Addressing Mental Health Concerns in Refugees and Displaced Populations: Is Enough Being Done?

Lana Ruvolo Grasser

Department of Psychiatry and Behavioral Neurosciences, Wayne State University School of Medicine, Detroit, MI, USA

Correspondence: Lana Ruvolo Grasser, 3901 Chrysler Dr., Suite 2C Room 273, Detroit, MI, 48201, USA, Tel +1 248 535 6371, Email lgrasser@med.wayne.edu

Abstract: There are over 82.4 million forcibly displaced people worldwide, about a quarter of whom are resettling as refugees. In the wake of the global refugee crisis spurred by conflict, religious and political persecution, human rights violations, and climate disasters, a mental health crisis followed. Not only does trauma experienced in home countries and as part of forced migration affect mental health, so too do post-migration traumatic events, discrimination, lack of access to quality and affordable healthcare and housing, and acculturation. To address mental health concerns in refugees and displaced populations, collective action is needed not only from health care providers but also from mental health researchers, funders, journals, resettlement agencies, government entities, and humanitarian organizations. The present review highlights the work of numerous scholars and organizations with the goal of understanding the mental health concerns of forcibly displaced persons within and across ecological systems. The present review seeks to bring attention to the experiences of forcibly displaced persons, summarize the growing body of research understanding the acute and chronic effects of forced displacement and possible interventions, and give a call to action for all members of the global community at every level to engage in joint efforts to improve mental health in refugees and displaced persons. Notably, there is a need for more interventions at the familial and community level that serve not only as treatment but also as prevention. Smartphone-based interventions, mind-body modalities, and interventions delivered by lay and non-clinician community members hold promise. Numerous strides could be made in refugee mental health and treatment when funding agencies include these goals in their research priorities. Despite the challenges they have faced, persons who resettle as refugees are incredibly resilient and deserve to be afforded every right, opportunity, dignity, and respect.

Keywords: refugees, trauma, mental health, PTSD, intervention

Introduction
Severe stress exposure is a key predictor of mental health, and civilian war trauma, torture, and forced migration rank among the most traumatic life experiences. These experiences are pervasive in nations undergoing both internal and external conflicts. This, along with natural disasters sparked by climate change, political and religious persecution, discrimination, and human rights violations, has led to a high volume of forcibly displaced persons—1 in 95 people, or 1% of the global population. Stressful and traumatic events present challenges to individual, familial, community, and societal systems. Therefore, understanding and addressing the mental health concerns of forcibly displaced persons within and across ecological systems should be a top global priority.

The United Nations defines three categories of forcibly displaced persons: internally displaced people (IDP), refugees, and asylum-seekers. These individuals make up a total of 82.4 million people worldwide who have been forcibly displaced, as of late 2020. IDP have not crossed a border to find safety. Unlike refugees, they are displaced within their home countries. By the end of 2020, some 48 million people were classified as IDP. Refugees (totaling over 20.7 million worldwide) are people who flee their countries of origin due to conflict or persecution. An asylum-seeker (4.1 million worldwide) is someone who has left their country in search of safety but has not yet been legally recognized as a refugee. Forcibly displaced persons differ from migrants, ie people who are outside of their countries of origin for purposes of work, study, family, or to leave poverty, political unrest, violence, or natural disasters. As such, while migrants may not fit the definition of forcibly displaced persons,
they may still be in danger in their home countries. For more extensive definitions of migration status, see Kroening & Dawson-Hahn, 2019. These terms, like “refugee” serve as labels to represent legal statuses in relation to migration. The term “refugee”, for example, does not reflect something intrinsic to the person. Within this article, the phrase “persons resettled as refugees” is used to represent these constructs. The term “refugee” is also used. Importantly, while the legal term “refugee” may at times positively represent the legal protections and government benefits afforded, this term can also carry a negative connotation. The term may reflect painful and traumatic memories, reduce individuals’ sense of self-worth, and even be met with negative stigma from individuals within host countries. It is critical that we see the whole person, beyond solely their legal status.

With the most recent crisis in Afghanistan and other ongoing plights worldwide, the number of forcibly displaced persons continues to grow. Many forcibly displaced persons are exposed to traumatic events—war, loss of loved ones, natural disaster, physical or sexual assault, and fires and explosions. Shenoda (2019) writes Armed conflict directly and indirectly affects … physical, mental, and behavioral health. It can affect every organ system, and its impact can persist throughout the life course. Persons who resettle as refugees may not only experience civilian war trauma, forced migration, natural disasters, human rights violations, and political or religious persecution, but also family separation, food insecurity, lack of shelter, malnutrition, infectious disease, and exposure to environmental toxins. Additionally, forced displacement often gives rise to health disparities—nutritional food access, housing, healthcare, disruption of vaccination schedules, and disruption of education.

The ever-increasing volume of forcibly displaced persons has strained humanitarian agencies and host countries, particularly in the realm of health services. While, as Betancourt (2013) writes, we may be attuned and motivated to action with the acute news of humanitarian and refugee crises, as “media attention turns to the latest breaking emergency, little attention is paid to the longer-term mental health and psychosocial sequelae plaguing” persons who resettle as refugees. Yet persistent attention and action in the form of policy and funding is required to develop robust mental health services for persons who resettle. Of note, refugees also experience high rates of medical illness due to oppression and lack of resources, infrastructure, or access thereof in host countries. The focus of this review is oriented towards mental health—especially given that examination for mental health problems in refugees lags far behind that of detection and effective treatment of other medical conditions in these groups. Regardless, the physical health consequences of the refugee experience must not be forgotten, and health care needs cumulatively account for the highest resource utilization among some refugee groups 2 years following resettlement. The present review seeks to bring attention to the experiences of forcibly displaced persons, highlight the growing body of research understanding the acute and chronic effects of forced displacement and possible interventions, and provide calls for action for all members of the global community at every level to engage in joint efforts to improve mental health in refugees and displaced persons.

Trauma Exposure, Mental Health Problems, and Screening Thereof in Adults Resettled as Refugees

Historically, articles regarding refugee trauma and health had been limited to qualitative reports or quantitative data derived from measures that lacked evidence of validity and reliability in non-Western cohorts. Regardless, these initial reports highlighted rates of posttraumatic stress ranging from 4% to 86%, depression ranging from 5% to 31%, and high comorbidity with other mental and physical health conditions—eg dental, nutritional, infectious, and pediatric illness. Females, those who have experienced life threats, have been tortured, and those who have experienced injury or loss of loved ones may be more at risk for PTSD and depression. Robust data have been lacking regarding rates of psychosis; however, some reports do seem to indicate that with the increased severity of the Syrian refugee crisis, for example, psychotic symptoms are also increasing in this population. Practice has seemed to follow the research, in that mental health screenings have not, and still are not, always included in the domestic medical examination all persons resettling undergo within the first 90 days of resettlement, despite this being a recommendation by the Centers for Disease Control (CDC) and Office of Refugee Resettlement (ORR). Even so, when they have been conducted,
screening tools not developed or validated in refugees may be used. Since Hollifield et al reviewed the aforementioned body of research measuring refugee trauma and health status in 2002, many strides have been made. Instruments that have evidence for reliability and validity, and have been well studied for measuring refugee trauma include the Harvard Trauma Questionnaire (HTQ), the Comprehensive Trauma Inventory-104, and the Post Migration Living Difficulties Scale (PMLD; assesses stressful events related to resettlement). Notably, when using the HTQ to measure trauma exposure as a predictor of PTSD and depression, looking at the type of trauma exposure (eg physical trauma to others, physical trauma to self, lack of necessities, abduction of friend or family, and persecution/coercion) in addition to the cumulative number of traumas experienced, may provide more robust information on variance in outcomes. For health status, the HTQ, Hopkins Symptoms Checklist 25 (HSCL-25; screens for anxiety and depression), Impact of Event Scale (IES), and Refugee Health Screener (RHS; screens for PTSD, anxiety, depression, and levels of distress that correlate with suicidal ideation) are notable to mention. Multiple studies have shown good reliability of the PTSD Checklist (PCL), for children, some have effectively used the Screen for Child Anxiety Related Emotional Disorders (SCARED), and the posttraumatic stress interview for children (KID-PIN) has recently been developed and validated in displaced children from the Middle East. Others have been developed and tested for specific populations, and are described in additional review papers and guidelines for refugee health screening.

Screening for trauma histories and mental health outcomes (eg PTSD, anxiety, depression) has and will continue to be important for resettlement agencies, providers, and researchers to better understand the experiences and needs of persons resettling. For example, individuals exposed to threat or danger-related traumatic events may be more likely to experience anxiety, hypervigilance, avoidance, and other symptoms characteristic of PTSD and other fear-related disorders. Conversely, individuals who have experienced deprivation (ie lack of food, shelter, water, medical care, education, etc.) or who have experienced sexual and physical assault may be more likely to experience feelings of helplessness and defeat associated with depression. Those who experience acute, non-interpersonal exposures—perhaps, for example, more common in those who flee due to natural disaster and/or climate change—may show differential trajectories and presentation of PTSD and other trauma-related psychopathologies compared to those who experience chronic, interpersonal traumas—like those who flee a warzone or religious/political persecution. In addition to medical exams, obtaining trauma histories, and conducting mental health screening, Kroening & Dawson-Hahn also recommend charting migration history and education.

Mental health screening for persons resettling as refugees should be a top priority for the CDC, ORR, and providers working with refugees, given that mental illness contributes to adverse outcomes like disability and substance use, as well as has significant economic costs via use of health services and financial dependency. Such screening should not only be limited to the initial medical screening and to psychological service providers but should also be incorporated into primary care. Within the first year of arrival, refugees show elevated rates of health care service utilization compared to immigrants, yet only a small proportion seek psychological services specifically. This may be due to cultural, religious, and historic stigma related to having a mental illness or discussing emotions and personal issues outside of the family unit. Across Europe, 80–90% of persons resettled as refugees with PTSD or other psychological problems do not receive mental health services. This may be attributed not only to stigma but also to language barriers, geographic accessibility, and a lack of culturally competent providers. Therefore, if primary care providers do not screen for trauma exposure and related psychopathology, they may be unaware of specific client needs that could in turn affect physical health and response to treatment. Integrative care models can support these goals. Requiring referrals from primary care providers to access mental health care, rather than integrating the two or allowing independent access to mental health providers without referral, serves as a structural barrier to accessing needed services in some countries. When mental health problems are not addressed, social integration and quality of life is impacted. Mental health screening would not only benefit individuals and their families—when the proper structures are in place to in turn refer them to culturally appropriate, accessible, and affordable mental health services—but also to the overall economy by improving health outcomes, thereby reducing healthcare costs long term and increasing productivity.

There has been a growing number of reports regarding trauma exposure and mental health outcomes in persons who resettle as refugees, with many studies being cross-sectional conducted within refugee camps or at the time of initial
While screening for stress and trauma-related psychopathology at initial arrival is important, continuing to assess and provide resources for persons who resettle long term is equally important, as persons resettling may actually experience an initial “euphoric” phase upon arriving in a safe place and leaving behind traumatic situations. Also, postmigration stress can contribute to poor mental health; in some cases, it can even result in non-symptomatic individuals developing significant symptoms years following resettlement, especially when discrimination and family separation are experienced. Post-migration stressors may exacerbate war trauma-related symptoms, and perceptions of past adversities may contribute to perceptions of current health. This in turn prompts persons who resettle as refugees to utilize primary healthcare services more frequently, especially if they experience clinically significant symptoms of PTSD, anxiety, and depression. Overall, distress may not only be maintained from initial resettlement but may also increase over time in some groups, well beyond the 90-day screening window. Javanbakht et al provide an informative model for designing longitudinal studies of refugee mental health by integrating genetic, epigenetic, neuroendocrine, and physiological measures.

Trauma Exposure, Mental Health Problems, and Screening Thereof in Youth Resettled as Refugees

Of those who resettle as refugees worldwide, about half are under the age of 18. Children are disproportionately impacted by migration and conflict-associated morbidity and mortality—in Syrian refugee cohorts, for example, nearly half show clinically significant levels of anxiety. Given exposure to chronic stress during critical and sensitive periods of development, youth who resettle as refugees are at greater risk for health disparities that may be either aggravated or alleviated upon resettlement. These factors, in turn, may impact development and cognition. Children exposed to armed conflict have increased rates of PTSD, anxiety, depression, behavioral problems, and somatic symptoms. An estimated 5% of adolescents in the general population have PTSD. Comparatively, studies from child refugee cohorts have identified prevalence of PTSD between 10% and 46.8%; a small number of studies from camps in the Middle East and Germany report rates of PTSD between 10.5% and 36.4% in Syrian youth, with anxiety ranging from 7.3% to 10.5%. One of the most striking studies indicated that 80% of Syrian youth resettled as refugees in Jordan showed moderate to severe PTSD symptoms. Data from our team indicate that within one month of arrival, 52.9% of Syrian youth screen positive for a probable anxiety disorder, the most prevalent being separation anxiety at almost 75%. Moreover, parental psychopathology negatively affects youths’ emotional well-being. A record number of children are resettling unaccompanied, putting these youth at greater risk for exploitation and trafficking, and the previously noted psychological problems; youth who have lost a parent and youth who resettle unaccompanied are at higher risk for PTSD, depression, and mental health problems more broadly. Some youth may have previously been forced into conflict as armed combatants, and upon migration such children may, in some cases, be treated as perpetrators of violence rather than survivors of forced combat. In home countries, as well as migration camps, refugees may face a lack of access to sufficient and nutritious food, infectious disease, a lack of opportunities for physical activity, poverty, and a lack of health services. One study of 1047 refugee youth—mainly from Somalia, Iraq, and Burma—indicated that nearly half of the 0–10-year-old children in the study had at least one form of malnutrition, and that among children ages 0–5, children resettled as refugees had a significantly higher prevalence of malnutrition compared to US-based children in low-income households. Sahin et al (2021) elegantly describes the multitude of vulnerabilities facing Syrian refugee youth resettling in Turkey, many of which overlap with the experiences of youth resettling worldwide. Recommendations provided therein and extensions of the Sustainable Development Goals from the Convention on the Rights of the Child may be useful not just for meeting the needs of children, but also their families. While physical scars from adverse and potentially traumatic events may be more apparent, psychological consequences often go unseen, and in many cases, untreated. Identifying solutions at the individual, familial, and community level for addressing mental health is critical in order to create brighter futures for all, especially our youth who will become our future leaders.
Addressing Mental Health Concerns in Persons Resettled as Refugees

Health professionals should be educated and trained in the effects of forced migration, as well as how to respond both domestically and internationally.\textsuperscript{13}—such education and training should begin in professional school and extend through continuing education. Along this line, the American Academy of Pediatrics lays out recommendations for child health professionals that could be reinterpeted and extended to non-pediatric providers as well.\textsuperscript{13} Such recommendations can be summarized as calling for trauma-informed training, active screening for trauma-related physical and mental health consequences, collaborating with other community entities that work with persons who are resettling,\textsuperscript{13} and being prepared to work in high-stress environments with adequate care resources for the providers as well, who may face secondary traumatic stress.\textsuperscript{104} Historically, some providers—namely psychologists and psychiatrists—have contributed to the development of “enhanced interrogation” and torture techniques\textsuperscript{105} that persons resettled as refugees may have previously experienced; this is an area that the field has still not yet fully come to terms and reckoned with. As an uncontrollable, likely inescapable, and potentially chronic stressor,\textsuperscript{105} the traumatic impact of torture may likely be greater than that of, for example, acute, escapable stressors.\textsuperscript{106} Severity of torture, compounded by post-migration difficulties and wait times to receive clinical services, is significantly associated with PTSD, anxiety, and depression.\textsuperscript{1} In order to adequately and authentically address the impact of the practice on survivors of torture, acknowledging and rectifying the contributions of psychiatry and psychology to the development of torture techniques is critical. This requires more than ambivalent statements,\textsuperscript{107} but rather developing a set of practice guidelines, apologies and acknowledgements, and an enforcement system to ensure that practitioners oppose and do not participate in torture\textsuperscript{108} for any reason—including revoking of licensure and removal from practice if involvement is identified.

A simplistic definition describes resilience as the ability to cope when faced with adversity. In the face of stress, trauma, and adversity, resilience and protective factors may prevent individuals from developing psychopathology, may dampen the severity of psychopathology, or may be enhanced to facilitate posttraumatic growth and recovery. Protective factors include interpersonal connection, school engagement, familial warmth, extrafamilial support, high parental education, high perceived SES, residential stability, and high emotional and instrumental support.\textsuperscript{106} Protective factors are associated with lower levels of stress, depression, and sleep difficulties as well as higher levels of executive functioning, locus of control, forgiveness, gratitude, familial closeness, and healthy food consumption.\textsuperscript{109} Resilience may also include personality traits, such as the ability to bounce back and positively adapt in the face of threat and challenge.\textsuperscript{110,111} In refugee groups, resilience is associated with reduced trauma-related psychopathology after controlling for migration status and violent exposure.\textsuperscript{112} Notably, when refugees lack social support—one protective factor—they are more likely to experience worse outcomes one year post resettlement.\textsuperscript{26,113} Additionally, one study of over 1500 adult Syrian refugees in Turkey found that more education was associated with greater posttraumatic growth.\textsuperscript{114} When addressing mental health concerns, resilience is a relevant factor to explore, in part to identify strategies and features that can be harnessed as interventions for those who display less resilience.

The support structure for persons resettling should be multi-faceted and multi-tiered. Primarily, basic needs should be continuously addressed, in order to allow room for posttraumatic growth and capacity to begin addressing mental health needs. Most refugees are forced to flee their homes rapidly and leave behind the majority of their personal belongings, money/assets, and social resources.\textsuperscript{115} Refugees may experience service needs yet may not receive the assistance needed to get those needs met.\textsuperscript{116} When needs are not met, this can contribute to psychological distress in conjunction with low self-esteem, other anxieties, and depression leading to acculturative stress.\textsuperscript{117} Through the assisted acquisition of housing,\textsuperscript{115} jobs, education, translation/language assistance services,\textsuperscript{118,119} and other resources—including financial support\textsuperscript{116,120}—resettlement agencies and case workers can build rapport and trust with families, laying the foundation for a long-lasting relationship upon which other programming can be added—host country language learning, cultural literacy, and mental health care. For youth, acquisition of fluency in the host country language may be one of the most important basic needs to meet to promote positive mental health.\textsuperscript{121} Secondarily, when addressing mental health in refugee groups, care should be taken to integrate members of the community in the research process, in participatory action or community-based participatory research models.\textsuperscript{122} Compared with ethnically matched non-refugee immigrants, Iraqi refugees—for example—show poorer responses to treatment for major psychiatric disorders,\textsuperscript{123} signaling a
need for greater resource allocation, listening to the wants and needs of community members, and possible adaptation of Western-centric therapeutic methods. In fact, when adaptation does occur to modify for language, culture, and context, the degree of adaptation is associated with higher intervention efficacy. One approach may be offering listening sessions and basic needs assessments, providing space for social support networks to form within refugees and between refugees and case managers, and finally after building a trusting relationship, bringing in mental health intervention programming based on what was learned in listening sessions, while basic needs are simultaneously being addressed. Of standard Western-centric treatments—cognitive behavioral therapy, narrative exposure therapy, and EMDR—data from a meta-analysis of 14 randomized controlled trials has indicated the strongest support for narrative exposure therapy with persons resettled as refugees and asylum seekers. Notably, one review has indicated that refugees may show reduced treatment response to exposure-based and pharmaceutical interventions compared to other trauma-exposed groups. Integration of practices like Sufi psychology—a method derived from Islamic Sufism—may be appropriate for enhancing the aforementioned psychotherapies with a component that could be culturally familiar for some groups, and may also build resilience.

Individuals and communities must not bear the burden of responsibility alone—broader health and societal systems must work towards the protection, advocacy, and care of persons who resettle as refugees. Again, the systemic calls to action from the American Academy of Pediatrics serve as a strong starting point and could be summarized as follows: 1) fund and support legislation to integrate health programming within community settings, including schools; 2) enforce laws protecting against kidnapping, forced labor, trafficking, and civilian harm in conflict zones and host countries; 3) work towards reunification of families and prohibit forced separation except in cases of abuse and neglect; 4) advance evidence-based research of interventions to promote health and well-being in refugee groups; and 5) consider and address the unique needs of disabled persons who experience forced displacement and migration.

There are three frameworks to consider mental health interventions for persons who resettle as refugees: prevention, treatment, and maintenance. Within the past decade, Betancourt (2013) reviewed interventions for youth affected by war from an ecological systems perspective. Of the 40 studies reviewed, most were school-based interventions. Such programs are well-suited for addressing larger volumes of resettled youth while simultaneously offering opportunities to build social support structures with peers. Lacking in the literature were family and community-based interventions, as well as preventative and maintenance approaches. Additionally, the authors emphasized that interventions for PTSD may not sufficiently address comorbidities, like anxiety and depression. Increasing the diversity, evidence base, availability, sustainability, and cost-effectiveness of family-based intervention programs at all levels—prevention, maintenance, and treatment—for those who resettle as refugees is necessary. Addressing mental health across familial systems may be especially important, given that mental health symptoms are often correlated among family members, therefore addressing only one member of the family in the therapeutic space may not be sufficient. Recently, Kaptan et al published a protocol (Online Learning through Play and EMDR Group Traumatic Episode Protocol—LTP + EMDR G-TEP) for a feasibility trial of an online, group parenting intervention for parent refugee and asylum seekers, which may serve as a promising model for dyadic treatment.

Guided by the principles of immediate and midterm mass trauma interventions, therapeutic offerings for resettled groups should promote a sense of safety, be calming, promote self and community efficacy, foster connectedness, and instill hope. Critically, these goals may be challenged by continued exposure to violence and danger before and during migration, as well as discrimination and harassment post-migration. In fact, while in one sample of Iraqi refugees pre or post-displacement trauma alone did not predict rates of unemployment, the interaction between pre- and post-displacement trauma did, signaling that compounding trauma may lead to demoralization, psychiatric disability, or otherwise disrupt the ability to gain and retain employment. Additionally, perceived discrimination has been associated with poorer self-reported health and depression in both refugees and immigrants. Here, individuals in host countries—especially educators, clinicians, and employers who may interact with resettled groups—have a personal responsibility to examine and acknowledge one’s own implicit biases, racial and discriminatory beliefs, and actively work towards equity and inclusion. Such individuals—clinicians in particular—should recognize that Western-centric treatment methods may not be culturally appropriate in all cases and that a fusion of Western approaches with cultural traditions and rituals, or a focus on strengthening cultural connections, may be more suitable. For example, in some groups body-centric rituals...
facilitate restoration and social integration, storytelling, music, dancing, artmaking, and other cultural customs allow individuals to share their stories, expression emotions, and build connection while healing from trauma and related psychopathology. Intervention does not have to wait until the resettlement phase. Various groups have demonstrated feasibility and efficacy of eye movement desensitization and reprocessing (EMDR), art therapy, narrative theater, and other methods—some even delivered by fellow community members—for addressing mental health problems in adults and youth within refugee camps. Importantly, one study of Syrian refugees indicated camp-related problems contributing to psychosocial stress and impaired well-being, and therefore within-camp interventions may serve a dual purpose to address contextual factors influencing well-being, as well as to confer stress coping skills prior to resettlement. Scalable psychological interventions to reduce distress and improve functioning that can be delivered through smartphones or face-to-face by lay non-professionals also have the opportunity for usage both within refugee camps and in host countries. Examples developed by the World Health Organization include Problem Management Plus (PM+), its variants, and Self-Help Plus (SH+), with implementation protocols for RCTs available.

Mind-body interventions have shown promise in both adults and youth as a form of preventive community intervention, early intervention following trauma exposure or in disease prodromal phase, treatment for those endorsing less severe psychopathology or refusing other treatments, and adjunctive treatment in more severe cases. Such interventions can be leveraged for refugee populations as well, with previous successful models that can be implemented at community centers in partnership with resettlement agencies, in schools led by teachers themselves, and even virtually. Mind-body interventions like mindfulness, dance/movement therapy, art therapy, and yoga may provide skills to reduce hyperarousal and hypervigilance, and help cope with re-experiencing. Moderate aerobic exercise interventions may benefit persons resettling as refugees, in that such modalities confer to the opportunity to recover deficits in brain volume and function related to stress and depression, as well as reverse negative structural and functional effects of inflammation on the brain. Exercise-based interventions may be especially ideal for persons resettling as refugees, who may experience increases in BMI and hypertension following resettlement, coincident with stress, depression, and acculturation. These mind-body and exercise-based modalities could also help address the somatic distress that many persons resettling as refugees experience and that contributes to worsened depression, anxiety, and PTSD as well as blunted posttraumatic growth. Interventions that also address acculturation may be of benefit to both physical and mental health. 

Kumar, Soffer, and Begg offer an exemplary set of recommendations for providers working with persons resettled as refugees using movement-based and body-focused interventions.

The experiences persons resettled as refugees face are just as diverse as the individuals themselves. One person or group of refugees is not a monolith, and what is learned from one population or what works for one group may not generalize to another. It is clear that a “one size fits all” model cannot be applied to understand mental health concerns nor their treatment. In the context of intervention, it is important to recognize that the methods described above may work for some but not others, and the continual development and testing of novel therapeutics enriches the treatment toolkit to better meet the heterogeneous needs of persons experiencing mental health problems.

Call to Action: How to Address Mental Health in Persons Resettled as Refugees Across Ecological Systems

The question posed in the title of this review—is we doing enough to address refugee mental health—is one that cannot be answered by a sole author or paper, but rather is a question that every person engaged in mental health research, care, advocacy, legislation, funding, etc. must ask themselves. This is because the forces that drive displacement—war, famine, disaster, persecution—affect not just individuals but also families, societies, economic structures, and political systems. When resources at all levels are strengthened, people who resettle as refugees can experience more positive outcomes, including positive mental health outcomes. People who resettle as refugees deserve representational systems and research. Despite the high prevalence of mental health problems in persons who resettle as refugees—due to trauma exposure, post-migration difficulties, language barriers, acculturative stress, and a number of other structural
factors—the majority of refugees do not receive the treatment they need. An NIH RePORTER [28 December 2021] search using the term “refugees” yields only 58 active projects, yet just over 2 million refugees have resettled in the United States since 1990. This limited body of research surely cannot adequately capture the experiences of over 2 million individuals from nations all throughout the world. Advancing the quality and quantity of refugee mental health research can begin to be addressed by prioritizing such topics as part of the NIH’s Strategic Plan. Currently, there is no mention of refugee-related foci in the FY 2021–2025 Plan, however this could be envisioned within the overarching themes of “diversity”, “improving … minority health”, and “reducing health disparities”. Building and enhancing research in refugee mental health could also be bolstered by Program Announcements with Set-Aside Funds (PAS) focused on this topic, along with Requests for Applications (RFA) and Program Announcements Reviewed by an Institution (PAR) from the NIH. Additionally, other funding agencies may take similar action, including the National Science Foundation (NSF) and community-based organizations that may facilitate specifically targeted participatory action research. Continued congressional support of the Office of Refugee Resettlement will also allow for state-level resources to support refugee health—not just through health and mental health services, but also through the additional guiding principles of the ORR: appropriation placement and services, client-centered case management, outreach, and data-informed decision-making. From a legal perspective, host countries must establish, maintain, and improve legal systems that enable refugees to access quality and affordable healthcare, safe housing (note that due to limited budgets, many families are placed into housing in areas with high levels of poverty and violence, not conducive to promoting positive mental health), protection from retaliation, and continued social services. This is especially critical in places where refugees, namely children, may be vulnerable to not only physical and mental health problems but also violence, child labor, and child marriage. Host countries must also make efforts towards increasing government mental health budgets—across seven Arab countries, for example, spending on mental health makes up as little as 2–5% of total health spending, and in some Middle Eastern countries, such spending is mainly directed towards services for severe mental disorders. Free mental health care facility access for persons resettled as refugees in Jordan and Turkey serves as a hopeful model for other nations that welcome refugees. In the United States, greater investment into the training of psychiatrists, psychologists, social workers, and other mental health workers is necessary, given that the mental health provider shortage affects 124 million Americans alone (more than primary care and dental shortages). This, of course, does not reflect the additional needs for mental health providers who specialize in trauma-informed care (and psychosocial interventions with trauma-focused components seem to be supported by a robust evidence body for reducing PTSD and depression in refugees), are multi-lingual, and are culturally competent. There is still more work to be done.

Conclusion

Colonialism represents a societal system that has had extensive cultural effects on communities and individuals as a “cultural project of control.” Scholars have struggled to orthogonally define colonialism and imperialism, which are conceptually similar in that political and economic control is exerted over a dependent territory, with domination leading to the subjugation of one person to another. Settler colonialism has resulted in the removal of indigenous peoples from their land and has been perpetuated by global conflict—leading to the displacement of thousands of people annually. In the discussion of refugee mental health, it is critical to recognize that settler colonialism has driven a large proportion of conflicts leading to forced displacement—one example being the most recent US-Iraq conflict, which can be, in part, linked to the more than 50,000 Iraqi refugees who resettled in the US between 2008 and 2010 alone, representing 25% of all refugees arriving in the US during that time period. Living as a refugee in a society that has, in part, contributed to forced displacement may surely confer a great deal of distress. This may be experienced in the form of discrimination, harassment, microaggressions, and racial trauma, as well as structural features related to housing, healthcare, education, and employment that serve the majority group while oppressing minority groups. Importantly, global efforts towards eliminating the root causes that drive forced displacement is the ultimate goal. While such a goal may sound near impossible to achieve, when each individual strives to bring about positive change within their own spheres and systems, this ripple effect can spread and lead to transformation. Despite the challenges they have faced, persons who resettle as refugees are incredibly resilient. They bring perspectives and abilities that have not only enriched the communities
they have previously been part of but also continue to enrich the communities they resettle in. Regardless of these contributions, they are our fellow human beings, and therefore they deserve to be afforded every right, opportunity, dignity, and respect.

**Funding**
Grant number: F31MH120927 (PI: Grasser).

**Disclosure**
Dr. Lana Ruvolo Grasser reports grants from the National Institute of Mental Health, during the conduct of the study. The author reports no other conflicts of interest in this work.

**References**

1. Abu Sulhaiban H, Grasser LR, Javanbakht A. Mental health of refugees and torture survivors: a critical review of prevalence, predictors, and integrated care. *Int J Environ Res Public Health*. 2019;16(13):2309. doi:10.3390/ijerph16132309
2. Hollifield M, Fulfillove MT, Hobfoll SE. Climate change refugees. In: Weissbecker I, editor. *Climate Change and Human Well-Being: Global Challenges and Opportunities*. Springer New York; 2011:135–162.
3. UN Refugee Agency. Global trends forced displacement in 2020. Flagship Reports; 2020.
4. Kroening AL, Dawson-Hahn E. Health considerations for immigrant and refugee children. *Adv Pediatr*. 2019;66:87–110. doi:10.1016/j.yapid.2019.04.003
5. Bronfenbrenner U. *The Ecology of Human Development: Experiments by Nature and Design*. Harvard university press; 1979.
6. Internally displaced people. The United Nations Refugee Agency; 2021.
7. Refugees, Asylum-Seekers, and Migrants. Amnesty International; 2021.
8. Ludwig B. “Wiping the refugee dust from my feet”: advantages and burdens of refugee status and the refugee label. *Int Migr*. 2016;54(1):5–18.
9. Kim W, Kim I, Lin L, Baltimore K, Lin L. Social determinants of mental health among Karen refugees from Burma. *Community Ment Health J*. 2021. doi:10.1007/s10597-021-00880-z
10. Tinghög P, Malm A, Arwidson C, Sigvardsdotter E, Lundin A, Saboonychi F. Prevalence of mental ill health, traumas and postmigration stress among refugees from Syria resettled in Sweden after 2011: a population-based survey. *BMJ Open*. 2017;7(2):e018899. doi:10.1136/bmjopen-2017-018899
11. Georgiadou E, Zbidat A, Schmitt GM, Erim Y. Prevalence of mental distress among Syrian refugees with residence permission in Germany: a registry-based study. *Front Psychiatry*. 2018;9:393. doi:10.3389/fpsyg.2018.00393
12. Shonuda S, Kadir A, Pitterman S, et al. The effects of armed conflict on children. *Pediatrics*. 2018;142(6). doi:10.1542/peds.2018-2585.
13. Mitchell T, Jentes E, Ortega L, et al. Lead poisoning in United States-bound refugee children: Thailand-Burma border, 2009. *Pediatrics*. 2012;129(2):e392–9. doi:10.1542/peds.2011-1218
14. Gushulak BD, MacPherson DW. The basic principles of migration health: population mobility and gaps in disease prevalence. *Emerg Themes Epidemiol*. 2006;3(1). doi:10.1186/1742-7623-3-3
15. Polonsky JA, Ronsse A, Ciglenecki I, Rull M, Porten K. High levels of mortality, malnutrition, and measles, among recently-displaced Somali refugees in Dagahaley camp, Dadaab refugee camp complex, Kenya, 2011. *Confl Health*. 2017;3(1):1. doi:10.1186/s10597-1505-7-1
16. Dawson-Hahn EE, Pak-Gorstein S, Hoopes AJ, Matheson J. Comparison of the nutritional status of overseas refugee children with low income children in Washington state. *PLoS One*. 2016;11(1):e0147854. doi:10.1371/journal.pone.0147854
17. Perreira-Seawright K, Wickramage K, Yen C, Dawson-Hahn E, Mitchell T, Zenger D. Nutritional profile of Syrian refugee children before resettlement. *Confl Health*. 2019;13(1):22. doi:10.1186/s13331-019-0208-y
18. Verme P, Gigliarano C, Wieser C, Hedlund K, Petzoldt M, Santacroce M. The Welfare of Syrian Refugees: Evidence from Jordan and Lebanon. World Bank Publications; 2015.
19. El-Khatib Z, Scales D, Vearey J, Forsberg BC. Syrian refugees, between rocky crisis in Syria and hard inaccessibility to healthcare services in Lebanon and Jordan. *Confl Health*. 2013;7(1):1–3. doi:10.1186/1752-1505-7-18
20. Betancourt TS, Meyers-Ohki MSE, Charrow MAP, Tol WA. Interventions for children affected by war: an ecological perspective on psychosocial support and mental health care. *Harv Rev Psychiatry*. 2013;21(2):70. doi:10.1097/HRP.0b013e318283bf8f
21. Wong EC, Marshall GN, Schell TL, Elliott MN, Babey SH, Hambarsoomians K. The unusually poor physical health status of Cambodian refugees two decades after resettlement. *J Immigr Minor Health*. 2011;13(5):876–882. doi:10.1007/s10903-010-9392-y
22. Jen KLC, Zhou K, Arnetz B, Jamil H. Pre- and post-displacement stressors and body weight development in Iraqi refugees in Michigan. *Confl Health*. 2015;17(4):1468–1475. doi:10.1186/s13331-014-0127-3
23. Wright AM, Alhalmi A, Lumley MA, et al. Determinants of resource needs and utilization among refugees over time. *Soc Psychiatry Psychiatr Epidemiol*. 2016;51(4):539–549. doi:10.1007/s00127-015-1121-3
24. Hollifield M, Warner TD, Lian N, et al. Measuring trauma and health status in refugees. A critical review. *JAMA*. 2002;288(5):611–621. doi:10.1001/jama.288.5.611
25. Acarturk C, McGrath M, Roberts B, et al. Prevalence and predictors of common mental disorders among Syrian refugees in Istanbul, Turkey: a cross-sectional study. *Soc Psychiatry Psychiatr Epidemiol*. 2021;56(3):475–484. doi:10.1007/s00127-020-01941-6
26. Acarturk C, Cetinkaya M, Senay I, Guler B, Aker T, Hinton D. Prevalence and predictors of posttraumatic stress and depression symptoms among Syrian refugees in a refugee camp. *J Nerv Ment Dis*. 2018;206(1):40–45. doi:10.1097/NMD.0000000000000693
28. Grasser LR, Javanbakht A. Treatments of posttraumatic stress disorder in civilian populations. Curr Psychiatry Rep. 2019;21(2):11. doi:10.1007/s11920-019-0994-3
29. Arnetz BB, Sudan S, Arnetz JE, et al. Dysfunctional neuroplasticity in newly arrived Middle Eastern refugees in the U.S.: association with environmental exposures and mental health symptoms. PLoS One. 2020;15(3):e0230030. doi:10.1371/journal.pone.0230030
30. Hassan G, Venteovgel P, Jeebe-Bahloul H, Barkil-Oteo A, Kirmayer LJ. Mental health and psychosocial wellbeing of Syrians affected by armed conflict. Epidemiol Psychiatr Sci. 2016;25(2):129–141. doi:10.1017/S2045796016000044
31. Hijazi Z, Weissbecker I. Syria crisis: addressing regional mental health needs and gaps in the context of the Syria crisis. Washington: International Medical Corps; 2015.
32. Pezzi C, Lee D, Kumar GS, et al. Health screenings administered during the domestic medical examination of refugees and other eligible immigrants in nine US states, 2014–2016: a cross-sectional analysis. PLoS Med. 2020;17(3):e1003065. doi:10.1371/journal.pmed.1003065
33. Johnson-Agbakwu CE, Allen J, Nizigiyimana JF, Ramirez G, Hollifield M. Mental health screening among newly arrived refugees seeking routine obstetric and gynecologic care. Psychol Serv. 2014;11(4):470. doi:10.1037/a0036400
34. Mishori R, Aleinkoff S, Davis DM. Primary care for refugees: challenges and opportunities. Am Fam Physician. 2017;96(2):112–120.
35. Ovitt N, Larrison CR, Nackerud L. Refugees’ responses to mental health screening: a resettlement initiative. Int Soc Work. 2003;46(2):235–250. doi:10.1177/0020872803046002008
36. Shoeb M, Weinstein H, Mollica R. The Harvard Trauma Questionnaire: a cross-cultural instrument for measuring torture, trauma and posttraumatic stress disorder in Iraqi refugees. Int J Soc Psychiatry. 2007;53(5):447–463. doi:10.1080/00208720701778362
37. 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(2):111–116. doi:10.1097/00005053-199202000-00008
38. Rasmussen A, Verkuilen J, Ho E, Fan Y. Posttraumatic stress disorder among refugees: measurement invariance of Harvard Trauma Questionnaire scores across global regions and response patterns. Psychol Assess. 2015;27(4):1160. doi:10.1037/pas0000115
39. Kleijn W, Hovens J, Rodenberg J. Posttraumatic stress symptoms in refugees: assessments with the Harvard Trauma Questionnaire and the Hopkins Symptom Checklist–25 in different languages. Psychol Rep. 2001;88(2):527–532. doi:10.2466/pr0.2001.88.2.527
40. Vindbjerg E, Carlsson J, Mortensen EL, Makransky G, Nielsen T. A Rasch-based validity study of the Harvard Trauma Questionnaire. J Affect Disord. 2020;277:697–705. doi:10.1016/j.jad.2020.08.071
41. Oruc L, Kapetanovic A, Juskojic N, et al. Screening for PTSD and depression in Bosnia And Herzegovina: validating the Harvard Trauma Questionnaire and the Hopkins Symptom Checklist. Int J Cult Psychiatry. 2008;12(2):105–116. doi:10.1080/175479608018456620
42. de Fouchier C, Blanchet A, Hopkins W, Bui E, Ait-Aoudia M, Jehel L. Validation of a French adaptation of the Harvard Trauma Questionnaire among torture survivors from sub-Saharan African countries. Eur J Psychotraumatol. 2012;3(1):1922S. doi:10.3402/ejpt.v3i0.1922S
43. Lhewa D, Banu S, Rosenfeld B, Keller A. Validation of a Tibetan translation of the Hopkins symptom checklist–25 and the Harvard trauma and post-migration stressors. Int J Soc Psychiatry. 2014;60(5):323–330. doi:10.1177/0020872813509995
44. Hollifield M, Warner TD, Jenkins J, et al. Assessing war trauma in refugees: properties of the comprehensive trauma inventory-104. J Trauma Stress Stud. 2006;9(4):527–540. doi:10.1002/jts.20137
45. Hollifield M, Eckert V, Warner TD, et al. Development of an inventory for measuring war-related events in refugees. Compr Psychiatry. 2005;46(1):67–80. doi:10.1016/j.comppsych.2004.07.003
46. Sigvardsdottjer E, Malm A, Tinghög P, Væz M, Saboonchi F. Refugee trauma measurement: a review of existing checklists. Public Health Rev. 2016;37(1):10. doi:10.1186/s40985-016-0024-5
47. Silove D, Sinnerbrink I, Field A, Manicavasagar V, Steel Z. Anxiety, depression and PTSD in asylum-seekers: associations with pre-migration trauma and post-migration stressors. Br J Psychiatry. 1997;170(4):351–357. doi:10.1192/bjp.170.4.351
48. Silove D, Steel Z, McGorry P, Hogan P. Trauma exposure, postmigration stressors, and symptoms of anxiety, depression and post-traumatic stress in Tamil asylum seekers: comparison with refugees and immigrants. Acta Psychiatr Scand. 1998;97(3):175–181. doi:10.1111/j.1600-0447.1998.tb09984.x
49. Arnetz BB, Broadbridge CL, Jamil H, et al. Specific trauma subtypes improve the predictive validity of the Harvard Trauma Questionnaire in Iraqi refugees. J Immigr Minor Health. 2014;16(6):1055–1061. doi:10.1007/s10903-014-9995-9
50. Javanbakht A, Amirsadri A, Abu Suhaihaan H, et al. Prevalence of possible mental disorders in Syrian refugees resettling in the United States screened at primary care. J Immigr Minor Health. 2019;21(3):646–667. doi:10.1007/s10903-018-0797-3
51. Al-Turkait FA, Ohaeri JU, El-Abbasi AH, Naguy A. Relationship between symptoms of anxiety and depression in a sample of Arab college students using the Hopkins symptom checklist 25. Int J Psychopathol. 2011;14(4):230–241. doi:10.1159/000322797
52. Ventevogel P, De Vries G, Schofte W, et al. Properties of the Hopkins Symptom Checklist-25 (HSCL-25) and the Self-Reporting Questionnaire (SRQ-20) as screening instruments used in primary care in Afghanistan. Soc Psychiatry Psychiatr Epidemiol. 2007;42(4):328–335. doi:10.1007/s00127-007-0161-8
53. Horowitz M, Wilner N, Alvarez W. Impact of Event Scale: a measure of subjective stress. Psychosom Med. 1979;41(3):209–218. doi:10.1097/00006842-197905000-00004
54. Tavane PN, Raghuveer HP, Kumar RD, Shobha ES, Rangan V, Dutt CS. Validation of a Kannada version of the Impact of Events Scale (IES). J Int Oral Health. 2013;5(5):38–47
55. Hollifield M, Verhulst-Kolp S, Farmer B, et al. The Refugee Health Screener-15 (RHS-15): development and an instrument for anxiety, depression, and PTSD in refugees. Gen Hosp Psychiatry. 2013;35(2):202–209. doi:10.1016/j.genhosppsych.2012.12.002
56. Leiter A, Hollifield M, Wasteson E, Bjärtä A. Suicidal ideation and severity of distress among refugees residing in asylum accommodations in Sweden. Int J Environ Res Public Health. 2019;16(15):2751. doi:10.3390/ijerph16152751
57. Grasser LR, Burghardt P, Daugherty AM, Amirsadri A, Javanbakht A. Inflammation and trauma-related psychopathology in Syrian and Iraqi refugees. Behav Sci. 2020;10(4):75. doi:10.3390/bs1004007
58. Javanbakht A, Grasser LR, Kim S, Arfken CL, Nugent N. Perceived health, adversity, and posttraumatic stress disorder in Syrian and Iraqi refugees. Int J Soc Psychiatry. 2020;66:118–128.
59. Segerer N, Hameed S, Acarturk C, et al. Prevalence of common mental disorders among Syrian refugee children and adolescents in Sultanbeyli district, Istanbul: results of a population-based survey. Epidemiol Psychiatr Sci. 2020;29:e192. doi:10.1017/S20457960200001079
60. Feen-Calligan H, Ruvolet Grasser L, Debrun J, et al. Art therapy with Syrian refugee youth in the United States: an intervention study. *Arts Psychother.* 2020;69:101665. doi:10.1016/j.ap.2020.101665

61. Grasser LR, Al-Saghir H, Wannam C, Spinei J, Javanbakht A. Moving through the trauma: dance/movement therapy as a somatic-based intervention for addressing trauma and stress among Syrian refugee children. *J Am Acad Child Adolesc Psychiatry.* 2019;58(11):1124–1126.

62. Grasser LR, Haddad L, Manji S, Assari S, Arfken C, Javanbakht A. Trauma-related psychopathology in Iraqi refugee youth resettled in the United States, and comparison with an ethnically similar refugee sample: a cross-sectional study. *Front Psychol.* 2021;12:704.

63. Javanbakht A, Rosenberg D, Haddad L, Arfken CL. Mental Health in Syrian refugee children resettling in the United States: war trauma, migration, and the role of parental stress. *J Am Acad Child Adolesc Psychiatry.* 2018;57(3):209–211. e2.

64. Ibrahim H, Catani C, Neuner F. The posttraumatic stress interview for children (KID-PIN): development and validation of a semi-structured interview of PTSD symptoms among displaced children in the Middle East. *Peer J.* 2021;9:e2403. doi:10.7717/peerj.12403

65. Rhema SH, Verbilis-Kolp S, Gray A, Farmer B, Hollifield M. Mental health screening. In: *Refugee Health Care.* Springer; 2020:215–227.

66. Terpou BA, Harricharan S, McKinnon MC, Frewen P, Jetly R, Lanius RA. The effects of trauma on brain and body: a unifying role for the midbrain periaqueductal gray. *J Neurosci Res.* 2019;97(9):1110–1140. doi:10.1002/jnr.24447

67. Priebe S, Matanov A, Jankovic Gavrilovic J, et al. Consequences of untreated posttraumatic stress disorder following war in former Yugoslavia: morbidity, subjective quality of life, and care costs. *Croat Med J.* 2009;50(5):465–475.

68. Hollifield M, Katon W, Skipper B, et al. Panic disorder and quality of life: variables predictive of functional impairment. *Am J Psychiatry.* 1997;154(6):766–772.

69. Elsouhag D, Arnetz B, Jamil H, Lumley MA, Broadbridge CL, Arnetz J. Factors associated with healthcare utilization among Arab immigrants and Iraqi refugees. *J Immigr Minor Health.* 2015;17(5):1305–1312. doi:10.1007/s10903-014-0119-3

70. Erickson CD, Al-Timimi NR. Providing mental health services to Arab Americans: recommendations and considerations. *Cultur Divers Ethnic Minor Psychol.* 2001;7(4):308.

71. Laban CJ, Gernaat HB, Kompree IH, De Jong JT. Prevalence and predictors of health service use among Iraqi asylum seekers in the Netherlands. *Soc Psychiatry Psychiatr Epidemiol.* 2007;42(10):837–844.

72. Lamkadem M, Strons K, Deville WD, Olff M, Gerritsen AA, Essink-Bot ML. Course of post-traumatic stress disorder and health care utilisation among resettled refugees in the Netherlands. *BMC Psychiatry.* 2014;14(1):1–7.

73. Bischoff A, Bovier PA, Isah R, Françoise G, Ariel E, Louis L. Language barriers between nurses and asylum seekers: their impact on symptom reporting and referral. *Soc Sci Med.* 2005;57(3):503–512.

74. Sijbrandij M, Acarturk C, Bird M, et al. Strengthening mental health care systems for Syrian refugees in Europe and the Middle East: integrating scalable psychological interventions in eight countries. *Eur J Psychotraumatol.* 2017;8(sup2):1388102. doi:10.1080/20008198.2017.1388102

75. Nugent NR, Javanbakht A. Physical health in refugee and asylum-seeking populations: the importance of psychological functioning. *The Brown University Child and Adolescent Behavior Letter.* 2019;35(9):1–7.

76. Jensen NK, Norredam M, Priebe S, Krasnik A. How do general practitioners experience providing care to refugees with mental health problems? A qualitative study from Denmark. *BMC Fam Pract.* 2013;14(1):1–9.

77. Schick M, Zumwald A, Knöpfli B, et al. Challenging future, challenging past: the relationship of social integration and psychological morbidity, subjective quality of life, and care costs. *Croat Med J.* 2009;50(5):465–475.

78. Ritsner M, Ponizovsky A. Psychological distress through immigration: the two-phase temporal pattern? *Int J Soc Psychiatry.* 1999;45(2):125–139. doi:10.1177/002076409904500205

79. Westermeyer J, Shiroma P, Thuras P, Kattar K, Johnson D, Crosby RD. Daily versus monthly reporting of post-traumatic symptoms: a study of reliability across time and instruments. *Psychiatry Res.* 2015;227(2):309–312. doi:10.1016/j.psychres.2015.03.017

80. Lenferink LIM, Liddell BJ, Byrow Y, et al. Course and predictors of posttraumatic stress and depression longitudinal symptom profiles in refugees: a latent transition model. *J Psychiatr Res.* 2022;166:1–10. doi:10.1016/j.jpsychires.2021.12.009

81. Hollifield M, Warner TD, Krakow B, Westermeyer J. Mental health effects of stress over the life span of refugees. *J Clin Med.* 2018;7(2):25.

82. Hollifield M, Toolson EC, Verbilis-Kolp S, et al. Distress and resilience in resettled refugees of war: implications for screening. *Int J Environ Res Public Health.* 2021;18(3):1238.

83. Javanbakht A, Stenson A, Nugent N, Smith A, Rosenberg D, Jovanovic T. Biological and environmental factors affecting risk and resilience among Syrian refugee children. *J Psychiatr Brain Sci.* 2021;6. doi:10.20900/jpbs.20210003.

84. Cartwright K, El-Khani A, Subryan A, Calam R. Establishing the feasibility of assessing the mental health of children exposed to war: a systematic review of 7200 children. *Med Confi Surv.* 2009;25(1):1–9.

85. Montgomery E. Long-term effects of organized violence on young Middle Eastern refugees’ mental health. *Soc Sci Med.* 2008;67(10):1596–1603.

86. Fazel M, Wheeler J, Danesh J. Prevalence of serious mental disorder in 7000 refugees resettled in western countries: a systematic review. *Lancet.* 2002;359(9267):1309–1314. doi:10.1016/S0140-6736(05)61027-6

87. Ceri V, Ozlu-Erkilic Z, Ozer U, Yalcin M, Popow C, Akkayya-Kalayci T. Psychiatric symptoms and disorders among Yazidi children and adolescents immediately after forced migration following ISIS attacks [Psychiatrische Symptome und Storungen bei jesidischen Kindern und Jugendlichen unmittelbar nach erzwungener Migration infolge von IS-Angriffen]. *Neuropsychiatr.* 2016;30(3):145–150. doi:10.1007/s40211-016-0195-9

88. Nasiroglu S, Ceri V. Posttraumatic stress disorder and depression in Yazidi refugees. *Neuropsychiatr Dis Treat.* 2016;12:2941–2948. doi:10.2147/NDT.S119506
93. Soykoek S, Mall V, Nehring I, Henningsen P, Aberl S. Post-traumatic stress disorder in Syrian children of a German refugee camp. *Lancet*. 2017;389(10072):903–904. doi:10.1016/S0140-6736(17)30595-0

94. Ramadan M, Kheirallah K, Saleh T, Bellizzi S, Shorman E. The relationship between spirituality and post-traumatic stress symptoms in Syrian adolescents in Jordan. *J Child Adolesc Trauma*. 2021. doi:10.1007/s40653-021-00401-w

95. Kovess-Masfety V, Husky M, Pitrou I, et al. Differential impact of parental region of birth on negative parenting behavior and its effects on child mental health: results from a large sample of 6 to 11 year old school children in France. *BMC Psychiatry*. 2016;16(1):1–11.

96. Hasanović M, Sinanović O, Selimbašić Z, Pajević I, Avdibegović E. Psychological disturbances of war-traumatized children from different foster and family settings in Bosnia and Herzegovina. * Croat Med J.* 2006;47(1):85–94.

97. 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(7):723–732.

98. Zerrougui L. Annual report of the special representative of the secretary-general for children and armed conflict. United Nations General Assembly; 2014.

99. Lufty C, Cookson ST, Talley L, Rochat R. Malnourished children in refugee camps and lack of connection with services after US resettlement. *J Immigr Minor Health*. 2014;16(5):1016–1022. doi:10.1007/s10903-013-9796-6

100. Bahwere P. Severe acute malnutrition during emergencies: burden management, and gaps. *Food Nutr Bull*. 2014;35(2 Suppl):S47–51. doi:10.1177/15648265140352s107

101. Sahin E, Dagli TE, Acarturk C, Sahin Dagli F. Vulnerabilities of Syrian refugee children in Turkey and actions taken for prevention and management in terms of health and wellbeing. *Child Abuse Negl*. 2021;119(Pt 1):104628. doi:10.1016/j.chiabu.2020.104628

102. Costanza R, Fioramonti L, Kubiszewski I. The UN sustainable development goals and the dynamics of well-being. *Front Ecol Environ*. 2016;14(2):59. doi:10.1002/fee.1231

103. UNICEF. Convention on the rights of the Child; 1989.

104. Akinsulure-Smith AM, Espinosa A, Chu T, Hallock R. Secondary traumatic stress and burnout among refugee resettlement workers: the role of coping and emotional intelligence. *J Trauma Stress*. 2018;31(2):202–212. doi:10.1007/jts.22279

105. El-Khoury J, Haidar R, Barkil-Oteo A. Psychological torture: characteristics and impact on mental health. *Int J Soc Psychiatry*. 2021;67(5):500–506. doi:10.1177/0020764020961800

106. Başoğlu M, Livanou M, Crnobarić C. Torture vs other cruel, inhuman, and degrading treatment: is the distinction real or apparent? *Arch Gen Psychiatry*. 2007;64(3):277–285. doi:10.1001/archpsyc.64.3.277

107. Association AP. Presidential task force on psychological ethics and national security (2005, June). Report of the American Psychological Association Presidential Task Force on Psychological Ethics and National Security; 2006.

108. Torture, coercive interrogations and physicians. American Medical Association; 2021.

109. Crandall A, Miller JR, Cheung A, et al. ACEs and counter-ACEs: how positive and negative childhood experiences influence adult health. *ACEs and counter-ACEs: how positive and negative childhood experiences influence adult health. Child Abuse Negl*. 2019;96:104089. doi:10.1016/j.chiabu.2019.104089

110. Edward K-L, Warelow P. Resilience: when coping is emotionally intelligent. *J Am Psychiatr Nurses Assoc*. 2005;11(2):101–102. doi:10.1177/107893050277526

111. Hoge EA, Austin ED, Pollack MH. Resilience: research evidence and conceptual considerations for posttraumatic stress disorder. *Depress Anxiety*. 2007;24(2):139–152. doi:10.1002/da.20175

112. Arnetz J, Rofa Y, Arnetz B, Ventimiglia M, Jamil H. Resilience as a protective factor against the development of psychopathology among refugees. *J Nerv Ment Dis*. 2013;201(3):167–172. doi:10.1097/NMD.0b013e3182826f8e

113. LeMaster JW, Broadbridge CL, Lumley MA, et al. Acculturation and post-migration psychological symptoms among Iraqi refugees: a path analysis. *Am J Orthopsychiatry*. 2018;88(1):38–47. doi:10.1002/ora.2000240

114. Wen K, McGrath M, Acarturk C, et al. Post-traumatic growth and its predictors among Syrian refugees in Istanbul: a mental health population survey. *J Migr Health*. 2020;2:1. doi:10.1007/j.mjh.2020.100010

115. Yako RM, Bisswas B. “We came to this country for the future of our children. We have no future”: acculturative stress among Iraqi refugees in the United States. *J Int Jicult Relat*. 2014;38:133–141. doi:10.1017/jijril.2013.08.003

116. Choi S, Davis C, Cummings S, Van Regenmorter C, Barnett M. Understanding service needs and service utilization among older Kurdish refugees and immigrants in the USA. *Int Soc Work*. 2015;58(1):63–74. doi:10.1177/0020872814517694

117. Tartakovsky E. A longitudinal study of acculturative stress and homesickness: high-school adolescents immigrating from Russia and Ukraine to Israel without parents. *Soc Psychiatry Psychiatr Epidemiol*. 2007;42(6):485–494. doi:10.1007/s00127-006-0184-1

118. Taylor EM, Yanni EA, Pezzi C, et al. Physical and mental health status of Iraqi refugees resettled in the United States. *J Immigr Minor Health*. 2014;16(6):1130–1137. doi:10.1007/s10903-013-9893-6

119. Morris MD, Popper ST, Rodwell TC, Brodine SK, Brouwer KC. Healthcare barriers of refugees post-resettlement. *J Community Health*. 2009;34(6):529–538. doi:10.1007/s10900-009-9175-3

120. Nielsen SS, Jensen NK, Kreiner S, Norredam M, Krasnik A. Utilisation of psychiatrists and psychologists in private practice among non-Western labour immigrants, immigrants from refugee-generating countries and ethnic Danes: the role of mental health status. *Soc Psychiatry Psychiatr Epidemiol*. 2015;50(1):67–76. doi:10.1007/s00127-014-0916-y

121. Trinh VV, Nugent N. Tutoring and enrichment for refugee youth at BRYTE. *Brown Univ Child Adolesc Behav Lett*. 2017;35(2):1–6. doi:10.1002/cbl.30187

122. Buchanan NT, Perez M, Prinstein M, Thurston I. Upending racism in psychological science: strategies to change how our science is conducted, reported, reviewed & disseminated; 2020.

123. Jamil H, Ventimiglia M, Makki H, Arnetz BB. Mental health and treatment response among Iraqi refugees as compared to other non-war exposed Arab immigrants: a pilot study in Afghanistan. *J Immigr Refug Stud*. 2010;8(4):431–444. doi:10.1080/15562948.2010.522470

124. Shehadeh MH, Heim E, Chowdhary N, Maercker A, Albanese E. Cultural adaptation of minimally guided interventions for common mental disorders: a systematic review and meta-analysis. *JMIR ment health*. 2016;3(3):e5776.

125. Nosé M, Ballate F, Bighelli I, et al. Psychosocial interventions for post-traumatic stress disorder in refugees and asylum seekers resettled in high-income countries: systematic review and meta-analysis. *PLoS One*. 2017;12(2):e0171030. doi:10.1371/journal.pone.0171030
126. Bozorgzadeh S, Grasser LR. The integration of the heart-centered paradigm of Sufi psychology in contemporary psychotherapy practice. *Psychotherapy*, 2021. doi:10.1037/pst0000014

127. De Jong T. *Trauma, War, and Violence: Public Mental Health in Socio-Cultural Context*. Springer Science & Business Media; 2006.

128. Haggerty RJ, Mrazek PJ. Reducing risks for mental disorders: frontiers for preventive intervention research; 1994.

129. Kaptan SK, Varace F, Yilmaz B, Andriopoulos P, Husain N. Protocol of a feasibility trial for an online group parenting intervention with an integrated mental health component for parent refugees and asylum-seekers in the United Kingdom: (LTP + EMDR G-TEP). *SAGE Open Med*. 2021;9:20503121211067861. doi:10.1177/20503121211067861

130. Wright AM, Dhalimi A, Lumley MA, et al. Unemployment in Iraqi refugees: the interaction of pre and post-displacement trauma. *Scand J Psychol*. 2016;57(6):564–570. doi:10.1111/sjop.12320

131. Dhalimi A, Wright AM, Yamin J, Jamil H, Arnetz BB. Perception of discrimination in employment and health in refugees and immigrants. *Stigma Health*. 2018;3(4):325–329. doi:10.1037/sah0000068

132. 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):203–231. doi:10.1097/WTF:0b013e3282f21e8

133. Feen-Calligan H, Grasser LR, Debryn J, et al. Art therapy with Syrian refugee youth in the United States: an intervention study. *Arts Psychother*. 2020;69:1011665. doi:10.1016/j.api.2020.101665

134. Grasser LR, Javanbakht A. Virtual Arts and Movement Therapies for Youth in the Era of COVID-19. *J Am Acad Child Adolesc Psychiatry*. 2021;60(11):1334–1336.

135. Acarturk C, Konuk E, Cetinkaya M, et al. EMEDR for Syrian refugees with posttraumatic stress disorder symptoms: results of a pilot randomized controlled trial. *Eur J Psychotraumatol*. 2015;6(1):27414. doi:10.3402/ejpt.v6.27414

136. Acarturk C, Konuk E, Cetinkaya M, et al. The efficacy of eye movement desensitization and reprocessing for post-traumatic stress disorder and depression among Syrian refugees: results of a randomized controlled trial. *Psycol Med*. 2016;46(12):2583–2593. doi:10.1017/S0033291716001070

137. Hanebrink JR, Smith AJ. Painting a picture of creative arts therapy for war-affected youth in northern Uganda. In: *African Childhoods*. Springer; 2012:219–233.

138. Bardot H. Art therapy training for relief workers to provide support and sustainability. *J Appl Arts Health*. 2018;9(2):157–169. doi:10.1386/jaah.9.2.157_1

139. Lustig SL, Tennakoon L. Testimonials, narratives, stories, and drawings: child refugees as witnesses. *Child Adolesc Psychiatr Clin N Am*. 2008;17(3):569–584. doi:10.1016/j.chc.2008.02.001

140. Sliep Y, Weingarten K, Gilbert A. Narrative theatre as an interactive community approach to mobilizing collective action in Northern Uganda. *Fam Syst Health*. 2004;22(3):306. doi:10.1016/j.fms.2004.10.001

141. Drescher A, Kiselev N, Akhtar A, et al. Problems after flight: understanding and comparing Syrians’ perspectives in the Middle East and Europe. *BMC Public Health*. 2021;21(1):717. doi:10.1186/s12889-021-10498-1

142. Uygur E, Ilk kursun Z, Sijbrandij M, et al. Protocol for a randomized controlled trial: peer-to-peer Group Problem Management Plus (PM+) for adult Syrian refugees in Turkey. *Trials*. 2020;21(1):283. doi:10.1186/s13063-020-4166-x

143. de Graaff AM, Cuipers P, Acarturk C, et al. Effectiveness of a peer-refugee delivered psychological intervention to reduce psychological distress among adult Syrian refugees in the Netherlands: study protocol. *Eur J Psychotraumatol*. 2020;11(1):1694347. doi:10.1080/20008198.2019.1694347

144. Purgato M, Carswell K, Acarturk C, et al. Effectiveness and cost-effectiveness of Self-Help Plus (SH+) for preventing mental disorders in refugees and asylum seekers in Europe and Turkey: study protocols for two randomised controlled trials. *BMJ Open*. 2019;9(5):e030259. doi:10.1136/bmjopen-2019-030259

145. Gomez V, Kilic HN, Oren gul AC, et al. Evaluation of a school-based, teacher-delivered psychological intervention group program for trauma-affected Syrian refugee children in Istanbul, Turkey. *Psychiatr Clin Psychopharmacol*. 2017;27(2):125–131. doi:10.1080/24750573.2017.1304748

146. Tyler RA, Fazel M, Chao L. School and community-based interventions for refugee and asylum seeking children: a systematic review. *PLoS One*. 2014;9(2):e89359. doi:10.1371/journal.pone.0089359

147. Quinlan R, Schweitzer RD, Khawaja N, Griffin J. Evaluation of a school-based creative arts therapy program for adolescents from refugee backgrounds. *Arts Psychother*. 2016;47:47–78. doi:10.1016/j.api.2015.09.006

148. Gordon JS, Staples JK, Blyta A, Bytyqi M, Wilson AT. 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. doi:10.4088/JCP.v69n0915

149. Harris DA. Dance/movement therapy approaches to fostering resilience and recovery among African adolescent torture survivors. *Torture*. 2007;17(2):134–155.

150. Koch S, Kunz T, Lykou S, Cruz R. Effects of dance movement therapy and dance on health-related psychological outcomes: a meta-analysis. *Arts Psychother*. 2014;41(1):46–64. doi:10.1016/j.api.2013.10.004

151. Ugurlu N, Akca L, Acarturk C. An art therapy intervention for symptoms of post-traumatic stress, depression and anxiety among Syrian refugee children. *Vulnerable Child Youth Stud*. 2016;11(2):89–102. doi:10.1080/17450128.2016.118288

152. Schreiber S. Yoga as a mindfulness-based intervention for refugees and helpers. In: *Forced Migration and Social Trauma*. Routledge; 2018:225–236

153. Jeong YJ, Hong SC, Lee MS, Park MC, Kim YK, Suh CM. Dance movement therapy improves emotional responses and modulates neurohormones in adolescents with mild depression. *Int J Neurosci*. 2005;115(12):1711–1720. doi:10.1080/00207450590955874

154. Hervey LW. Encouraging research in dance/movement therapy. In: *Art and Science of Dance/Movement Therapy: Life is Dance*. Routledge; 2006:317–329

155. Sibinga EMS, Kerrigan D, Stewart M, Johnson K, Magyari T, Ellen JM. Mindfulness-based stress reduction for urban youth. *J Altern Complement Med*. 2011;17(3):213–218. doi:10.1089/acm.2009.0605

156. Brauninger I. Dance movement therapy group intervention in stress treatment: a randomized controlled trial (RCT). *Art Psychother*. 2012;39(5):443–450. doi:10.1016/j.api.2012.07.002

157. Banks K, Newman E, Saleem J. An overview of the research on mindfulness-based interventions for treating symptoms of posttraumatic stress disorder: a systematic review. *J Clin Psychol*. 2015;71(10):935–963. doi:10.1002/jclp.22200
158. Seppala EM, Nitschke JB, Tudorascu DL, et al. Breathing-based meditation decreases posttraumatic stress disorder symptoms in U.S. military veterans: a randomized controlled longitudinal study. J Trauma Stress. 2014;27(4):397-405. doi:10.1002/jts.21936

159. van der Kolk BA, Stone L, West J, et al. Yoga as an adjunctive treatment for posttraumatic stress disorder: a randomized controlled trial. J Clin Psychiatry. 2014;75(6):e559–65. doi:10.4088/JCP.13m08561

160. Gallegos AM, Cream HF, Pigeon WR, Heffner KL. Meditation and yoga for posttraumatic stress disorder: a meta-analytic review of randomized controlled trials. Clin Psychol Rev. 2017;58:115–124. doi:10.1016/j.cpr.2017.10.004

161. Wagner G, Herbsleb M, de la Cruz F, et al. Hippocampal structure, metabolism, and inflammatory response after a 6-week intense aerobic exercise in healthy young adults: a controlled trial. J Cereb Blood Flow Metab. 2015;35(10):1570–1578. doi:10.1038/jcbfm.2015.125

162. Firth J, Stubbs B, Vancampfort D, et al. Effect of aerobic exercise on hippocampal volume in humans: a systematic review and meta-analysis. Neuroimage. 2018;166:230–238. doi:10.1016/j.neuroimage.2017.11.007

163. Haroon E, Raison CL, Miller AH. Psychoneuroimmunology meets neuropsychopharmacology: translational implications of the impact of inflammation on behavior. Neuropsychopharmacology. 2005;37(1):137–162.

164. Dantzer R, O’Connor JC, Freund GG, Johnson RW, Kelley KW. From inflammation to sickness and depression: when the immune system subjugates the brain. Nat Rev Neurosci. 2008;9(1):46–56. doi:10.1038/nrn2297

165. Calabrese F, Rossetti AC, Racagni G, Gass P, Riva MA, Molteni R. Brain-derived neurotrophic factor: a bridge between inflammation and neuroplasticity. Front Cell Neurosci. 2014;8:430. doi:10.3389/fncel.2014.00430

166. Byrne ML, Whittle S, Allen NB. The role of brain structure and function in the association between inflammation and depressive symptoms: a systematic review. Psychosom Med. 2016;78(4):389–400. doi:10.1097/PSY.0000000000000311

167. Michopoulos V, Powers A, Gillespie CF, Ressler KJ, Jovanovic T. Inflammation in fear- and anxiety-based disorders: PTSD, GAD, and beyond. Neuropsychopharmacology. 2017;42(1):254–270. doi:10.1038/npp.2016.146

168. Nusslock R, Brody GH, Armstrong CC, et al. Higher peripheral inflammatory signaling associated with lower resting-state functional brain connectivity in emotion regulation and central executive networks. Biol Psychiatry. 2019;86(2):153–162. doi:10.1016/j.biopsych.2019.03.968

169. Yamin JB, Sudan S, Lumley MA, et al. The development of posttraumatic stress disorder and depression symptoms in Iraqi refugees: associations with acculturation and C-reactive protein. J Nerv Ment Dis. 2021;209(8):585–591. doi:10.1097/NMD.0000000000001360

170. McGrath M, Acarturk C, Roberts B, et al. Somatic distress among Syrian refugees in Istanbul, Turkey: a cross-sectional study. J Psychosom Res. 2020;132:109993. doi:10.1016/j.jpsychores.2020.109993

171. Kumar GS, Soffer G, Begg DJ. Movement-based therapies for resettled refugee populations in the United States. Int J Yoga Therap. 2021;31(1). doi:10.17761/2021-D-20-00043

172. Fuhr DC, Acarturk C, McGrath M, et al. Treatment gap and mental health service use among Syrian refugees in Sultanbeyli, Istanbul: a cross-sectional survey. Epidemiol Psychiatr Sci. 2020;29:e70. doi:10.1017/S2045796019000660

173. Soha HousingServices. Report to the Congress; 2010.

174. Lewis C, Nugent N, Pelland D. Lessons of resilience provided by refugee children. The Brown University Child and Adolescent Behavior Letter. 2016;32(2):8. doi:10.1002/cbl.30104

175. Stevens JS, van Rooij SJH, Stenson AF, et al. Amygdala responses to threat in violence-exposed children depend on trauma context and maternal caregiving. Dev Psychopathol. 2021;1:12. doi:10.1017/S0954579421001085

176. Department of Mental Health, Substance Abuse, World Health Organization, World Health Organization. Department of Mental Health, Substance Abuse. Mental health atlas 2005. World Health Organization; 2005.

177. Yehia F, Nahas Z, Saleh S. A roadmap to parity in mental health financing: the case of Lebanon. J Ment Health Policy Econ. 2014;17(3):131–141.

178. Al-Krenawi A. Mental health practice in Arab countries. Dev Psychopathol. 2005;18(5):560–564. doi:10.19701.yco.0000179498.46182.8b

179. Alatas G, Karaoglan A, Arslan M, Yanik M. Community-based psychiatry model and project of community mental health centers in Turkey. Arch Psychiatr Nurs. 2009;24(1):65–70.

180. Weiner S. Addressing the escalating psychiatrist shortage. Washington, DC: Association of American Medical Colleges; February 12, 2018.

181. Turrini G, Purgato M, Acarturk C, et al. Efficacy and acceptability of psychosocial interventions in asylum seekers and refugees: systematic review and meta-analysis. Epidemiol Psychiatr Sci. 2019;28(4):376–388. doi:10.1017/S2045796019000027

182. Dirks NB. Colonialism; 2019.

183. Weiner S. Addressing the escalating psychiatrist shortage. Washington, DC: Association of American Medical Colleges; February 12, 2018.

184. Martin D. Refugees and asylees: 2009.(Department of Homeland Security Annual Flow Report). Washington, DC: DHS; 2010.