Mental health in refugee children
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Abstract
Almost half of the world’s forcibly displaced population are children, most commonly originating from Syria, Iraq, and Afghanistan. Health disparities are well documented, especially for mental health, but not consistent across groups, time or context. Despite high exposure to trauma and stress, refugee children also show remarkable resilience. An ecological model of refugee health including both risk and resilience factors is therefore recommended. The model also includes the dynamic inter-relationship of past traumatic experiences, ongoing daily stressors and the disruptions of basic systems affecting both the individual and families as a whole, offering a framework to better understand the health disparities and appropriate interventions for refugee children.

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Introduction
By the end of 2021, the number of forcibly displaced people reached almost 90 million. The majority originates from just five countries, with Syria and Afghanistan reporting the highest numbers [1]. Most are internally displaced or hosted by neighbouring countries, often low- and middle-income countries close to zones of armed conflict [1]. However, the number of first-time asylum applicants in Europe is also increasing, with applicants mainly from Syria, Afghanistan, and Iraq [2]. Half of the worldwide displaced population and about one third of the asylum applicants in Europe, are children below the age of 18 [1,2]. UNICEF estimates that conflict, violence and other crises left a record 36.5 million children displaced from their homes at the end of last year [3]. Many children arrive unaccompanied by a caregiver, but the proportion varies by country; in 2021, 3% of all children arriving in France were unaccompanied, 40% in Norway and Sweden, but in Bulgaria over 80% were unaccompanied [2].

Forced migration is seen as a global threat to mental health and refugee children are considered particularly vulnerable, as the context of displacement will affect all parts of their life and happens at crucial times of their physical, emotional, social and cognitive development [4]. Refugee children are uprooted from home, friends and family, many have travelled long and hazardous journeys and spent long periods in transit or camps. Many have experienced potentially traumatic events such as war, disaster, violence and death, and lack basic resources such as shelter, food and healthcare [5]. Although resettlement means safety and new opportunities, it also involves new challenges as the children adjust to a new life somewhere else [6]. Consequences are therefore not only immediate, it may also affect their development, future health and wellbeing [4,6].

In this article we review some of the recent literature on health consequences of forced migration, focussing mainly on mental health and general wellbeing, describing both risk and resilience factors through the lens of an ecological model of refugee health. Lastly, we review current evidence on interventions. Naturally, much of the recent literature in the field includes children from Syria, Afghanistan and Iraq, which might not be representative for other groups such as Ukrainian children. A disproportionate amount of research is also conducted in high-income countries, despite the majority of refugees living in middle or low-income countries. In this article, the term “refugee children” refers...
to all forcibly displaced children, regardless of them crossing borders, cause of displacement or their legal status (e.g. internally displaced, stateless, asylum-seeker, recognised refugee status).

The health of refugee children
A health disadvantage for refugee children is well documented, especially with regards to mental health [7]. However, refugee children are not a homogenous group and this disadvantage is not consistent across all groups. In fact, recent reviews describe a wide range of prevalence rates for different types of mental distress such as post-traumatic stress disorder (PTSD), depression and anxiety (see Table 1) that vary with age, gender, measurement type, country of origin and settlement [8,9]. In line with this, a recent study conducted by our research group in Sweden, showed a PTSD prevalence nearly twice as high (56%) for minors from Afghanistan compared to rates found in minors from Syria (34%), largely explained by more minors from Afghanistan arriving unaccompanied [10]. Despite these variations, estimated prevalence rates for refugee children are still much higher than in other child populations (see Table 1) [11,12].

Studies also report high levels of somatic complaints such as headaches, stomach aches or dizziness [13,14], often interpreted as idioms of distress or ‘somatisation’ [15]. Sleep problems are also common and are closely connected to trauma and parental care [16]. Younger children may also suffer from substantial distress, but most studies include only children six years or older. Distress in pre-school children may be expressed differently, often as non-specific behavioural and emotional reactions (e.g. including traumatic events in play rituals, developing new fears, clinginess, low frustration tolerance, aggressiveness, sleep, eating or attachment problems) [17,18]. Moreover, trauma and stress in childhood has been shown to affect developmental processes, and some studies describe how forced migration is linked to working memory, emotional processing [19–21] and to future educational attainment and employment rates [22,23]. Longitudinal studies show a gradual decline in distress over time [24]. However, this decline is not uniform, instead several trajectories are described. The majority of children show few or no symptoms, a significant majority show gradual recovery, while another group becomes increasingly worse and a small group remains chronic [25–27].

Much of the research to date on mental health in refugee children has focused mainly on post-traumatic stress, anxiety and depression, with less focus on other mental health conditions, grief, existential issues and wellbeing. Despite difficult circumstances, the majority of refugee children follow resilient trajectories and have good mental health. Measuring wellbeing and positive health outcomes should therefore complement descriptions of distress. Recent findings suggest that although psychological and physical wellbeing is reduced, satisfaction with family relations and school environments is high [28,29]. Studies also report more prosocial behaviour, such as getting along better with adults, being more helpful and sharing [30,31]. Increasingly, studies also find high levels of PTSD co-existing with relatively good levels of functioning [31,32]. In sum, the concurrence of PTSD and resilience infers critical scrutiny of the construct and vocabulary of PTSD as part of the refugee experience, as it may not capture more complex and culturally varied responses to extreme circumstances. Moreover, due to the great variability in descriptions and consequences, a holistic and long-term perspective is needed when considering the health of refugee children.

Ecological models of risk and resilience
In recent years the field of refugee research has moved from an individualised trauma-focus, to broader ecological frameworks considering risk and resilience factors at many levels, related to the different phases of displacement (pre-migration, transit and resettlement) [6,33–35]. Examples of individual level factors are age, gender or time since displacement, or personal factors such as self-efficacy, emotion regulation and coping strategies. Examples of family level factors are family functioning and parental health, household economy or parental education. Local community factors could be location (camps, institutions, rural/urban), safety, social support and quality of the neighbourhood, school environment and peer relationships. Also, wider societal factors such as acceptance, discrimination and cultural differences are important, but resettlement conditions

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<td>PTSD</td>
<td>19%–53%</td>
<td>23%</td>
<td>Children exposed to trauma: 16% [11]</td>
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<tr>
<td>Depression</td>
<td>10%–33%</td>
<td>14%</td>
<td>Worldwide prevalence in children: 3% [12]</td>
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<tr>
<td>Anxiety</td>
<td>9%–32%</td>
<td>16%</td>
<td>Worldwide prevalence in children: 7% [12]</td>
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(such as detention, prolonged waiting times for applications, only receiving temporary protection, living illegally and without rights in a country) have the strongest influence on health and wellbeing [5,35–37]. In this section we look closer at some of these factors and their proposed mechanisms through the lens of an ecological model.

Traditionally, research has focussed on traumatic events before or during flight, as these are well-established risk factors for mental distress. As an example, studies reveal how Syrian children have experienced several traumatic events—such as bombing, shooting, violence and death—that are closely linked to high levels of PTSD symptoms [38–41]. However, many refugee children continue to experience stress also after resettlement, related to language problems, poor social support, economic strain, discrimination and prolonged application processes [5,41]. These represent low-grade and long-term stress that both directly and indirectly influence mental health and wellbeing [42]. Ecological models highlight this dynamic interaction between past experiences and daily stress [43] and propose several mechanisms of interaction, for example how the process of recovery after traumatic events is supported by resilience factors (e.g. acceptance in the receiving communities, safety, freedom to pursue education and work), or conversely, how recovery is hampered by daily stress depleting coping resources [6,43]. Also explored is how previous trauma lowers individual tolerance to daily stressors or how symptoms of distress (e.g. anxiety and avoidance) actually create stressful situations [41,42].

Children are dependent on caregivers, and parental health is closely linked to children’s health [44,45]. The most explored mechanism is how parental distress leads to harsher parenting strategies (e.g. spanking) [21,45,46]. Others describe more complex pathways where environmental factors, such as poverty, force parents to work and leave children unsupervised, or how unsafe surroundings lead to increased parental control [46]. Children who are unaccompanied are at higher risk of exploitation and trafficking, report more traumatic events, daily stress and mental health problems [10,47–49]. Despite some heterogeneity, poorer outcomes for unaccompanied children are highly consistent across settlement contexts and origin [50]. Despite being separated, familial ties remain crucial also for unaccompanied children’s wellbeing, motivation and meaning-making, especially the thought of their mothers [51]. It is important to note that the label “unaccompanied” might hide a complexity of other important relations, as many minors travel with adults who are not their legal guardians or reunite with their families along the journey.

Several resilience factors, such as granted asylum, positive acculturation and coping strategies, school belonging, family and social support, have been identified as beneficial [5,35,52]. Other resilience factors, such as religion, cultural identity or avoidance behaviour has produced more mixed results [53]. This suggests that some resilience factors are beneficial in certain contexts like emergency situations, but not in others [54]. Additionally, other studies have found that individual level coping strategies can be protective for non-refugee groups, but not for refugee youth [55,56]. Thus, the general importance of resilience factors is evident, but the underlying mechanisms are more difficult to identify. Indeed, recent evidence supports a multiple resilience factor model where the total constellation and interaction of resilience factors promotes better functioning; there is not one specific driving factor [32,57].

Interventions

The grounding principle is that all interventions are founded on human rights, and that refugee children are first and foremost children, not refugees. Thus, all children have the right to access appropriate support and services, no matter where they come from or why they had to leave. Based on the ecological framework, a holistic approach is necessary to promote health and wellbeing in refugee children, targeting both risk and resilience factors at individual, family and societal levels [58]. The much-used Inter-Agency Guidelines for Mental Health and Psychosocial Support depict this approach in a pyramid of mental health and psychosocial support (see Figure 1) [59].

The pyramid shape illustrates how affected populations at large may benefit from basic services that are safe and appropriate, while recognising that a smaller proportion...
might require more focused interventions or even clinical support.

In the bottom layer of the pyramid, Basic services and security, appropriate interventions depend on the context. In a humanitarian emergency these could be access to clean water and shelter, whilst during resettlement in a high-income country these could be to improve access to services through early health assessments [58] or relocating mental health services to schools [60]. Importantly, how essential services are delivered will determine if they are beneficial or in fact, harmful. Services also include economic support, asylum or resettlement policies, care services for unaccompanied minors and general rights and demands put on the individuals. Restrictive policies to deter further immigration could therefore increase daily stress and inflict further suffering for those who are already residents, and also affect public attitude and openness towards new residents [23,61]. There is currently a dearth of high-quality evidence for interventions at this level [53], however long-term studies have shown that a positive reception in a host country and low levels of discrimination predict low or improving rates of distress and better educational outcomes [22,27].

In the next layer of the pyramid, Community and family supports, interventions to strengthen supportive environments can be found. Parent-training programs are one example, their purpose is to strengthen positive parent—child interactions or treat parental symptoms [62,63]. Other interventions aim to improve teachers’, social workers’ or volunteers’ intercultural competence and their capacities for trauma informed care, improve relations between schools and parents or peer support programs [64,65].

Variations of trauma-focused cognitive behavioural therapies (TF-CBT) are commonly used in the next Focussed, non-specialised supports-layer of the pyramid, and their aim is to alleviate symptoms, and increase individuals’ coping capacities. These psychosocial interventions often use techniques from psychotherapy, but do not follow complete standard treatment protocols, and often include additional elements such as creative expressive techniques (e.g. drama, music), relaxation exercises, psychoeducation and counselling [65]. Interventions are often in groups, outside clinical settings (e.g. in schools or families) and run by non-specialised health personnel or teachers [59]. Effects are generally promising, but also show considerable heterogeneity including null and negative results, different results for older and young children, and for refugees and non-refugee migrant children [66]. This has prompted further research into the mediators and moderators of their effectiveness.

Finally, Specialised services at the top of the pyramid include clinical treatment for those with severe or complex trauma. General guidelines for PTSD in children recommend trauma-focused psychotherapy, such as TF-CBT and narrative exposure therapy (NET) [67]. However, there is uncertainty on the efficacy of these methods in refugee children and in some humanitarian settings it might not be appropriate [33,68].

Repeatedly, the daily stressors mentioned earlier are found to not only cause distress, but also reduce the effect of interventions by disrupting and exhausting personal resources [53,66,68]. On the other hand, positive relationships and support from family and environments are improving intervention outcomes [53,69]. In a novel study collating 11 datasets from different trials, improvement in daily function partly explained the effect of interventions on mental distress [70]. A recent trial with Syrian refugees in Lebanon showed how combining TF-CBT and a parent-training program had much better effect on both parental and child health as compared to only TF-CBT or the control group [71]. These all suggest that reducing daily stress and providing integrated, multi-level or stepped-care approaches with different levels of support are important investments in the future health of refugee children [59,72].

Conclusion
In general, studies show that refugee children have a health disadvantage, but these disadvantages are not consistent across all groups and contexts. Nonetheless, reported prevalence of PTSD, anxiety and depression suggest that many of these children are at risk requiring intervention. Unaccompanied minors report the highest risk of health problems due to more exposure and less support. Several interrelated factors reduce or improve refugee children’s health. An ecological framework best describes these dynamic and multi-level factors and how to target these in interventions. Future studies need to adopt a comprehensive view of mental health in both descriptions and interventions, moving beyond the narrow focus of PTSD, depression and anxiety. Current research mainly describes refugee children’s mental health, the next step is to act on this knowledge.

Authors’ contribution
C.D. reviewed the literature, wrote the first draft and finalised the manuscript.

O.S. was the invited author and initial contact for the journal. O.S planned the writing process and developed the main conceptual idea for the article in collaboration with C.D., then reviewed and edited all iterations of the manuscript.
R.D. contributed to the conceptualization of the article, reviewed literature and edited all iterations of the manuscript.

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**Conflict of interest statement**

Nothing declared.

**Data availability**

No data was used for the research described in the article.

**References**

Papers of particular interest, published within the period of review, have been highlighted as:

* of special interest


7. The seminal work of Mina Fazel and colleagues on Mental health of displaced and refugee children resettled in high-income countries: risk and protective factors (2012) has been cited well over a thousand times. This is a new systematic review that picks up where Fazel left, reviewing the evidence from the 10 years following the first review. It includes 63 studies and results from the more recent crises in Syria and Afghanistan.


This study is one of the few with a representative sample of more than 2500 refugee children, 12–18 years, recently resettled in Sweden. One article reports on PTSD: Large differences between groups were found for PTSD prevalence, with unaccompanied minors from Afghanistan reporting the highest levels. The other reports on health-related quality of life (HRQoL) in the same group and found significantly lower levels of HRQoL compared to European references, especially for the eldest age group, those with poor economy and those living without close relatives.


One of the few longitudinal studies following refugees after resettlement, this study includes 47 unaccompanied refugees 5 years after resettlement in Norway. After 5 years, many still experienced clinical levels of symptoms, and the level of daily stress was an important predictor. The authors conclude that help to manage the daily stress, and long-term support is important to ensure their wellbeing and integration.


30. Nilsen SA, Kvestad I, Randal SB, Hysing M, Sayyad N, Bøe T: Health-related quality of life in the same group and found significantly lower levels of HRQoL among those with poor economy and those living without close relatives.


This systematic, integrative review is an example of how researchers might operationalize Bronfenbrenner’s biocological theory in the field of mental health in refugee children, offering an explanatory mechanism to make sense of a broad and multidisciplinary field. It includes a compelling list of well-researched factors impacting development in four broad categories: individual factors; familial factors; community factors and institutional and policy factors. They also include three cruciﬁx elements many other researchers miss: the element of time, the importance of proximal processes and child agency, offering alternative explanations to those often found in literature.


This meta-analysis included 59 studies describing daily stress after migration and the effect on mental distress and wellbeing. They found stronger effect sizes from combined stressors (interpersonal, material and subjective) for general distress and effect sizes were stronger for children. Daily stressors fully mediated the association of trauma with post-migration mental distress confirming the hypothesis in the ecological model of refugee distress (Miller & Rasmussen, 2017).


This is the report from a large Nordic study describing the results from several studies, methods and sites, including the use of register data in cross-comparison of several Nordic host-countries.


This novel article re-analyses the collated datasets from 11 randomized controlled trials to explore mediators of interventions (or mechanisms of change) based on an ecological resilience framework. Functional impairment was the strongest mediator accounting for 30% of intervention effects. Proposed mediation by coping, hope and social support was not supported.
