

# 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.<sup>1</sup> 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.<sup>2,3</sup>

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.<sup>4</sup> 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.<sup>4–6</sup> Moreover, a recent study found that 11% of foreign-born patients presenting at an urban ambulatory care practice had a history of torture.<sup>7</sup>

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.<sup>8</sup>

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%).<sup>9,10</sup> 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.<sup>8</sup> Chronic pain is also an extremely common symptom reported by refugees, with studies reporting up to 78% of patients presenting with persistent pain.<sup>11–15</sup>

### *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.<sup>16</sup>

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.<sup>11,16,17</sup> 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.<sup>18</sup> Seeking medical attention, particularly to address mental health symptoms, may be attached to cultural stigmas.<sup>19</sup> Strong religious ties are also potential barriers to treatment, particularly if healing is considered to be in the hands of a higher being.<sup>10</sup> 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.<sup>11,19,20</sup>

*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.<sup>21</sup> 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.<sup>22</sup> 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.<sup>23,24</sup> 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.”<sup>25,26</sup> 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.<sup>10,27</sup>

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.<sup>27</sup>

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.<sup>a</sup>

#### *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.<sup>4</sup>

#### **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.<sup>b</sup> 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,<sup>c</sup> 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.<sup>28</sup> 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.<sup>29</sup> 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.<sup>30</sup>

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

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.<sup>31</sup> 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
<i>Ayurveda</i>	No articles available
<i>Pranayama</i> /Yogic Breathing	No articles available
Massage <sup>159</sup>	No articles available
Dance and Movement <sup>160-163</sup>	152
Spirituality <sup>164-169</sup>	67,70,77
Yoga ( <i>asanas</i> ) <sup>159</sup>	No articles available
Music	91,94,96
TCM and Acupuncture	99-101
<i>Qigong/T'ai Chi</i> <sup>170</sup>	10
Chiropractic	No articles available
Homeopathy	No articles available
Aromatherapy	No articles available
<i>Reiki</i>	143
Integrated use of CAM among Torture Survivors/ Refugees <sup>d</sup>	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.<sup>30,42</sup>

#### *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.

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.

*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.<sup>43,44</sup> There are no published works in the medical literature

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.’”<sup>45</sup> 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.<sup>46</sup> 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*.<sup>45</sup> However, gentle *ujjayi* breathing, when implemented under professional supervision, may be safe and clinically effective, even with psychotic patients.<sup>45</sup> 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.<sup>47-52</sup> Other interesting studies involving resonant populations are underway, including female veterans.<sup>53</sup> Massage is relatively inexpensive and noninvasive, and is feasible in a clinic setting.

In one successful, on-going project as-

sociated with Harborview Hospital in Seattle, Washington, massage is being used to treat Somali refugee women.<sup>1</sup> 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.<sup>54</sup>

Massage therapy has few reported risks if applied appropriately by a trained massage professional.<sup>55</sup> 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.<sup>56</sup>

#### *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,<sup>57</sup> former boy soldiers in Sierra Leone<sup>58</sup> and other survivors of war and trauma.<sup>59-63</sup>

Many symptoms of PTSD can be attributed to incomplete or ineffective processing of responses to trauma at the cognitive, emotional, or physical level.<sup>64</sup> 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.<sup>65</sup>

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.<sup>30</sup> 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.”<sup>30</sup>

Research has demonstrated the efficacy of spiritually based healing for war-traumatized African immigrants,<sup>66</sup> displaced Kosovo Albanians<sup>67</sup> and other survivors of violent trauma.<sup>68,69</sup> In another study, Buddhism was found to enable rehabilitation among Tibetan torture survivors.<sup>70</sup> A study involving child survivors of the 2002 Bali terrorism found spiritual-hypnosis to be highly effective, economical, and easily implemented.<sup>71</sup> Additionally, spirituality has been studied with success as a means of treating veterans with PTSD and victims of sexual abuse.<sup>66-78</sup> 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.<sup>30</sup> 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.<sup>77</sup>

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.”<sup>77</sup> 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.”<sup>79</sup>

### *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.<sup>e</sup> 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.<sup>37,38,46,80-88</sup> In many of these works, yoga was found to “produce many beneficial emotional, psychological and biological effects.”<sup>85</sup> It has also been reported to reduce stress and sleep disturbance in various patient populations.<sup>80-82</sup>

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.”<sup>89</sup>

Several studies found that yoga was safe when implemented in older populations.<sup>90</sup> Similarly, Shapiro et al. describe yoga as cost-effective and easy to implement.<sup>85</sup> 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.<sup>91-94</sup> In one study, music therapy helped to significantly reduce anxiety levels and improve sleep patterns of abused women in shelters.<sup>94</sup> There is also a precedent for the use of music therapy in the alleviation of traumatic stress among veterans.<sup>95</sup>

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”.<sup>f,96</sup> 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.<sup>97</sup>

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.<sup>79</sup> 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."<sup>97</sup>

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.<sup>98</sup> 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.<sup>99-101</sup> 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."<sup>102</sup>

Acupuncture shows potential to alleviate chronic pain and posttraumatic symptoms in survivors of torture and refugee trauma.<sup>99</sup> 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,<sup>102</sup> anxiety,<sup>103</sup> and pain.<sup>49,51,104,105</sup>

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.<sup>106-108</sup> 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."<sup>100</sup> Positive results may be due to the

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

In preliminary work involving acupuncture and refugees, implementation was highly successful, and there were no cases of retraumatization, or other complications.<sup>99,100</sup> 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.<sup>113</sup> 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.<sup>114-116</sup> *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.<sup>30</sup>

*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.<sup>30</sup> In one study, *t'ai chi* also showed promise as a treatment for elderly Hmong Americans.<sup>117</sup> In other applicable studies, *qigong* and *t'ai chi* have been found effective in treating chronic trauma symptoms.<sup>10</sup> *T'ai chi* may reduce stress, and is commonly used to promote mental awareness among elderly

patients.<sup>118,119</sup> 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.<sup>114-135</sup> 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.<sup>130</sup> Self-esteem has also been shown to increase with *t'ai chi* instruction.<sup>132-134</sup>

*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.<sup>10</sup>

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.<sup>10,136</sup> This is particularly important in patients for whom a history of trauma makes certain traditional forms of exercise both physically, if not psychologically, inappropriate.<sup>h</sup> There are few known risks associated with *qigong* and *t'ai chi*.<sup>10</sup>

#### *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.<sup>137</sup>

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.<sup>137</sup>

Chiropractic manipulations are the subject of ongoing scientific investigation.<sup>137</sup> 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.”<sup>137</sup>

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.<sup>138</sup>

There have been rare reports of serious complications resulting from chiropractic.<sup>137</sup> 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.<sup>139</sup> 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.<sup>139</sup> A small number of studies suggest that homeopathy may be useful in the treatment of anxiety disorders.<sup>140</sup> Most analyses have concluded that there is little evidence to support homeopathy as an effective treatment for any specific condition.<sup>139</sup>

There is limited research on the safety of homeopathic treatments, though homeopathy is generally considered unlikely to cause severe adverse reactions.<sup>139</sup>

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.<sup>141</sup>

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

cine.<sup>141</sup> One study concluded that aromatherapy positively contributed to treatment for a range of psychiatric disorders.<sup>141</sup> It has also been studied by Buckle et al. as a possible integrative treatment for HIV/AIDS patients.<sup>142</sup> 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.<sup>143</sup> Another work reported significant improvement via *Reiki* treatments in measuring pain, depression, and anxiety.<sup>144</sup>

*Reiki* appears to be a generally safe modality; no serious side effects have been reported.<sup>145</sup> 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 psycho-

logical 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.<sup>146</sup> 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.<sup>30</sup> 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.<sup>147</sup> In another study involving Cambodian refugees, the use of CAM had no adverse effects on concomitant use of biomedicine.<sup>148</sup>

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.<sup>100</sup>

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.<sup>149</sup> 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.<sup>i</sup>

Vicarious traumatization of healthcare

providers is also a serious concern.<sup>150,151</sup> 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.<sup>97</sup>

### 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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This alternative medicine is based on a series of ideas developed in the 1790s by a German doctor called Samuel Hahnemann. It is a "treatment" based on highly diluted substances, which practitioners claim can cause the body to heal itself. A central principle of the treatment is that "like cures like," or a substance that causes certain symptoms can also help to remove those symptoms. A second central principle is based around a process of dilution and shaking, called succussion. A survey released in December 2008 by the US National Center for Complementary and Alternative Medicine found that hatha yoga was the sixth most commonly used alternative therapy in the United States . 10. Meditation. via lifescapesolutions.com. It's a practice that helps in mind training. Many patients evince interest in complementary and alternative medicine (CAM); not merely interest, but often prefer CAM to MOM. There is now a clear trend towards an increase in the CAM treatment of adult patients of all age groups, including older people [11]. Most patients do not inform doctors of their CAM use [10, 11]. Both these alternative methods of treatment, according to the authors, can prevent the development of mental disorders, such as anxiety and depression, and minimize the manifestations of mental stress and improve quality of life [36]. A significant increase in the use of herbal remedies and herbal supplements has been noted in recent years in countries across Europe and America. Complementary and alternative medicine (CAM), any of various approaches intended to improve or maintain human health that are not part of standard medical care, also known as conventional, or Western, medicine. Many treatments associated with CAM are targeted toward individuals, rather than toward conditions (e.g., diabetes or heart failure) as in conventional medicine, suggesting that alternative methods of assessment may be more appropriate. In the field of herbal medicine, such systematic reviews have suggested that extracts of St. John's wort (*Hypericum perforatum*) can provide symptomatic relief in cases of mild to moderate depression and that peppermint oil is more effective than a placebo for the treatment of irritable bowel disease.