, infertility, psychological trauma and difficulties in maintaining normal sexual relations, difficult pregnancies and births, and prolonged menstrual periods accompanied by severe pains.[23]

The brutality these women's bodies are subjected too is unreal. Many are forced to live with the physical consequences for the rest of their lives, unable to get access to the proper medical care they are so desperate for. As a result of the conflict, the healthcare infrastructure in the east region, where most of the conflict occurs, is practically destroyed, leaving less than 50% of rape victims with access to basic medical facilities, reports Human Right Watch.[3] Thus, victims are left with little hope but to endure the unbelievable amount of pain from their injuries, many of them life threatening. However, death has many faces. The Economist reports that some women have "been murdered by bullets fired from a gun barrel shoved into their vagina."[22] The savagery of these acts is difficult to comprehend. The sheer violence of these rapes proves that not only is the conflict being waged on Congo soil, but also on the bodies of the Congolese women. And while the land will one day recover from the degradation that has occurred, many women will never experience such relief.

Not only are physical symptoms a concern but also the psychological impacts that result from such a traumatic experience. Again referring to the study done by International Alert, "almost all (91%) of the interviewees claimed they were suffering from behavioral problems." The most common ones being fear and shame, but insomnia, memory loss, anxiety, aggression, self-loathing, sense of dread, excessive sweating, nightmares, and withdrawal into themselves were also mentioned.[13] More specifically, Harvard Humanitarian Initiative reports that from their interviews with survivors, 26% of the women expressed the continued anxiety they experience about the sexual violence they had been subjected to. Those who had been gang raped or kept as sexual slaves "were 1.6 times more likely to report psychological symptoms" than the women who

were endured a single instance of rape.[17] As can be expected, gang rapes and sexual enslavement imply repeated rapes, which increases the magnitude of the psychological trauma that can result.

Aside from the feelings of anger, shame, anxiety, and sadness, "many women also suffered significant losses such as the death of family members, spousal abandonment and loss of personal valuables as a result of the attack."[16] The fact that these women are living in a country of war must not be forgotten. In war, family members are killed, possessions stolen, the daunting feelings of uncertainty are ever-present, only to add upon the trauma from sexual violence. In some cases, the psychological distress from rape is not limited to the women who are violated. According to The Economist, rapes were "committed in front of families or whole communities; male relatives forced at gunpoint to rape their own daughters, mothers or sisters; women used as sex slaves forced to eat excrement or the flesh of murdered relatives."[22] It is hard to imagine how disturbing it must be when fathers are forced to rape their daughters or brothers their mothers, especially before an audience of the whole community. Without adequate support and counseling, the emotional scarring of such events could cause major devastation for those forced to participate. The fabric of the family is disintegrated, as those involved are haunted by insurmountable feelings of guilt and shame. Entire communities are torn apart, unsure of how to recover from what they had all just experienced. As mentioned earlier, the stigma attached to sexual violence only furthers the separation, which only makes things worse.

It is clear that the psychological implications resulting from rape undeniably add to the strategy of its use as a weapon of war. Amnesty International acknowledged that "[rape] is the universal weapon deployed to strip women of their dignity and destroy their sense of self".[23] While other family or community members could be affected, it is women who bear the full impact of it all. Women alone are forced to suffer the stigma and humiliation. They alone feel the indescribable pain as their bodies are ruthlessly violated, and oftentimes left permanently damaged. They are cast out from the very support systems that are crucial in such times of crisis, with minimal access to medical attention that could potentially restore their bodies, and even save their lives. Apart from ending this horrendous conflict, the stigma associated with rape must be obliterated. Isolation only aids the enemy, destroying communities and those who are forcibly cast out. The emotional and tangible support that comes from family and community members is pivotal if any sort of healing is to be achieved, both psychically and psychologically.

Conclusion

With such a topic as this, it can be easy to get lost in statistics or try to separate ourselves from the gruesome reality than so many women face on a daily basis. In an attempt to put a name to facts, a personal account can help connect the processing of the mind to the feelings of the heart. Martin Bell, UNICEF UK Ambassador for Humanitarian Emergencies traveled to eastern Congo and produced a report about children caught up in the war. With many case studies of personal testimonies, Bell uncovers how children have been so dramatically affected by one of the worst crises to hit the African continent.

One of his case studies is of a fourteen-year-old girl named Martha (not her real name) who represents one of tens of thousands of women who have been raped during this conflict. This is her story:

> [Martha] comes from a religious family in North Kivu Province. When she was 13, her mother sent her to buy a dress for her own baptism. On the way home, and as darkness fell, she was attacked and gang-raped by some people from her neighborhood. As a consequence of the rape, she gave birth to twin boys born 28 days prematurely. They lie beside her in an incubator at the Heal Africa Hospital in Goma. At first, she hated them. But for the moment, she says, she loves them. She is one of many victims of rape receiving care and counseling at the hospital. The chief surgeon, Dr. Kasereka Lusi, says: 'It's a terrible experience. They all become mad, really furious mad. They would rather be dead than live like this. At first they see the child as the enemy within. They try to smack it and kill it. To heal them, you need the whole community to counsel them to accept the baby'.[24]

Martha was so young when her body was violated and her mind permanently scarred. Her childhood was ruthlessly taken from her, as she was forced to experience things no fourteen-year-old girl should ever have to know. For the rest of her life she will bear the marks, both physically and mentally, of the traumatic experience to which she was so brutally subjected. This epidemic of rape must end. It must no longer be seen as a strategic weapon of war, enabling soldiers and combatants to steal from the women they violate so they may live to fight another day. It must no longer be used to break up families and communities. Genocidal rape committed against rival ethnic groups must no longer be tolerated.

While writing about the brutality they endure is one thing, experiencing it firsthand is a whole other story, one that many of us are fortunate to never have to experience. That does not mean, however, that we cannot stand up for these women or give ear to their cry for help and justice. It begins with being educated. Awareness is the first step towards change. Learning about this crisis and the plight of these women affected will better enable and empower us to establish methods of prevention in the affected areas of the Congo. As Freely and Thomas-Jensen of the Enough Project wrote in their article, "Getting Serious About Ending Conflict and Sexual Violence in Congo", protecting women in the Congo goes hand-in-hand, essentially, with peacemaking and prevention. Since, in this context, rape is used as a weapon of war, the war itself must be brought to an end. Doing so "will ease the suffering of women and girls and, if sufficient resources are made available, enable women and girls to participate in the healing and reconstruction of the families, communities, and country.[25] Policies on the local and international level must be enacted, therefore, to bring this complex conflict to a conclusion. Human Rights Watch produced a report titled, "The War Within the War", in which they provided recommendations to the various national and international groups involved. To the government of the DRC, for instance, they recommended putting an end to "providing any financial or military assistance to armed groups in eastern Congo whose members have committed serious human rights abuses." To the United Nations, further investigations of the human rights violations and reports to the Security Council to bring to justice those responsible for such violations.[6]

This paper was written in the hope of bringing to light the atrocities long hidden in the darkness of ignorance and apathy. The rape occurring in the Congo was discussed in relation to the war, poverty, and the patriarchal system evident in the country's culture. Effects of rape on both the body and the mind were also emphasized in order to bring greater understanding to the devastation sexual violence is capable of. No woman deserves to experience the horror the

Congolese women have known. Awareness, then, must lead to action for a better world to be possible. No country should ever be known as "the worst place on earth to be a woman."

References

1. Clark M. Congo: confronting rape as a weapon of war. The Christian Science Monitor 2009 Aug 4.
2. Gettleman J. Rape epidemic raises trauma of Congo war. The New York Times 2007 Oct 7
3. Soldiers who rape, commanders who condone: sexual violence and military reform in the Democratic Republic of Congo. New York: Human Rights Watch, 2009.
4. Background note: Democratic Republic of the Congo – history. U.S. Department of State, Bureau of African Affairs, 2010. www.state.gov/r/pa/ei/bgn/2823.htm#history.
5. Congo. The New York Times, 2009. http://topics.nytimes.com/top/news/international/countriesandterritories/congothedemocraticrepublicof/index.html.
6. Csete J, Kippenberg J. The war within the war: sexual violence against women and girls in Eastern Congo. Human Rights Watch, 2002.
7. Autesserre S. The trouble with Congo. Foreign Affairs 2008 May.
8. Sullivan D, Atama N. Digging in: recent developments on conflict minerals. Enough Project, 2010.
9. Kristof N. The world capital of killing. The New York Times 2010 Feb 6.
10. Pratt M, Werchick L. Sexual terrorism: rape as a weapon of war in eastern Democratic Republic of Congo. USAID/DCHA Assessment Report. 2004 Mar 18;6-7.
11. International Criminal Court. Elements of crimes. 2002 Sept 9. www.icc-cpi.int/NR/rdonlyres/9CAEE830-38CF-41D6-AB0B-68E5F9082543/0/Element_of_Crimes_English.pdf.
12. Mullins C. We are going to rape you and taste Tutsi women: rape during the 1994 Rwandan genocide. Br J Criminol 2009;49:719-35.
13. Ohambe M, Muhigwa J, Mamba B. International alert. Women's bodies as a battleground: sexual violence against women and girls during the war in the Democratic Republic of Congo. Réseau des femmes pour un développement associatif, réseau des Femmes pour la défense des droits et la paix. International Alert, 2005:11-62.
14. Carlsen E. Rape and war in the Democratic Republic of the Congo. Peace Review 2009;21:4,474-83.
15. Gottschall J. Explaining wartime rape. J Sex Res 2004;41:129-36.
16. "Now, the world is without me": an investigation of sexual violence in eastern Democratic Republic of Congo. Harvard Humanitarian Initiative, 2010.
17. Bartels S, Scott J, Leaning J, Mukwege D, Lipton R, VanRooyen M. Surviving sexual violence in Eastern Democratic Republic of Congo. J Int Women's Studies 2010;11:37-49.
18. Martin K, Vieraitis L, Britto S. Gender equality and women's absolute status: a test of the feminist models of rape. Violence Against Women 2006;12:321-39.
19. Nutt S. Living in fear. Maclean's 2004;117:23-5.
20. Baron L, Straus M. Four theories of rape: a macrosociological analysis. Social Problems 1987;34:467-89.
21. Baaz M, Stern M. Why do soldiers rape? Masculinity, violence, and sexuality in the armed forces in the Congo (DRC). International Studies Quarterly 2009;53(2):1-24.
22. Atrocities beyond words. The Economist 2008;387:57-8.
23. Lives blown apart: crimes against women in times of conflict. London: Amnesty International Publications, 2004.
24. Bell M. Democratic Republic of Congo. Child Alert, 2006. www.unicef.org/childalert/drc/.
25. Feeley R, Thomas-Jensen C. Getting serious about ending conflict and sexual violence in Congo. Enough Project, 2008. Strategy Paper #15.

Complementary and alternative medicine in the treatment of refugees and survivors of torture: a review and proposal for action

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Abstract

Survivors of torture and refugee trauma often have increased needs for mental and physical healthcare. This is due in part to the complex sequelae of trauma, including chronic pain, major depressive disorder, posttraumatic stress disorder (PTSD) and somatization. This article reviews the scientific medical literature for the efficacy and feasibility of some complementary and alternative medicine (CAM) modalities including meditation, *Ayurveda*, *pranayama/yogic breathing*, massage/body-work, dance/movement, spirituality, yoga, music, Traditional Chinese Medicine and acupuncture, *qigong*, *t'ai chi*, chiropractic, homeopathy, aromatherapy and *Reiki* specifically with respect to survivors of torture and refugee trauma.

We report that preliminary research suggests that the certain CAM modalities may prove effective as part of an integrated treatment plan for survivors of torture and refugee trauma. Further research is warranted.

Keywords: Torture, survivor, refugee, alternative medicine, complementary medicine, breathing exercises, t'ai chi, aromatherapy, ayurvedic medicine, homeopathy, therapeutic touch, yoga, music therapy, acupuncture, massage, chiropractic, spirituality

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Introduction

Survivors of torture and refugee trauma often have a heightened need for mental and physical healthcare, due in part to complex sequelae of trauma. In addition, these populations often face socio-economic and cultural impediments to the utilization of American and western healthcare resources. These barriers may include language, cultural perceptions of illness, and unfamiliarity with western medicine.[1] Furthermore, many clinical presentations common among refugees, including somatization, are not easily addressed by conventional medical treatments. There is also a need for further study to establish whether traditional allopathic treatments and assessment tools are cross-culturally validated.

Few alternative modalities have been studied with respect to survivors of torture and refugee trauma. Although it is likely that many foreign-born patients supplement conventional western care with complementary and alternative medicine (CAM) – both disclosed and undisclosed to their Western care providers – as yet there are few publications in the English scientific literature specifically addressing this utilization.[2,3]

In order to better understand the efficacy of CAM treatments for these specific populations, we performed a systematic review of the medical literature in English of major

CAM modalities. We then extended our review to CAM and populations with similar clinical concerns. Of the CAM modalities, we reviewed meditation, *Ayurveda*, *pranayama*/yogic breathing, massage/body-work, dance/movement, spirituality, yoga, music, Traditional Chinese Medicine and acupuncture, *qigong*, *t'ai chi*, chiropractic, homeopathy, aromatherapy and *Reiki*.

Following our Summary of Reviewed Articles, we have included a brief discussion of each modality, including basic definitions and context, a summary of major research, and a projection of potential benefits and risks of implementation for survivors of torture and refugee trauma.

Background

Torture and Torture-Related Morbidities

Torture is a global public health problem with pervasive effects on survivors, their families, and their communities. In 2011, the UNHCR documented 35,438,870 "persons of concern" worldwide, which includes refugees, asylum seekers, returned refugees, internally displaced persons (IDPs), returned IDPs, stateless persons, and various others who receive UNHCR protection or assistance.[4] Torture occurs in over 100 countries and can be documented in 5%-30% of the world's refugees, with even higher percentages in certain ethnic groups.[4-6] Moreover, a recent study found that 11% of foreign-born patients presenting at an urban ambulatory care practice had a history of torture.[7]

Torture can reduce the capacity of individuals to successfully resettle and integrate into a societies. Although some individuals are extraordinarily resilient, others may experience enduring physiological and psychological challenges. After fundamental needs for safety have been met, torture and trauma survivors may require intensive and carefully targeted psychological and social services, particularly as the difficult process of applying for asylum, refugee status, citizenship and other facets of cultural adaptation, may further complicate the healing process.[8]

Under modern western phenomenology, the psychological impact of torture often takes the form of major depressive disorder PTSD, or both. Some of the most prevalent symptoms reported among torture survivors are depressed mood (60%–66%), anxiety (38%–93%) and disturbed sleep (51%–83%).[9,10] Complex PTSD often manifests itself as somatization and alterations in the regulation of affect and impulses, attention or consciousness, self-perception and perception of the perpetrator, relations with others, and systems of meanings. Patients with complex PTSD are often harder to treat due to co-occurring problems and developmental deficits.[8] Chronic pain is also an extremely common symptom reported by refugees, with studies reporting up to 78% of patients presenting with persistent pain.[11-15]

Challenges in the Treatment of Torture-Related Morbidities

Survivors of torture and refugee trauma pose many complex challenges for western medical practitioners. Individuals may present to their primary care providers with varied symptoms, including chronic headaches due to head trauma, musculoskeletal pain due to beatings, genital or pelvic pain following rape and sexual assault, foot pain due to falanga, and other types of somatic pain. Chronic pain may persist for years after the trauma.[16]

In many cases, it is difficult to diagnose an exact cause of chronic pain, particularly when both physical and psychological factors are contributory. Several studies have found that multiple expressions of pain that refugees believed were of physical origination, were in fact a result of emotional distress.[11,16,17] Cultural differences in the

perception and expression of pain may be an additional confounding factor in treatment, as pain can be perceived and expressed variably among different ethnic groups.[18] Seeking medical attention, particularly to address mental health symptoms, may be attached to cultural stigmas.[19] Strong religious ties are also potential barriers to treatment, particularly if healing is considered to be in the hands of a higher being.[10] Given the complexity of the resulting diagnosis, it is not surprising that conventional treatments, including pharmacological and psychological therapy, though sometimes helpful, are at times insufficient.[11,19,20]

CAM and the Treatment of Torture Survivors

CAM modalities continue to rise in popularity in the US. In 2008, the National Health Interview Survey (NHIS) found that 38% of American adults use some form of CAM, and collectively spent nearly $34 billion on CAM in 2007.[21] The extent to which CAM is used among multiethnic refugee populations is still largely unknown.

Holistic treatments, including many CAM modalities, fundamentally recognize the interrelationship of the mind–body system, and view health as an ongoing process encompassing interdependent physical, psychological, and social factors. This may prove particularly applicable to the morbidities of refugees, whose ultimate causations may be multidimensional.

From the perspective of international populations such as refugees, biomedicine "is simply one branch of medicine that corresponds to the western conception of health and disease" and in fact CAM modalities may be viewed as traditional primary care to some foreign-born populations.[22] The relationship between illness and personal experience may be complex, and therefore cultural perception of wellbeing should not be divorced from plans for treatment and healing.[23,24] This has implications for utilization of allopathic healthcare among refugee populations, in which gaining access to appropriate medical care often means adapting to a foreign medical paradigm. "It has become increasingly clear that successful treatment adequately acknowledges the patient's own interpretation of illness, allowing them to actively participate in their own healing."[25,26] CAM modalities may help facilitate this more active participation in healthcare, as it is feasible for patients, with appropriate guidance, to choose which CAM they would like to use, and how often they would like to pursue treatment. In doing so, practitioners may acknowledge both the patient's perception of illness, and their traditional healing paradigm.

Without adequate research and training, however, CAM may potentially introduce complications for persons with histories of trauma, particularly when cultural and language barriers are in place. To date, the applicable body of bio-medical literature has reported little regarding these risks.[10,27]

Improved methods in treating refugee patients are clearly warranted. CAM provides an exciting area of research that may ultimately help to shape integrative treatment plans to better serve this need. It is this hypothesis that has guided our inquiry of evidence-based complementary and alternative medicine, and its applicability to survivors of torture and refugee trauma.

Definitions

Complementary and Alternative Medicine

The National Center for Complementary and Alternative Medicine (NCCAM) defines CAM as a group of diverse medical and healthcare systems, practices, and products that are not generally considered part of conventional medicine as practiced by holders of M.D. or D.O. and their allied health

professionals. The boundaries between CAM and conventional medicine are not absolute, particularly as specific CAM practices become widely accepted, and others are still relatively obscure. An important distinction, complementary medicine refers to use of CAM together with conventional medicine, whereas alternative medicine refers to the use of CAM in place of conventional medicine.[27]

We propose that CAM has greatest efficacy as part of a comprehensive medical treatment plan, where CAM is integrated with traditional allopathic care. Consistent with the scientific medical literature, CAM treatments must be evidence-based medicine, which begs further research of these modalities.

As previously mentioned, a common irony for foreign-born populations is that, what we in the west refer to as "complementary" and "alternative" medicine, may in fact be more familiar than conventional allopathic Western medical treatments.[a]

Refugee

According to the 1951 Convention Relating to the Status of Refugees, a refugee is a person "owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality, and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it." For the purpose of this review, we identify a refugee as any person considered within the broader UNHCR definition: populations of concern.[4]

Methods and Data Sources

In the survey component of this analysis, we systematically reviewed the western medical literature in English. We included peer-reviewed articles pertaining to refugees residing worldwide. We also included surveys, case reports, clinical trials, and qualitative papers, but excluded book chapters, newspaper articles, conference proceedings, and dissertations, except in our more general discussion. Non-English publications were also excluded. Additionally, any modalities not defined as CAM by NCCAM were excluded, such as e.g. ego-strengthening psychotherapy. CAM modalities with little or no applicable research were also excluded.

PubMed was systematically reviewed. Other databases searched included Alternative Health Watch and NCCAM.[b] All databases were searched from inception to November 2011.

Our terms of search included torture, refugee, and asylum seeker respectively, each coupled with our individual modalities: *Ayurveda*, meditation, yoga, *qigong*, *t'ai chi*, aromatherapy, homeopathy, *Reiki*, *pranayama*, acupuncture, massage, chiropractic and spirituality.

Modalities were chosen based on breadth of the applicable medical literature,

a) Often, CAM modalities traditional to one region are in fact analogous to healing methods used throughout the developing world. For example cupping, commonly associated with Traditional Chinese Medicine, is also practiced in various forms throughout Africa and the Middle East. It has also been practiced for centuries in various European countries.

b) A selection of additional sources which were not included in Table 1 is added at the end of the references to guide interested readers.

as well as perceived efficacy; we intentionally included modalities of recent popularity by way of addressing contemporary clinical concerns. We then searched databases for applicable co-morbidities, including chronic pain, depression, PTSD, HIV and rape, in conjunction with each of our individual modalities. Finally, we searched for studies pertaining to veterans and CAM, acknowledging similar patterns of chronic pain, depression, anxiety and PTSD in this population. The major findings from these queries are recorded in Table 1.

Discussion of CAM Modalities and Survivors of Torture and Refugee Trauma

In the following discussion, additional materials are referenced in order to better postulate the potential role of CAM in the treatment of refugees and survivors of torture. This search included texts of highest applicability, experience in a CAM clinic at Boston Medical Center,[c] and observations from a CAM clinic for Somali women in Seattle, WA (affiliated with Harborview Medical Center).

Meditation

There are three published case studies of refugees and meditation in the medical literature. The first of these found preliminary evidence of the efficacy of meditation-relaxation in treating child survivors of the 2004 Tsunami on Northeast Sri Lanka.[28] The second article was the results of a unique study in which Cambodian monks were surveyed regarding potential alternative treatments for Cambodian refugees; the monks hypothesized that meditation would be an effective form of traditional treatment.[29] The third article considered the struggle to meditate by Tibetan refugee monks following severe of trauma. See Spirituality section for further discussion. By providing culturally validated diagnosis, practitioners had greater success in alleviating distress among these monks, and thus enabling them to resume meditative practice.[30]

In other promising works, meditation yielded statistically significant psychological improvement in child abuse survivors.[31] Another study showed transcendental meditation to be effective in the treatment of veteran populations.[32] Multiple studies found meditation beneficial in the treatment of depression,[33-40] and one study found meditation to be effective specifically in the treatment of generalized anxiety disorder.[41]

Healthcare providers should be aware that in survivors of torture and refugee trauma, meditation, and in particular tantric or contemplative meditation, could potentially trigger flashbacks. Such episodes may be emotionally painful or destabilizing, and potentially counterproductive to the healing process. In addition, certain types of meditation, such as the recitation of mantra, may be perceived to infringe on the religious beliefs of some refugees.

Despite these concerns, multiple studies have confirmed that meditation is a safe and easily implemented modality, even when practiced among vulnerable populations.[31] Furthermore, meditation is a physically non-invasive form of therapy that can be easily and affordably implemented in a clinical, group, or private setting, thus making it widely accessible to populations with limited financial resources. It is also a skill which may potentially be practiced beyond

c) Has provided free integrative care to survivors of torture and refugee trauma since 2008. All authors associated with this work are employees or volunteers at the clinic.

Table 1. *Summary of Reviewed Articles*

Modality	Studies Involving Survivors of Torture and Refugee Trauma
Meditation	28-30
Ayurveda	No articles available
Pranyama/Yogic Breathing	No articles available
Massage[159]	No articles available
Dance and Movement[160-163]	152
Spirituality[164-169]	67,70,77
Yoga (*asanas*)[159]	No articles available
Music	91,94,96
TCM and Acupuncture	99-101
Qigong/T'ai Chi [170]	10
Chiropractic	No articles available
Homeopathy	No articles available
Aromatherapy	No articles available
Reiki	143
Integrated use of CAM among Torture Survivors/ Refugees[d]	2,3,148,153,154
Other Applicable Articles	155-158

the clinical setting. In this way, it may prove to be a sustainable tool to promote relaxation, focus and personal stability. Indeed, in many traditions healing is an intrinsic goal of meditation.[30,42]

Ayurveda

Ayurveda originated in India several thousand years ago. It aims to promote balance of the body, mind and spirit via seven traditional methods of treatment, in order to promote both physical and mental health.

Ayurvedic medicine is indigenous to a wide range of refugee populations. In addition to India, where 80% of the population is estimated to use *Ayurvedic* medicine, it is also practiced in Bangladesh, Sri Lanka, Nepal, and Pakistan. The international implementation of *Ayurvedic* medicine reflects its wide accessibility.

The NIH has raised concerns about the potential toxicity of some modes of *Ayurvedic* medicine. A 2004 study funded by NCCAM found that 14 of 70 *Ayurvedic* medicines purchased over the counter contained lead, mercury, and/or arsenic at levels that could be harmful. In addition, in 2004 the Centers for Disease Control and Prevention reported that 12 cases of lead poisoning occurring over a recent three-year period were linked to the use of *Ayurvedic* medications.[43,44] There are no published works in the medical literature

d) The benefit of CAM may increase when multiple modalities are used simultaneously. Though we have thus far considered the various modalities separately, much of the CAM medical literature explores the various modalities as integrated, synergistic therapies.

regarding the efficacy of Ayurveda and refugees or survivors of torture.

Pranayama

Pranayama is "the ancient science of breath … meaning both 'control of energy' and 'expansion of energy.'"[45] In research studies, *pranayama* was found to have the potential to relieve anxiety, depression, PTSD, chronic pain, and many stress-related medical illnesses. In addition, *pranayama* may provide new approaches to the treatment of violence, alcoholism, and rehabilitation of prisoners and terrorists.[46] Like meditation, *pranayama* is inexpensive, and thus lends itself to implementation in areas of limited financial means.

The extreme physical and cognitive sensations of *pranayama*, including dizziness, lightheadedness and euphoria, may potentially act as triggers for torture survivors. As with meditation, patients with psychiatric conditions are deemed to be inappropriate candidates for pranayama.[45] However, gentle *ujjayi* breathing, when implemented under professional supervision, may be safe and clinically effective, even with psychotic patients.[45] There are no published works in the medical literature regarding the efficacy of *pranayama* and refugees or survivors of torture.

Massage Therapy and Body-work

Body-work is a general term used to describe therapies that include massage and tissue manipulation. Multiple studies have shown that massage is an effective treatment for PTSD, chronic pain, HIV and depression.[47-52] Other interesting studies involving resonant populations are underway, including female veterans.[53] Massage is relatively inexpensive and noninvasive, and is feasible in a clinic setting.

In one successful, on-going project associated with Harborview Hospital in Seattle, Washington, massage is being used to treat Somali refugee women.[1] Thus far, the women have been highly enthusiastic about this program. They also readily express gratitude for the sense of community that has resulted from the regular gathering of care providers and patients.[54]

Massage therapy has few reported risks if applied appropriately by a trained massage professional.[55] However, because it involves physical touch, massage may prove inappropriate for some survivors of trauma who are uncomfortable, or have anxiety associated with physical contact. If used appropriately, however, bodywork may treat this same anxiety. Psychological dissociation from the body is a common result of torture and trauma. The dissociation of self from body that sometimes results from torture, along with physical sequelae such as muscle tension, constricted breathing, and reduced body awareness and sensation, may in fact be treated through bodywork.[56]

Dance and Movement Therapy

Dance and movement therapy may also prove an effective therapy for survivors of torture and refugee trauma, and has been effectively implemented to treat Sudanese youth,[57] former boy soldiers in Sierra Leone[58] and other survivors of war and trauma.[59-63]

Many symptoms of PTSD can be attributed to incomplete or ineffective processing of responses to trauma at the cognitive, emotional, or physical level.[64] This suggests that by raising bodily awareness, sensorimotor psychotherapy, in addition to the typical top-down, cognitive-behavioral approach of psychotherapy, can be an effective approach to processing unassimilated reactions to trauma from the physical or sensorimotor level. As with massage, there are few reported risks of

dance and movement therapy, when the level of physical exertion is appropriate.

Spirituality

The medical research pertaining to spirituality and survivors of torture and refugee trauma is strikingly incomplete, particularly as spirituality is often intertwined with the fundamental cultural identity of the patient.[65]

A poignant example of the complexity of spiritual distress and trauma is that of Tibetan monk refugees. In the article Struggling to Meditate, the loss of meditative ability among refugee monks as a consequence of traumatic religious persecution, had profound impact on their daily activities.[30] This example underscores the importance of "understanding the intricacies and practical implications of the relationship between eastern religion and mental health, [particularly] as their displacement puts their healing at the hands of western health professionals."[30]

Research has demonstrated the efficacy of spiritually based healing for war-traumatized African immigrants,[66] displaced Kosovo Albanians[67] and other survivors of violent trauma.[68,69] In another study, Buddhism was found to enable rehabilitation among Tibetan torture survivors.[70] A study involving child survivors of the 2002 Bali terrorism found spiritual-hypnosis to be highly effective, economical, and easily implemented.[71] Additionally, spirituality has been studied with success as a means of treating veterans with PTSD and victims of sexual abuse.[66-78] Such promising preliminary findings suggest that further research of spiritually based treatments is needed, particularly with respect to survivors of torture and refugee trauma.

Spirituality-based therapies may pose greater challenges for providers than many other CAM modalities. The implementation of spirituality requires cultural sensitivity, thereby increasing demands for awareness and education on the part of the caregiver. Furthermore, the individual's relationship to religion may be altered as a result of traumatic experience; in this sense, religion may present a unique paradigm in which religion is both a contributing cause and symptom of trauma. As explored in the article Struggling to Meditate, guaranteeing an effective, integrated treatment plan requires a "consideration of how religious context might be accounted for by complementary treatment options, as well as how the religiously oriented traditional medical paradigm might be applied to biomedical treatment." Collaboration between healthcare practitioners and applicable religious clergy or spiritual healers may also be necessary.[30] To facilitate sensitive implementation, McKinney suggests identifying local healing practices and social services within religious communities, as well as collaborating with local religiously based organizations.[77]

The efficacy of religion may stem from its capacity to promote multi-dimensional healing. As McKinney states, "helping people connect to communities of faith can be critical to not only decreasing the isolation that survivors may have, but also potentially helping in the process of restoring one's capacity to trust again."[77] Indeed, in some cases spirituality may prove central to the experience of trauma. This is all the more pertinent given the prevalence of trauma resulting from religious persecution worldwide, and "underscores the urgency of exploring contextualized therapeutic approaches."[79]

Yoga, the Physical Practice

For the purposes of this article, we consider the physical practice of yoga, or the asanas (postures), independent from the other

branches of yoga.[e] No articles were found on the use of yoga to treat refugees. However, one project in Seattle, WA in which yoga is offered in conjunction with massage to Somali refugee women, has preliminarily shown great success. See Massage section for further discussion.

Multiple articles reported that yoga was beneficial in the treatment of anxiety, PTSD chronic pain, chronic low back pain and depression.[37,38,46,80-88] In many of these works, yoga was found to "produce many beneficial emotional, psychological and biological effects."[85] It has also been reported to reduce stress and sleep disturbance in various patient populations.[80-82]

Vallath et al. state, "Yoga eventually influences all aspects of the person: vital, mental, emotional, intellectual and spiritual. It offers various levels and approaches to relax, energize, remodel and strengthen body and psyche. The *asanas* and *pranayama* harmonize the physiological system and … can help individuals deal with the emotional aspects of chronic pain, reduce anxiety and depression effectively, and improve the quality of life perceived."[89]

Several studies found that yoga was safe when implemented in older populations.[90] Similarly, Shapiro et al. describe yoga as cost-effective and easy to implement.[85] However, physical limitation resulting from histories of disease, malnutrition, torture or abuse may prevent strenuous yoga practice. Extreme poses may also be reminiscent of torture positions, or leave the practitioner physically and emotionally vulnerable, particularly by exposing guarded and emotionally potent parts of the body, such as the chest, neck and groin. In general, yoga promotes unfamiliar ranges of movement, which may be strengthening and empowering, but may also be perceived as frightening or culturally unacceptable. Accurately assessing the needs of each individual may prove particularly daunting when cultural and psychological barriers are present. Yoga should be implemented with caution and sensitivity, and less complex forms of practice, such as chair yoga, may prove to be more appropriate for survivors of torture and refugee trauma.

Music

Music therapy has been successfully implemented in various populations to facilitate trauma recovery, including Korean and Sudanese refugee children.[91-94] In one study, music therapy helped to significantly reduce anxiety levels and improve sleep patterns of abused women in shelters.[94] There is also a precedent for the use of music therapy in the alleviation of traumatic stress among veterans.[95]

One poignant form of music therapy, singing bowls were once used in part to heal mind-body disturbances analogous to those affecting some survivors of torture and refugee trauma. It is traditionally believed that the sound of singing bowls has a "direct connection to the heart" or in context, the heart chakra, which in the Tibetan Buddhist spiritual paradigm equates to the central "life-wind".[f,96] Indeed in various cultures, certain musical practices may be considered to have innate healing value.

e) We chose to only consider the asanas in our survey of yoga, as many of the other limbs of yoga fell under the broader category of meditation, or in our opinion, do not immediately lend themselves to integrative clinical practice.

f) Paraphrased from Rinpoche Acharya Lama Gursam.

Drumming circles also present an interesting avenue of research. At Boston Medical Center, male African refugees have responded positively to drumming circles. A small number of studies have also explored drumming circles as a therapy for drug addiction, with positive results.[97]

Music's therapeutic efficacy may prove multi-dimensional; music can be used as a tool to reestablish cultural identity, which is central to the rehabilitation of torture survivors. Furthermore, music often enables group participation, team building and sense of community. This is significant, as effective therapy for trauma may require the formation of new relationships and new community ties. As a creative outlet, music may also further individual autonomy, which is often compromised as a result of torture.[79] Ping et al. quote John Updike as saying "what art offers is space – a certain breathing room for the spirit." Furthermore, as Ping et al. remark, "arts-based therapeutic programs offer accessible, nonverbal, and universal tools for improving health by reducing stress and increasing social support – without the stigma of therapy."[97]

There is a small potential risk that loud noises and percussive sounds resulting from music therapies may serve as triggers for survivors of trauma. However, to date there have been no such reported complications from music therapy.

Traditional Chinese Medicine (TCM): Acupuncture

TCM, including acupuncture, is among the oldest healing practices in the world. In this tradition, disease is believed to result from disruption in the flow of *qi,* and imbalance in the forces of *yin* and *yang.* Thus, TCM seeks to aid healing by restoring the *yin-yang* balance and the flow of *qi* via the insertion of small needles along specific meridians of the body.[98] It is ultimately a mind-body healing approach that aims to address pain, the somatization of pain, and psychological distress by encouraging natural balance.

Three publications in the western medical literature consider the efficacy of acupuncture among refugees.[99-101] Among these, Highfield et al. found preliminary evidence of high efficacy of acupuncture for survivors of torture and refugee trauma at the Boston Medical Center CAM Clinic for Refugees. Similarly, Pease et al. explored the use of acupuncture in the treatment of PTSD in a community-based clinic. They found that "the use of acupuncture for the treatment of psychological trauma appears to be a viable, well-accepted treatment modality for refugees with PTSD. Of note, many of the treated refugees stated that acupuncture was similar to traditional medicine from their country of origin, and therefore they expressed a certain level of comfort with the treatments."[102]

Acupuncture shows potential to alleviate chronic pain and posttraumatic symptoms in survivors of torture and refugee trauma.[99] It has been used as a therapeutic treatment for several types of chronic pain and depression. The literature also provides evidence for the efficacy of acupuncture for treating isolated symptoms including PTSD,[102] anxiety,[103] and pain.[49,51,104,105]

Acupuncture is a generally safe treatment modality. Studies have demonstrated few serious adverse events, with the most common being forgotten needles and faintness, and reports of minor bleeding.[106-108] Additionally, preliminary work suggests that acupuncture may be implemented safely to treat survivors of torture and refugee trauma. Pease et al. state "despite initial barriers (e.g., general efficacy questions and potential retraumatization concerns), eventually we were well received."[100] Positive results may be due to the

fact that many TCM modalities, including cupping,[g] are similar to treatments practiced throughout the world, including in multiple African, Asian and European countries.[109-112]

In preliminary work involving acupuncture and refugees, implementation was highly successful, and there were no cases of retraumatization, or other complications.[99,100] Thus, acupuncture shows promise as a potentially safe and effective CAM treatment for survivors of torture and refugee trauma. Wechsler has also explored the placebo effect with respect to acupuncture treatment.[113] Though beyond the scope of this review, further research of the placebo effect and CAM with respect to survivors of torture and refugee trauma is warranted.

Qigong and T'ai Chi

Both *qigong* and *t'ai chi* are Chinese energy-channeling practices that incorporate mental concentration, physical balance, muscle relaxation, and relaxed breathing.[114-116] *Qigong* and *t'ai chi* incorporate a cognitive aspect not present in most exercise, which may explain why some controlled studies have found greater benefits from *t'ai chi* or *qigong* than activities of comparable intensity.[30]

Qigong and *t'ai chi* have recently demonstrated clinical efficacy for the treatment of torture survivors at the Boston Center for Refugee Health and Human Rights.[30] In one study, *t'ai chi* also showed promise as a treatment for elderly Hmong Americans.[117] In other applicable studies, *qigong* and *t'ai chi* have been found effective in treating chronic trauma symptoms.[10] *T'ai chi* may reduce stress, and is commonly used to promote mental awareness among elderly patients.[118,119] In addition, *t'ai chi* and *qigong* have been shown to produce statistically significant improvements in psychological wellbeing, including reductions in mood disturbance, anxiety, stress, tension, depression, anger, fatigue and confusion.[114-135] Using *qigong*, Chou et al. found a reduction of depressive symptoms, with an equal reduction in complaints related to somatization, psychological disturbance, distress in interpersonal relations, and overall poor wellbeing.[130] Self-esteem has also been shown to increase with *t'ai chi* instruction.[132-134]

Qigong and *t'ai chi* show particular promise in their ability to contribute to the relief of psychological and psychosomatic sequelae of torture. The increase in bodily awareness and mental focus that results from practice, may aid survivors of torture in overcoming the physiological impact of trauma, while also addressing psychological disturbances, such as various symptoms of dissociation characteristic of PTSD.[10]

Due to their low impact on the body, *qigong* and *t'ai chi* are particularly applicable when aerobic exercise may be too physically strenuous for the individual, while still providing many of the same physiological benefits.[10,136] This is particularly important in patients for whom a history of trauma makes certain traditional forms of exercise both physically, if not psychologically, inappropriate.[h] There are few known risks associated with *qigong* and *t'ai chi*.[10]

Chiropractic

Chiropractic focuses on the relationship between the body's structure and its functioning. Chiropractors primarily perform

g) Though cupping is sometimes accompanied by bloodletting in other traditions, it was used with suction only in the clinical setting.

h) See Yoga section for further discussion of concerns associated with exercises that may mimic torture postures, or otherwise leave the individual feeling vulnerable.

adjustments (manipulations) to the spine, to alleviate pain, improve function, and support the body's natural ability to heal itself.[137] The modern profession of chiropractic was founded by Daniel David Palmer in 1895 in Davenport, Iowa. Palmer theorized that manipulation of the spine can help to restore and maintain health.[137]

Chiropractic manipulations are the subject of ongoing scientific investigation.[137] In 2010, NCCAM reported "spinal manipulation/mobilization may be helpful for several conditions in addition to back pain, including migraine and cervicogenic (neck-related) headaches, neck pain, upper-and lower-extremity joint conditions, and whiplash-associated disorders."[137]

There are no published studies regarding the use of chiropractic for survivors of torture or refugee trauma. Two studies have been conducted utilizing chiropractic in veteran populations in which PTSD was common. In one of these studies, a significant decrease in pain was reported.[138]

There have been rare reports of serious complications resulting from chiropractic.[137] Risks may be heightened in the refugee population due to weaknesses and injuries resulting from histories of torture, malnutrition or disease. It is also possible that sudden applications of pressure may be reminiscent of torture postures, and may therefore be emotionally disturbing.

Although chiropractic is a form of CAM, its modern origins are in the context of western medical philosophy, and it is not intrinsically a form of holistic, mind-body healthcare.

Homeopathy

Created by German physician Samuel Hahnemann in 1796, homeopathy is based on the principal that "like-cures-like." Preparations are recommended that would cause healthy people to exhibit symptoms that are similar to those exhibited by the patient. It is considered a whole-body system and is used to prevent and treat many diseases and conditions.[139] It has been implemented in the US since the 19th century. We uncovered no published studies involving homeopathy and survivors of torture or refugee trauma in the western medical literature.

Several preliminary studies, including one review article, have revealed inconclusive information pertaining to the use of homeopathy for the treatment of depression.[139] A small number of studies suggest that homeopathy may be useful in the treatment of anxiety disorders.[140] Most analyses have concluded that there is little evidence to support homeopathy as an effective treatment for any specific condition.[139]

There is limited research on the safety of homeopathic treatments, though homeopathy is generally considered unlikely to cause severe adverse reactions.[139]

Homeopathy was born of western medical thought in the late 18th century. Compared to other CAM modalities, it is relatively new, though the underlying practice of using highly diluted, natural remedies may be reminiscent of a vast array of ancient healing practices. Like chiropractic, it is not fundamentally based upon an integrated mind-body healing philosophy, and therefore may prove less applicable to refugee and torture survivor populations relative to other CAM modalities.

Aromatherapy

NCCAM defines aromatherapy as a practice in which the scent of essential oils from flowers, herbs, and trees is inhaled to promote health and wellbeing.[141]

Aromatherapy appears to be native to some refugee populations. For example, bitter orange is traditional to Chinese medi-

cine.[141] One study concluded that aromatherapy positively contributed to treatment for a range of psychiatric disorders.[141] It has also been studied by Buckle et al. as a possible integrative treatment for HIV/AIDS patients.[142] Many of these studies were inconclusive.

Aromatherapy is physically noninvasive, and is easily implemented. Though the efficacy of aromatherapy is unclear, aromatherapy may prove helpful in conjunction with other modalities. For instance, the use of aromatherapy may help to establish an environment that is perceived as being more comfortable than a traditional western clinical setting, promoting relaxation and patient-practitioner rapport, and thus facilitating other modes of care.

Reiki

Reiki originated in Japan, with origins before the Common Era. It was first brought to western culture in the 1930's, along with the Buddhist teachings of Mikao Usui. *Reiki* is based on a universal energy that supports the body's innate healing abilities. Practitioners place their hands lightly on or just above the individual receiving treatment in order to facilitate the patient's own healing response.

In one published work, *Reiki* was successfully used to treat survivors of torture in Sarajevo.[143] Another work reported significant improvement via *Reiki* treatments in measuring pain, depression, and anxiety.[144]

Reiki appears to be a generally safe modality; no serious side effects have been reported.[145] Though much of the medical research ultimately appears to be inconclusive, NCCAM reports that clients "may experience a deep state of relaxation during a *Reiki* session … in addition to feeling warm, tingly, sleepy, or refreshed." By addressing "life energy," *Reiki* may provide an appropriate context for treating the integrated psychological and physiological effects of torture. As a relaxation tool, it may also facilitate other more interactive modalities.

Other Alternative Modalities

We have thus far considered modalities which appear to be most prevalent in modern American utilization, as well as those which we believe to have the greatest potential efficacy among survivors of torture and refugee trauma. We acknowledge that there are modalities that have not been addressed in this discussion, due in part to lack of applicable scientific medical literature. Some of these include cranial sacral therapy, magnets and biofeedback. Other integrative modalities, such as hypnosis, exercise, diet and nutrition have been omitted because they are more commonly considered as part of traditional western healthcare.

Integration of Eastern and Western Treatment Paradigms: a Proposal for Action

Dual diagnoses that reflect both western medical and CAM paradigms may enable effective allopathic treatments that also respect and acknowledge idioms more familiar to the patient's own understanding of their condition.[146] Furthermore, as was found in the article Struggling to Meditate, CAM diagnoses may in fact overlap appreciably with traditional medical diagnosis, resulting in a greater understanding of complex conditions.[30] Thus utilizing an integrated treatment model, patients may receive care deemed appropriate by western allopathic systems that also reflect their own illness experience.

Successful international integrative medical models have been documented. The Nepalese Khunde Hospital serves as an example of a health center in which local leaders – in this case sherpas – allowed western

biomedicine to be integrated with traditional healing systems, ultimately attributing metaphysical healing to shamanistic practice, and physical healing to the complementary western practice.[147] In another study involving Cambodian refugees, the use of CAM had no adverse effects on concomitant use of biomedicine.[148]

CAM modalities are generally less expensive and more easily implemented than western medical treatments. In fact, preliminary research suggests that supporting CAM clinics may prove fiscally prudent by reducing overall utilization of other more costly traditional hospital services. Our centre is currently studying the impact of CAM on the total utilization of health services, including possible financial implications. This suggests that maintaining local, sustainable integrative medicine clinics is feasible, economical, and may help ensure the financial sustainability of allopathic medical clinics and community-health services.[100]

Integrative medicine clinics may also provide effective forums for social and community development, and a novel space in which to offer other necessary resources, including language and social services. (See e.g. Massage therapy and body work section). Indeed, social networking, medical coordination, and cultural liaison have all become intrinsically integrated into the services offered by the Boston Medical Center CAM Clinic for Refugees.[149] Furthermore, offering CAM treatments may facilitate deeper cultural understanding between patients and caregivers than is often possible under a traditional western medical paradigm due to time constraints and cultural barriers. Thus, when associated with community health clinics, integrative medicine clinics may also help reinforce effective "continuity of care" models.[i]

Vicarious traumatization of healthcare providers is also a serious concern.[150,151] Though not expressly considered in this work, integrative modalities may also present a novel way of supporting healthcare providers that work with survivors of torture and refugee trauma. Furthermore, providing CAM to faculty and staff has the added benefit of making practitioners more familiar with alternative modalities.[97]

Conclusion

Survivors of torture and refugee trauma often have increased needs for mental and physical healthcare. This is due in part to the complex sequelae of trauma, including chronic pain, major depressive disorder, PTSD and somatization. Many of these clinical presentations are not easily addressed by conventional medical treatments. As a result, many survivors of torture and refugee trauma are left with unmet healthcare needs.

The efficacy of CAM modalities in the treatment of survivors of torture and refugee trauma is largely unknown. Preliminary work related to the use of meditation, *Ayurveda, pranayama*/yogic breathing, massage/body work, dance/movement, spirituality, yoga, music, Traditional Chinese Medicine and acupuncture, *qigong, t'ai chi,* chiropractic, homeopathy, aromatherapy and *Reiki* in the treatment of survivors of torture and refugee trauma, is promising though limited. The potential physical, social, spiritual and financial benefit of providing CAM to these vulnerable populations warrants further study.

i) For definition and more information please consult Continuity of Care [internet]. AAFP. Available from: http://www.aafp.org/online/en/home/policy/policies/c/continuityofcaredefinition.html

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References

1. Uba L. Cultural barriers to health care for southeast Asian refugees. Public Health Reports 1992;107(5).
2. MacDuff S, Grodin MA, Gardiner P. The use of complementary and alternative medicine among refugees: a systematic review. J Immigr Minor Health 2009;13:585-99.
3. Buchwald D, Panwala S, Hooton TM. Use of traditional health practices by Southeast Asian refugees in a primary care clinic. West J Med 1992;156:507-11.
4. United Nations High Commissioner for Refugees. Global Report 2011;3.
5. The state of the world's human rights. London: Amnesty International, 2012.
6. Basoglu M. Torture and its consequences: current treatment approaches. Cambridge; New York, NY, USA: Cambridge University Press, 1992.
7. Crosby SS, Norredam M, Paasche-Orlow MK et al. Prevalence of torture survivors among foreign-born patients presenting to an urban ambulatory care practice. Gen Intern Med 2006;21:764-8.
8. Moreno A, Piwowarczyk L, LaMorte W et al. Characteristics and utilization of primary care services in a torture rehabilitation center. J Immigr Minor Health 2006;8:163-71.
9. Piwowarczyk L. Asylum seekers seeking mental health services in the United States: clinical and legal implications. J Nerv Ment Dis 2007;195:715-22.
10. Grodin MA, Piwowarczyk L, Fulker D et al. Treating survivors of torture and refugee trauma: a preliminary case series using qigong and t'ai chi. J Altern Complement Med 2008;14:801-6.
11. Moisander PA, Edston E. Torture and its sequel-a comparison between victims from six countries. Forensic Sci Int 2003;137:133-40.
12. Leth PM, Banner J. Forensic medical examination of refugees who claim to have been tortured. Am J Forensic Med Pathol 2005;26:125-30.
13. Dahl S, Dahl CI, Sandvik L et al. Chronic pain in traumatized refugees. Tidsskr Nor Laegeforen 2006;126:608-10.
14. Hougen HP, Kelstrup J, Petersen HD et al. Sequelae to torture. A controlled study of torture victims living in exile. Forensic Sci Int 1988;36:153-60.
15. Bradley L, Tawfiq N. The physical and psychological effects of torture in Kurds seeking asylum in the United Kingdom. Torture 2006;16:41-7.
16. Olsen DR, Montgomery E, Bøjholm S et al. Prevalent musculoskeletal pain as a correlate of previous exposure to torture. Scand J Public Health 2006;34:496-503.
17. Edston E. Bodily evidence can reveal torture. 5-year experience of torture documentation. Lakartidningen 1999;96:628-31.
18. Burnett A, Peel M. Asylum seekers and refugees in Britain: Health needs of asylum seekers and refugees. BMJ 2001;322:544-7.
19. Stepakoff S, Hubbard J, Katoh M et al. Trauma healing in refugee camps in Guinea: a psychosocial program for Liberian and Sierra Leonean survivors of torture and war. The American Psychologist 2006;61:921-32.
20. Sjölund BH, Kastrup M, Montgomery E et al. Rehabilitating torture survivors. J Rehabil Med J Rehabil Med 2009;41:689-96.
21. Barnes PM, Bloom B, Nahin RL. Complementary and alternative medicine use among adults and children. Natl Health Stat Report 2008;(12):1-23.
22. Kleinman A. Writing at the margin: discourse between anthropology and medicine. Berkeley: University of California Press, 1995.
23. Kirmayer LJ. Cultural variations in the clinical presentation of depression and anxiety: implications for diagnosis and treatment. J Clin Psychiatry 2001;62(Suppl 13):22-8,discussion 29-30.
24. Kleinman A, Eisenberg L, Good B. Culture, illness, and care: clinical lessons from anthropologic and cross-cultural research. Ann Intern Med 1978;88:251-8.
25. Fuertes A. In Their own words: contextualizing the discourse of (war) trauma and healing. Conflict Resolution Quarterly 2004;21:491-501.
26. Keller A, Lhewa D, Rosenfeld B et al. Traumatic experiences and psychological distress in an urban refugee population seeking treatment services. J Nerv Ment Dis 2006;194:188-94.
27. National Center for Complementary and Alternative Medicine. What is complementary and alternative medicine (CAM)? National Institutes of Health, U.S. Department of Health and Human Services, 2002.
28. Catani C, Kohiladevy M, Ruf M et al. Treating children traumatized by war and Tsunami:

a comparison between exposure therapy and meditation-relaxation in North-East Sri Lanka. BMC Psychiatry 2009;9:22.
29. Nickerson A, Hinton DE. Anger regulation in traumatized Cambodian refugees: the perspectives of Buddhist monks. Cult Med Psychiatry 2011;35:396-416.
30. Benedict AL, Mancini L, Grodin MA. Struggling to meditate: contextualizing integrated treatment of traumatized Tibetan refugee monks. Mental Health, Religion & Culture 2009;12:485-99.
31. Kimbrough E, Magyari T, Langenberg P et al. Mindfulness intervention for child abuse survivors. J Clin Psychol 2010;66:17-33.
32. Rosenthal JZ, Rosenthal N, Grosswald S et al. Effects of transcendental meditation in veterans of Operation Enduring Freedom and Operation Iraqi Freedom with posttraumatic stress disorder: a pilot study. Military Medicine 2011;176:626-30.
33. Butler LD, Waelde LC, Hastings TA et al. Meditation with yoga, group therapy with hypnosis, and psychoeducation for long-term depressed mood: a randomized pilot trial. J Clin Psychol 2008;64:806-20.
34. Eisendrath SJ, Delucchi K, Bitner R et al. Mindfulness-based cognitive therapy for treatment-resistant depression: a pilot study. Psychother Psychosom 2008;77:319-20.
35. Finucane A, Mercer SW. An exploratory mixed methods study of the acceptability and effectiveness of Mindfulness-Based Cognitive Therapy for patients with active depression and anxiety in primary care. BMC Psychiatry 2006;6:14.
36. Gupta N, Khera S, Vempati RP et al. Effect of yoga based lifestyle intervention on state and trait anxiety. Indian J Physiol Pharmacol 2006;50:41-7.
37. Pilkington K, Rampes H, Richardson J. Complementary medicine for depression. Expert Rev Neurother 2006;6:1741-51.
38. Kozasa EH, Santos RF, Rueda AD et al. Evaluation of Siddha Samadhi Yoga for anxiety and depression symptoms: a preliminary study. Psychol Rep 2008;103:271-4.
39. Lee SH, Ahn SC, Lee YJ et al. Effectiveness of a meditation-based stress management program as an adjunct to pharmacotherapy in patients with anxiety disorder. J Psychosom Res 2007;62:189-95.
40. Leite JR, Ornellas FL, Amemiya TM et al. Effect of progressive self-focus meditation on attention, anxiety, and depression scores. Percept Mot Skills 2010;110(3 Pt 1):840-8.
41. Evans S, Ferrando S, Findler M et al. Mindfulness-based cognitive therapy for generalized anxiety disorder. J Anxiety Disord 2008;22:716-21.
42. Loizzo JJ, Blackhall LJ, Rapgay L. Tibetan medicine: a complementary science of optimal health. Ann N Y Acad Sci 2009;1172:218-30.
43. Saper RB, Phillips RS, Sehgal A et al. Lead, mercury, and arsenic in US- and Indian-manufactured Ayurvedic medicines sold via the Internet. JAMA 2008;300:915-23.
44. Lead poisoning associated with ayurvedic medications-five states, 2000-2003. Centers for Disease Control and Prevention. Morbidity and Mortality Weekly Report 2004;53:582-4.
45. Brown RP, Gerbarg PL. Yoga breathing, meditation, and longevity. Ann N Y Acad Sci 2009;1172:54-62.
46. Brown RP, Gerbarg PL. Sudarshan Kriya Yogic breathing in the treatment of stress, anxiety, and depression. Part II – clinical applications and guidelines. J Altern Complement Med 2005;11:711-7.
47. Oswalt K, Biasini F. Effects of infant massage on HIV-infected mothers and their infants. J Spec Pediatr Nurs 2011;16:169-78.
48. Field T, Hernandez-Reif M, Diego M et al. Cortisol decreases and serotonin and dopamine increase following massage therapy. Int J Neurosci 2005;115:1397-413.
49. Fleming S, Rabago DP, Mundt MP et al. CAM therapies among primary care patients using opioid therapy for chronic pain. BMC Complement Altern Med 2007;16;7:15.
50. Myers CD, White BA, Heft MW. A review of complementary and alternative medicine use for treating chronic facial pain. J Am Dent Assoc 2002;133:1189-96,1259-60.
51. Snyder M, Wieland J. Complementary and alternative therapies: what is their place in the management of chronic pain? Nurs Clin North Am 2003;38:495-508.
52. Hou WH, Chiang PT, Hsu TY et al. Treatment effects of massage therapy in depressed people: a meta-analysis. J Clin Psychiatry 2010;71:894-901.
53. Price CJ, McBride B, Hyerle L et al. Mindful awareness in body-oriented therapy for female veterans with post-traumatic stress disorder taking prescription analgesics for chronic pain: a feasibility study. Altern Ther Health Med 2007;13:32-40.
54. Doughman, Andrew. For Somali women, health program eases the pain of war, exile. The Seattle Times, 10 April 2011.
55. Massage therapy. NCCAM Health Information. http://nccam.nih.gov/health/massage.

56. Perry CT, Oum P, Gray SH. The body remembers: somatic symptoms in traumatized Khmer. J Am Acad Psychoanal Dyn Psychiatry 2007;35:77-84.
57. Harris D. Sudanese youth: dance as mobilization in the aftermath of war. In: Jackson N, Shapiro-Lim T, eds. Dance, human rights and social justice: dignity in motion. Maryland: Scarecrow Press, 2008:253-5.
58. Harris DA. Pathways to embodied empathy and reconciliation after atrocity: former boy soldiers in a dance/movement therapy group in Sierra Leone. Intervention 2007;5:203-31.
59. Callaghan K. Movement psychotherapy with adult survivors of political torture and organized violence. The Arts in Psychotherapy 1993;20:411-21.
60. Van der Kolk BA. The body keeps the score: memory and the evolving psychobiology of posttraumatic stress. Harv Rev Psychiatry 1994;1:253-65.
61. Gray AEL Dance movement therapy with a child survivor: a case study. Dialogues 2001;6:8-12.
62. Gray AEL. The body as voice: somatic psychology and dance/movement therapy with survivors of war and torture. Connections 2001;3:2-4.
63. Singer AJ. Interactions between movement and dance, visual images, etno and physical environments: psychosocial work with war-affected refugees and internally displaced children and adults. In: Jackson N, Shapiro-Phim T, eds. Dance, human rights, and social justice: dignity in motion. Maryland: The Scarecrow Press, 2008:237-52.
64. Ogden P., Minton K. Sensorimotor psychotherapy: one method for processing traumatic memory. Traumatology 2000;6:149-73.
65. Yarhouse MA, Van Orman BT. When psychologists work with religious clients: applications of the general principles of ethical conduct. Prof Psychol Res Pr 1999;30:557-62.
66. Barnes LL, Sered SS. Religion and healing in America. Oxford; New York: Oxford University Press, 2005.
67. Gozdziak EM. Spiritual emergency room: the role of spirituality and religion in the resettlement of Kosovar Albanians. J Refug Stud 2002.
68. Peres J, Moreira-Almeida A, Nasello AG et al. Spirituality and resilience in trauma victims. J Relig Health 2007;46:343-50.
69. Connor KM, Davidson JR, Lee LC. Spirituality, resilience, and anger in survivors of violent trauma: a community survey. J Trauma Stress 2003;16:487-94.
70. Elsass P, Carlsson J, Husum K. Spirituality as coping in Tibetan torture survivors. Ugeskr Læger 2010;172:137-40.
71. Lesmana CB, Suryani LK, Jensen GD et al. A spiritual-hypnosis assisted treatment of children with PTSD after the 2002 Bali terrorist attack. Am J Clin Hypn 2009;52:23-34.
72. Harris JI, Erbes CR, Engdahl BE et al. The effectiveness of a trauma focused spiritually integrated intervention for veterans exposed to trauma. J Clin Psychol 2011;67:425-38.
73. Bormann JE, Thorp S, Wetherell JL et al. A spiritually based group intervention for combat veterans with posttraumatic stress disorder: feasibility study. J Holist Nurs 2008;26:109-16.
74. Fontana A, Rosenheck R. Trauma, change in strength of religious faith, and mental health service use among veterans treated for PTSD. J Nerv Ment Dis 2004;192:579-84.
75. Ahrens CE, Abeling S, Ahmad S et al. Spirituality and well-being: the relationship between religious coping and recovery from sexual assault. J Interpers Violence 2010;25:1242-63.
76. Krejci MJ, Thompson KM, Simonich H et al. Sexual trauma, spirituality, and psychopathology. J Child Sex Abus 2004;13:85-103.
77. McKinney MM. Treatment of survivors of torture: spiritual domain. Torture 2011;21:61-6.
78. Douglas AN, Jimenez S, Lin HJ et al. Ethnic differences in the effects of spiritual well-being on long-term psychological and behavioral outcomes within a sample of homeless women. Culture Diverse Ethnic Minor Psychol 2008;14:344-52.
79. Moreno A, Piwowarczyk L, Grodin MA. Human rights violations and refugee health. JAMA 2001;285:1215.
80. Javnbakht M, Kenari R, Ghasemi M. Effects of yoga on depression and anxiety of women. Complement Ther Clin Pract 2009;15:102-4.
81. Brown RP, Gerbarg PL. Sudarshan Kriya yogic breathing in the treatment of stress, anxiety, and depression: part I-neurophysiologic model. J Altern Complement Med 2005;11:189-201.
82. Descilo T, Vedamurtachar A, Gerbarg PL et al. Effects of a yoga breath intervention alone and in combination with an exposure therapy for post-traumatic stress disorder and depression in survivors of the 2004 South-East Asia tsunami. Acta Psychiatr Scand 2010;121:289-300.
83. Pilkington K, Kirkwood G, Rampes H et al. Yoga for depression: the research evidence. J Affect Disord 2005;89:13-24.
84. Saeed SA, Antonacci DJ, Bloch RM. Exercise, yoga, and meditation for depressive and anxi-

ety disorders. Am Fam Physician 2010;81: 981-6.
85. Shapiro D, Cook IA, Davydov DM et al. Yoga as a complementary treatment of depression: effects of traits and moods on treatment outcome. Evid Based Complement Alternat Med 2007;4:493-502.
86. Sharma VK, Das S, Mondal S et al. Effect of Sahaj Yoga on depressive disorders. Indian J Physiol Pharmacol 2005;49:462-8.
87. Uebelacker LA, Tremont G, Epstein-Lubow G et al. Open trial of Vinyasa yoga for persistently depressed individuals: evidence of feasibility and acceptability. Behav Modif 2010;34:247-64.
88. Tsang HW, Chan EP, Cheung WM. Effects of mindful and non-mindful exercises on people with depression: a systematic review. Br J Clin Psychol 2008;47(Pt 3):303-22.
89. Vallath N. Perspectives on yoga inputs in the management of chronic pain. Indian J Palliat Care 2010;16:1-7.
90. Morone NE, Greco CM. Mind-body interventions for chronic pain in older adults: a structured review. Pain Med 2007;8:359-75.
91. Choi CM. A pilot analysis of the psychological themes found during the CARING at Columbia-Music Therapy program with refugee adolescents from North Korea. J Music Ther 2010;47:380-407.
92. Hernandez-Ruiz E. Effect of music therapy on the anxiety levels and sleep patterns of abused women in shelters. J Music Ther 2005;42:140-58.
93. Porges SW. Music therapy & trauma: insights from the polyvagal theory. In: Stewart K, ed. Symposium on music therapy & trauma: bridging theory and clinical practice. New York: Satchnote Press, 2008.
94. Jones C, Baker F, Day T. From healing rituals to music therapy: bridging the cultural divide between therapist and young Sudanese refugees. Art Psychother 2004;31:89-100.
95. Powers JS, D Heim, B Grant et al. Music therapy to promote movement from isolation to community in homeless veterans. Tennessee Medicine, Journal of the Tennessee Medical Association 2012;105:38-9.
96. Gray AEL. Expressive arts therapies: working with survivors of torture. Torture 2011;21:39-47.
97. Ho P, Chinen KK, Streja L et al. Teaching group drumming to mental health professionals. Explore (NY) 2011;7:200-2.
98. Acupuncture. NCCAM Health Information. http://nccam.nih.gov/health/acupuncture.
99. Highfield ES, Lama P, Grodin MA et al. Acupuncture and traditional Chinese medicine for survivors of torture and refugee trauma: a descriptive report. J Immigr Minor Health 2012;14:433-40.
100. Pease M, Sollom R, Wayne P. Acupuncture for refugees with posttraumatic stress disorder: initial experiences establishing a community clinic. Explore (NY) 2009;5:51-4.
101. O'Sullivan J, O'Sullivan G, Ebrahim S. Primary health care in Ubon refugee camp. BMJ 1980;280:779-81.
102. Hollifield M, Sinclair-Lian N, Warner TD et al. Acupuncture for posttraumatic stress disorder: a randomized controlled pilot trial. J Nerv Ment Dis 2007;195:504-13.
103. Pilkington K. Anxiety, depression and acupuncture: A review of the clinical research. Auton Neurosci 2010;157:91-5.
104. Sprague M, Chang JC. Integrative approach focusing on acupuncture in the treatment of chronic complex regional pain syndrome. J Altern Complement Med 2011;17:67-70.
105. Tan G, Craine MH, Bair MJ et al. Efficacy of selected complementary and alternative medicine interventions for chronic pain. J Rehabil Res Dev 2007;44:195-222.
106. MacPherson H, Thomas K, Walters S et al. The York acupuncture safety study: prospective survey of 34,000 treatments by traditional acupuncturists. BMJ 2001;323:486-7.
107. Lao L, Hamilton GR, Fu J et al. Is acupuncture safe? A systematic review of case reports. Altern Ther Health Med 2003;9:72-83.
108. White A, Hayhoe S, Hart A et al. Adverse events following acupuncture: prospective survey of 32,000 consultations with doctors and physiotherapists. BMJ 2001;323:485-6.
109. Hodes R. Cross-cultural medicine and diverse health beliefs. Ethiopians abroad. West J Med 1997;166:29-36.
110. Hodes RM, Teferedegne B. Traditional beliefs and disease practices of Ethiopian Jews. Isr J Med Sci 1996;32:561-7.
111. Huang YL. Cupping-bloodletting therapy of Saudi Arabia and its clinical application. Zhongguo zhen jiu (Chinese acupuncture & moxibustion) 2008;28:375-7.
112. Al-Rowais N, Al-Faris E, Mohammad AG et al. Traditional healers in riyadh region: reasons and health problems for seeking their advice. A household survey. J Altern Complement Med 2010;16:199-204.
113. Wechsler ME, Kelley JM, Boyd IOE et al. Active albuterol or placebo, sham acupuncture,

or no intervention in asthma. N Engl J Med 2011;365:119-26.
114. Chen KM, Snyder M. A research-based use of Tai Chi/movement therapy as a nursing intervention. J Holist Nurs 1999;17:267-79.
115. Frantzis BK. Opening the energy gates of your body. Berkeley, Calif.: North Atlantic Books, 1993.
116. Frantzis BK. The power of internal martial arts: combat secrets of ba gua, tai chi, and hsing-i. Berkeley, Calif.: North Atlantic Books, 1998.
117. Sun WY, Dosch M, Gilmore GD et al. Effects of a Tai Chi Chuan program on Hmong American older adults. Educ Gerontol 1996; 22(2):161-7.
118. Ross MC, Bohannon AS, Davis DC et al. The effects of a short-term exercise program on movement, pain, and mood in the elderly. Results of a pilot study. J Holist Nurs 1999;17:139-47.
119. Kutner NG, Barnhart H, Wolf SL et al. Self-report benefits of Tai Chi practice by older adults. J Gerontol B Psychol Sci Soc Sci 1997;52:242-6.
120. Jin P. Efficacy of Tai Chi, brisk walking, meditation, and reading in reducing mental and emotional stress. J Psychosom Res 1992;36:361-70.
121. Bond DS, Lyle RM, Tappe MK et al. Moderate aerobic exercise, T'ai Chi, and social problem-solving ability in relation to psychological stress. Int J Stress Manag 2002;9:329-43.
122. Lee MS, Kang CW, Lim HJ. Effects of Qi-training on anxiety and plasma concentrations of cortisol, ACTH, and aldosterone: a randomized placebo-controlled pilot study. Stress Health 2004;20:243-8.
123. Wolf SL, Coogler C, Xu T. Exploring the basis for Tai Chi Chuan as a therapeutic exercise approach. Arch Phys Med Rehabil 1997;78:886-92.
124. Liu Y, Mimura K, Wang L et al. Psychological and physiological effects of 24-style Taijiquan. Neuropsychobiology 2005;52:212-8.
125. Tsai JC, Wang WH, Chan P et al. The beneficial effects of Tai Chi Chuan on blood pressure and lipid profile and anxiety status in a randomized controlled trial. J Altern Complement Med 2003;9:747-54.
126. Brown DR, Wang Y, Ward A et al. Chronic psychological effects of exercise and exercise plus cognitive strategies. Med Sci Sports Exerc 1995;27:765-75.
127. Wang C, Collet JP, Lau J. The effect of Tai Chi on health outcomes in patients with chronic conditions: a systematic review. Arch Intern Med 2004;164:493-501.
128. Wu WH, Bandilla E, Ciccone DS et al. Effects of qigong on late-stage complex regional pain syndrome. Altern Ther Health Med 1999;5:45-54.
129. Jin P. Changes in heart rate, noradrenaline, cortisol and mood during Tai Chi. J Psychosom Res 1989;33:197-206.
130. Chow YWY, Tsang HWH. Biopsychosocial effects of Qigong as a mindful exercise for people with anxiety disorders: a speculative review. J Altern Complement Med 2007;13:831-40.
131. Lin YC, Wong AM, Chou SW et al. The effects of Tai Chi Chuan on postural stability in the elderly: preliminary report. Chang Gung Med J 2000;23:197-204.
132. Lee LY, Lee DT, Woo J. Effect of Tai Chi on state self-esteem and health-related quality of life in older Chinese residential care home residents. J Clin Nurs 2007;16:1580-2.
133. Astin JA, Berman BM, Bausell B et al. The efficacy of mindfulness meditation plus Qigong movement therapy in the treatment of fibromyalgia: a randomized controlled trial. J Rheumatol 2003;30:2257-62.
134. Li F, Harmer P, Chaumeton NR et al. Tai Chi as a means to enhance self-esteem: a randomized controlled trial. J Appl Gerontol 2002;21:70-89.
135. Wang YT, Taylor L, Pearl M et al. Effects of Tai Chi exercise on physical and mental health of college students. Am J Chin Med 2004;32:453-9.
136. Berman BM, Singh BB. Chronic low back pain: an outcome analysis of a mind-body intervention. Complement Ther Med 1997;5:29-35.
137. Chiropractic. NCCAM Health Information. http:// nccam.nih.gov/health/chiropractic.
138. Lisi AJ. Management of Operation Iraqi Freedom and Operation Enduring Freedom Veterans in a Veterans Health Administration chiropractic clinic: a case series. J Rehabil Res Dev 2010;47:1-6.
139. Pilkington K, Kirkwood G, Rampes H et al. Homeopathy for depression: a systematic review of the research evidence. Homeopathy 2005;94:153-63.
140. Davidson JR, Morrison RM, Shore J et al. Homeopathic treatment of depression and anxiety. Altern Ther Health Med 1997;3:46-9.
141. Aromatherapy. NCCAM Health Information. http://nccam.nih.gov/health/aromatherapy.
142. Perry N, Perry E. Aromatherapy in the management of psychiatric disorders: clinical and neuropharmacological perspectives. CNS Drugs 2006;20:257-80.
143. Kennedy P. Working with survivors of torture in Sarajevo with Reiki. Complement Ther Nurs Midwifery 2001;7:4-7.

144. Richeson NE, Spross JA, Lutz K et al. Effects of Reiki on anxiety, depression, pain, and physiological factors in community-dwelling older adults. Res Gerontol Nurs 2010;3:187-99.
145. Reiki. NCCAM Health Information. http://nccam.nih.gov/health/reiki.
146. Janes CR. Imagined lives, suffering, and the work of culture: the embodied discourses of conflict in modern Tibet. Med Anthropol Q 1999;13:391-412.
147. Schrempf M, ed. Soundings in Tibetan medicine: anthropological and historical perspectives. Boston: Brill, 2007.
148. Berthold SM, Wong EC, Schell TL et al. U.S. Cambodian refugees' use of complementary and alternative medicine for mental health problems. Psychiatr Serv 2007;58:1212-8.
149. Boston Center for Refugee Health and Human Rights. 2011. www.bcrhhr.org.
150. Pross C. Burnout, vicarious traumatization and its prevention. Torture 2006;16:1-9.
151. Hunter SV. Walking in sacred spaces in the therapeutic bond: therapists' experiences of compassion satisfaction coupled with the potential for vicarious traumatization. Fam Process 2012;51:179-92.
152. Harris DA. Dance/movement therapy approaches to fostering resilience and recovery among African adolescent torture survivors. Torture. 2007; 17(2):134-55.
153. Singer J, Adams J. The Place of Complementary Therapies in an Integrated Model of Refugee Health Care: Counsellors' and Refugee Clients' Perspectives. J Refug Stud. 2010; 24(2):351-375.
154. Neumann C. Treating Tibetan refugees in New York City: the healing work of a fellow refugee." J Altern Complement Med. 2003; 9(2):189-91.
155. Gordon JS, Staples JK, Blyta A, Bytyqi M. Treatment of posttraumatic stress disorder in postwar Kosovar adolescents using mind-body skills groups: a randomized controlled trial. J Clin Psychiatry. 2008; 69(9):1469-76.
156. Gordon JS, Staples JK, Blyta A, Bytyqi M. Treatment of posttraumatic stress disorder in postwar Kosovo high school students using mind-body skills groups: a pilot study. J Trauma Stress. 2004; 17(2):143-7.
157. Schininà G. “Far away, so close" psychosocial and theatre activities with Serbian refugees. Drama Rev. 2004; 48(3):32-49
158. Janzen RK, Janzen JM. Ayiwewe: war-traumatized children draw their memories. Can J Afr Stud. 1999; 33(2-3):593-609.

Additional resources (not directly relating to refugees or torture survivors, or not meeting inclusion criteria):

159. Doughman A. For Somali women, health program eases the pain of war, exile. The Seattle Times. 10 April 2011.
160. Harris D. Sudanese youth: dance as mobilization in the aftermath of war. In: Jackson N, Shapiro-Lim T, editors. Dance, human rights and social justice: dignity in motion. Maryland: Scarecrow Press; 2008:253-5.
161. Harris DA. Pathways to embodied empathy and reconciliation after atrocity: former boy soldiers in a dance/movement therapy group in Sierra Leone. Intervention. 2007; 5(3):203-31.
162. Gray AEL. The body as voice: somatic psychology and dance/movement therapy with survivors of war and torture. Connections. 2001; 3(2):2-4.
163. Singer AJ. Interactions between movement and dance, visual images, etno and physical environments: psychosocial work with war-affected refugees and internally displaced children and adults. In: Jackson N, Shapiro-Phim T, editors. Dance, human rights, and social justice: dignity in motion. Maryland: The Scarecrow Press, Inc; 2008:237-52.
164. Gone JP. A community-based treatment for Native American historical trauma: prospects for evidence-based practice. J Consult Clin Psychol. 2009; 77(4):751-62.
165. Ebadi A, Ahmadi F, Ghanei M, Kazemnejad A. Spirituality: a key factor in coping among Iranians chronically affected by mustard gas in the disaster of war. Nurs Health Sci. 2009; 11(4):344-50.
166. Davidson JR, Connor KM, Lee LC. Beliefs in karma and reincarnation among survivors of violent trauma-a community survey. Soc Psychiatry Psychiatry Epidemiol. 2005; 40(2):120-5.
167. Connor KM, Davidson JR, Lee LC. Spirituality, resilience, and anger in survivors of violent trauma: a community survey. J Trauma Stress. 2003; 16(5):487-94.
168. Peres J, Moreira-Almeida A, Nasello A, Koenig H. Spirituality and Resilience in Trauma Victims. J Relig Health. 2007; 46(3):343-350.
169. Lesmana CB, Suryani LK, Jensen GD, Tiliopoulos N. A spiritual-hypnosis assisted treatment of children with PTSD after the 2002 Bali terrorist attack. Am J Clin Hypn. 2009; 52(1):23-34.
170. Sun WY, Dosch M, Gilmore GD, Pemberton W, Scarseth T. Effects of a Tai Chi Chuan program on Hmong American older adults. Educ Gerontol. 1996;22(2):161–167

Reconciliation in Cambodia

Daryn Reicherter, MD*, Gerald Gray, LCSW**

Sir,

We wish to add to two dimensions of the article "Reconciliation in Cambodia" by Bockers et al. in the most recent issue of TORTURE. The article itself in fact divides into two dimensions. There is a general discussion of the definition of reconciliation and approaches to promoting it. Then there is a focus on reconciliation and its methods in Cambodia.

As regards the general description of approaches and methods to promote reconciliation, two of these should be expanded. The section on retributive justice notes two aspects of this justice: that it promotes security by imprisoning perpetrators, thus preventing further criminal activity, and that by punishing perpetrators it helps rebuild society's sense of social justice.

There is at least a third function intended for retributive justice: prevention – by warning other would-be perpetrators of the consequences of human rights crimes. Evidence for the first two intended consequences can be measured by interviewing victims and witnesses. While one cannot interview would-be perpetrators, there is indirect evidence of knowledge of consequences among those active, from the attempts of perpetrators to avoid torture that leaves physical evidence, to attempts to redefine "torture", to word from national human rights groups that their persecutors avoid visiting countries that have been prosecuting perpetrators. It is a reasonable assumption that these considerations reach the pool of would-be torturers, and that as tribunals have a longer history, that these considerations will deter some, possibly even key ones.

A second approach to reconciliation is reparations. The authors write that reparations "show the wrongdoer feels remorse." That may be true in some cases, but not in any human rights torture cases so far brought in the U.S., where courts have had to pass judgments that include reparations because perpetrators have never offered them. This fact makes a further argument for the use of retributive justice in some countries, to force reparations.

Finally, in the concluding section of the article, various suggestions are made about what is needed in Cambodia for reconciliation (ending poverty and corruption; a fair, transparent and publicly accessible tribunal; community building; teaching history in schools; rituals, ceremonies, and memorials to deal with genocide losses; and provision of therapeutic approaches to trauma for the

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nation). While these are true, to avoid discouragement it is important to speak to the professionals who are readers of this journal about where they may in any practical way intervene.

In that light, it is encouraging to be able to inform readers that ideas for mental health reform in Cambodia are in discussion, following a suggestion by clinicians affiliated with the Documentation Center of Cambodia. The inclusion of mental health resources as a potential reparation at the Extraordinary Chambers in the Courts of Cambodia (ECCC) is a progressive and encouraging move. It may be the first ever of its kind, and in any case suggests clinicians may help shape the work of tribunals, including healing, and possibly reconciliation.

Moreover, the Documentation Center of Cambodia has produced a book on the topic of mental health in Cambodia titled "Cambodia's Hidden Scars; Trauma Psychology in the Wake of the Khmer Rouge." The book is an edited volume of chapters, based on new research, written by experts in psychology, psychiatry, and public health, as well as human rights attorneys. It covers the topics of trauma psychology in Cambodia, discusses the connections between trauma psychology and the court (applicable to any tribunal), and critiques the contemporary mental health system in Cambodia. All sections are co-written by Western and Khmer experts in the field and will be published in Khmer and English. The book points out the severity of the problem in Cambodia and provides an overview of possible changes in the current system that could address the improvements suggested by the ECCC. It is also an advocacy piece for improved attention to the issue of victim psychology in Cambodia and generally.

Presenting evidence of torture at immigration tribunals in the United Kingdom

Maxwell J.F. Cooper, MD*

Sir,

Physicians who write medico-legal reports to document torture may be called to present evidence at immigration tribunals. In the United Kingdom such attendance is uncommon and, perhaps for this reason, training in this skill is often limited. Practical aspects of attendance at immigration tribunals as a medical witness are outlined here, based upon the author's experience.

The client's lawyer is normally responsible for requesting the physician to attend as a witness. This usually occurs by telephone and often at short notice. At the tribunal there are typically around five courts in session every day, each with a separate judge. A judge will normally consider about five separate hearings per day, one of which is often an asylum case. Asylum cases frequently incorporate the claims of all the separate members of a client's family and thus more than one appeal might be under consideration at the same time.

Witnesses should expect a delay in entering the court building due to routine screening of all visitors with a metal detector. About half an hour before the hearing commences, the witness meets in private with the client's lawyer. This includes a review of the evidence to be considered and preparation for the questions that the witness is likely to face. A medical witness attends only for the portion of a client's tribunal that directly relates to allegations of torture. One must therefore wait until summoned into the courtroom. If aware that a medical witness is waiting, the judge may prioritize the order of court proceedings to release the physician early.

Whilst waiting, witnesses are seated in a communal area along with clients and their families. Clients report feeling reassured by the attendance of a medical witness. Nevertheless, as the waiting space is visible to legal representatives it is prudent not to associate too familiarly with clients. In order not to cause offence to the client, it is therefore important to explain why this is so and that for the same reason the physician will not normally acknowledge the client inside the courtroom. A physician may also encounter other known clients whose hearing happens to fall on the same day. This is potentially awkward as it risks appearing to provide special support for one individual.

A medical witness typically appears before the court for between thirty minutes and one hour. The hearing is a formal and potentially intimidating environment. The judge is seated upon a platform above the

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rest of the court. He or she does not wear a wig or gown, but is addressed as 'Sir' or 'Ma'am'. In this setting it is easy to be unaware of the client, who is essentially a silent observer of proceedings. Interpreters are often present: this – along with verbatim transcription by the judge and both lawyers – slows proceedings into an unnatural and sometimes awkward rhythm.

The medical witness is first examined by the client's own lawyer. Initial questions confirm identity and professional status. The physician's experience is then considered, often in terms of formal training in medical examination of torture victims, number of reports prepared and previous attendance at immigration tribunals.

Subsequent questions relate to specific details of the client's medico-legal report, typically to clarify the weight of evidence attributed by the physician to his or her clinical findings. It is, therefore, important to be knowledgeable of recognized categories of consistency and to be prepared to defend one's conclusions.

The physician is then cross-examined by the Home Office (government) legal representative. This may contain unexpected and confrontational questions. Witnesses should ensure that they are familiar with the Istanbul Protocol and have considered the likelihood of other causes for injuries under discussion. In the author's experience the government representative often seeks to undermine the credibility of the medico-legal report or of the medical witness. This has taken three forms. First, by alleging that there are inconsistencies within the medico-legal report(s) or between this and the client's own statement of evidence. Second, is the suggestion that the physician is not acting independently and has attempted to assert the credibility of the client's story. Finally, the lawyer may call into question the physician's knowledge of immigration law by asking if he or she is aware of a specific – and relevant – case of legal precedent. At the end the witness is questioned by the judge (judicial examination). This frequently results in debate about the impossibility of proving motivation for the alleged torture.

Attending immigration tribunals is a rewarding, if sometimes stressful, experience. This is a particularly true where strong evidence of torture has previously been dismissed. On one occasion this was due to the judge receiving from the client's lawyer faxed copies of clinical photographs of extensive scarring that were badly blurred. Being able immediately to present original photographs to the judge swiftly swung proceedings. For the same reason, witnesses should also bring along original copies of their reports.

There are other reasons why physicians should consider attendance at immigration tribunals worthwhile. This is a formative experience that, through feedback from the client's lawyer as well as the written determination of the judge, serves to enhance the quality of subsequent medico-legal reports. Certainly it will increase physicians' understanding of the intricacies of the asylum legal process. Encouraging clinicians to attend may be facilitated by improving training in presenting evidence at court, for example through role playing techniques. Physician attendance and better communication with lawyers could help to highlight and redress unfair dismissal of significant medical evidence by immigration judges. The presence of physicians as witnesses also serves to establish the value of medical evidence in the eyes of the wider legal system.

Contributory Torture

Sadip Pant, MD*, Jennifer C. Giardina, MSc, Ritesh G. Menezes, MD*****

Sir,

Contributory torture occurs when the behavior of the offender influences the behavior of the interrogator or, in a broader sense, anyone disciplining the offender. The word contributory is used because if the offender acts up, he/she is part of the reason for the type of punishment he/she receives. For example, if two people are arrested and one follows the directions of the officer and the other tries to resist arrest or counter argues, the officer is going to be more placid to the offender who shows respect; this offender will be given the benefit of the doubt. The benefit in such circumstances rarely involves complete exoneration, but more often than not includes a mild degree of humane courtesy, e.g. the offender may receive a few more minutes to say goodbye to family, or smoke one final cigarette before being locked up. In relation to the interrogation of a criminal or a suspect, it may mean less severe forms of torture during the interrogation session. This is not an esoteric concept. Portrayals of this concept have been observed in the media. These sources provide real life examples of the way that how authority figures are treated by the criminal affects how they treat the criminal. As a matter of fact, this happens incessantly, but the terminology "contributory torture" has been used only recently to describe such doctrine Torture represents an inhumane act and may even be considered a crime. For example, in the United States, torture should be a crime because it violates the Fourteenth Amendment and Habeas Corpus right. Therefore, the aforementioned doctrine should be seen as an act of crime, and a more solid description needs to be created in order to define it more accurately. The word "contributory" means "playing a part in bringing something about". Hence, any factor that increases the magnitude of the torture may be represented by the term "contributory torture." This includes factors such as hatred for a race or gender, previous distrust or torture, self control capacity of the doer, state of mind at that particular point in time, gravity of the crime. In order to separate these catalysts of torture from the one described above, further refinement of the term "contributory torture" is needed.

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Treatise on Legal Medicine and Forensic Sciences – Volume III: Forensic Pathology and Biology

Editorial Bosch, S.A., ISBN: 978-84-9790-6, coordinated by Santiago Delgado Bueno, Fernando Bandrés Moya and Joaquin Lucena Romero

Maria Cristina de Mendonça, MD, PhD*

There are few books on legal medicine and forensic sciences, published in Spanish, that are both complete and exhaustive: complete in that they incorporate the multiple facets of this area of knowledge; and exhaustive in that they cover all those facets in a manner that is specific, detailed, in depth, and conducted with great scientific rigour. The publication of the Treatise on Legal Medicine and Forensic Sciences by Editorial Bosch, S.A. fulfils this need. The work comprises five extensive volumes, the first of which on Sanitary Law, the second on Forensic Toxicology, Drug Abuse and Body Damage/ Brain Damage, the third on Forensic Pathology, Criminalistics and Forensic Biology, the fourth on Reproductive Legal Medicine, Obstetrics and Gynecology, Legal and Forensic Pediatrics as well as Violence/Victimology, and finally the fifth on Legal and Forensic Psychiatry.

In order to write the 60 chapters of the third volume, the coordinators selected a group of 81 outstanding authors, both Spanish and Latin American, all of them dedicated, in one way or another, to university tuition and to practice as experts.

In the chapters on Forensic Pathology, we find the classical themes on this subject, amply revised and up-to-date, which allow us to encounter newly arisen matters such as the medical aspects of AIDS, injuries due to Taser® electric weapons or the principles of biosecurity in forensic autopsies, to mention just a few. In the chapter on Criminalistics and Forensic Biology, this feature is accentuated every time special attention is given to the newest molecular biology where the analytical techniques of DNA and their expert interpretation are introduced in the classical themes of Criminalistics and Forensic Biology. The most recent example in this subject is found in the chapter that deals with DNA databases used for criminal investigations and towards the identification of missing persons.

The approach to Forensic Pathology assumes in this Treatise an unquestionable social and humanitarian aspect. Beyond the two chapters dedicated to the forensic medical activity in dealing with disasters, we find two chapters covering the medico-legal evaluation of torture – one on the judicial aspects of human trafficking, another on the judicial-penal repercussion on hunger strike and also another on the medical forensic in-

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vestigation of deaths in custody. With reference to torture, the Istanbul and Minnesota protocols are defined and explained not only towards the forensic investigation of torture, leading the reader to sites in internet about the subject, but also towards the objectives of forensic investigation in deaths due to violation of human rights. The forensic autopsy protocol model proposed by the authors in this chapter is excellent, and should constitute compulsory reading for all those forensic pathologists who deal with cases of this type.

References to the relative legislation in each subject covered are made throughout the work, thus converting it into an extremely useful tool, not only for forensic medical experts, but also jurists, judges and magistrates. Moreover, the authors of the different chapters interpolate quotations from the Spanish legislation with those from the international legislation, thus covering a wide scope of diffusion.

In the presentation of the subjects relating to Forensic Pathology a great number of photographs are added that illustrate the text with practical cases. But the images are in black and white and thus make the interpretation a bit difficult. Digital support attached to this work may overcome this inconvenience, allowing the reader to see the images in colour. Finally, the bibliography presented in the final pages of this volume is abundant and up-to-date, so the scientific standards are thus guaranteed.

Even though numerous authors write the book, the standard is maintained throughout the 1,279 pages thanks to a skilled coordination. In conclusion, as the author of the prologue states, this is "as from now, an indispensable book towards the study of Forensic Medicine."

Taking a Stand: The Evolution of Human Rights

Palgrave Macmillan, ISBN-13:978-0230112339, by Juan Méndez and Marjory Wentworth

Aida Alayarian, MD, PhD*

In this book the authors set into the world an authoritative and incisive examination of torture, detention, exile, armed conflict, and genocide, whose urgency is even greater in the wake of recent disastrous policies. The book offers a new strategy for holding governments accountable for their actions, providing an essential conscription for diverse human rights groups to work together to realise their importance and work towards achieving their goals and carry out to effect change

Méndez has experienced human rights abuse first hand as the result of his work with political prisoners. In the late 1970s he was arrested and tortured by the Argentinean military dictatorship. After over a year he was released and moved to the United States, continuing his lifelong fight for the rights of others. The lessons Méndez has gleaned over the decades can help us learn so much with our current struggles against torture.

Méndez's testimony is not only a personal history of someone who has devoted his life to defend human dignity but also a thoughtful perspective on the evolution of the human rights idea. It is a stimulating account of someone who has spent all his life in the human rights movement, as a militant lawyer, a war crimes investigator, a UN expert and an academic. The book shows the rise of the human rights movement; from the fight against the brutal Latin American dictatorships in the 1970s to the hopes and doubts of the Arab Spring.

Méndez has the authority to talk about human right as he has first-hand experience of human rights violations. He eloquently writes about his arrest, his imprisonment and torture by the military dictatorship in Argentina for his work with political prisoners. It is a well-known fact that between 1976 and 1983, around 30,000 people were abducted, tortured, and many finally killed. He was one of the survivors who during his detention decided he wanted to continue to pursue his objectives, defending the rights of those whose human rights were violated.

In this book the authors write a penetrating perceptive examination of torture, detention, exile and conflict as urgent issues that need greater understanding from governments and politicians.

The dynamic of the writing relies on the fact that despite the horrors Méndez lived at the hands of the Argentinean regime, he has turned his life into an inspiration, dedicat-

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ing it to defend the right of others and make freedom and justice for all his business. The strength of his convictions comes together with a deep sense of humanity. His criticisms, his condemnations and his admonitions of torturers and other forms of human right violations, indeed, his dissatisfactions and criticism of democratic leaders' collusions, collaborations, connivances and or participations with human rights abusers, are without any dispensations.

The book is educational for all involved in the human rights campaign, as the authors provide the arguments against torture and for an international movement for justice for all and for prevention of torture and other forms of human rights violations. They emphasise the importance of solidarity to be effective in our work and to implement the basic principle of the Universal Declaration of Human Rights, as well as to prevent failure in a whole host of different phenomena that has been coming to justify some types of torture under the ethos of security, which in my view is a direct attack on the principle of the Universal Human Right declaration. Ethics become blurry and violent and segregation of different faith or ethnic groups will increase, for their difference, for their extremism, for their unwillingness to integrate, for their Islamic faith, for undermining national values and just for their presence. Defending human rights then involves fighting a rear-guard action, as it were, to protect what are considerable human right achievements by education and dialogue. It means taking on seriously, not just those who march provocatively through our towns in defence of, but also the sections of the media which day after day find ways of problematizing difference and the politicians, policy makers and governments.

This book contains all the arguments, information and context, historical and contemporary, needed for the battle against torture and other forms of human rights violations. Méndez's comprehensive accounts on his experiences makes a very accessible educational tool for anyone needing to understand the parameters of torture and the possibilities for resisting it.

Méndez set a challenge for us which lies in creating the psychological climate of opinion and to develop a common mentality that rejects torture, war, genocide, ethnic cleansing and terrorism as solutions for any type of conflicts. His life is testimony to the possibilities. From psychological perspectives it shows how we individually and collectively can challenge the way in which States use and defend torture and how to mobilise our responses to have maximum influence on these States. Those justifications for crimes against humanity such as torture may influence even those who have respect for human rights and influence individuals' subjectivity. Learning to acknowledge and displace the violence in a harmless manner can help to address fears and anxieties of others and of difference by allowing people to relate and identify with each other. This can create a real desire to live together in harmony rather than despair. What seems to be needed is ensuring an intact, integrated object world, a world in which people are able to contain their fears, hatred, and anxieties, without the need for acting out and hurting/torturing others. We must learn to link our internal and external worlds so as to contain our own and others' fears and anxieties, thus encouraging an ethics of mutual containment of our fears and hatred.

Méndez testimony is educational for governments and civilians, providing a potential mechanism for greater accountability and offers a visible sense of justice for individuals who have experienced torture. In so doing the governments can help those who have

been tortured to move on from their experiences and regain their integrity and dignity and once again become a positive member of the society where they live.

The UN Convention against Torture was not meant to be merely a theoretical text setting out theoretical rights. States are obliged to make the rights set out in the Convention practical and effective, and that is a very strong message that Juan Méndez is passing on in his incredible testimony Taking a Stand, The Evolution of Human Rights.

Erratum

Quiroga J. Torture in children. TORTURE. 2009; 19(2):66-87
On page 74, section The Philippines, line 1: "A study of child torture victims in the Philippines reported 415 cases of torture in children over two decades from 1976 to 1995. This period is reflective of the three military dictatorships of Ramos, Aquino, and Marcos." should be "A study of child torture victims in the Philippines reported 415 cases of torture in children over two decades from 1965 to 1986. This period is reflective of the military dictatorship of Ferdinand Emmanuel Edralin Marcos. Maria Corazon Sumulong Cojuangco-Aquino, known for restoring democracy in the Philippines, toppled Ferdinand Marcos and ruled from 1986 to 1992. Fidel Valdez Ramos followed Maria Aquino as the President of the Philippines from 1992-1998."