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A Scoping Review of the Literature on the Health of African Refugee Children

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None

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Abstract

Problem: Africa is the largest source continent of refugee children. However, we found no published synthesis of the literature on the health African refugee children. Conducting a review of the literature on this particular population will help illuminate the particular contextual health issues faced by African child refugees. The purpose of this review is to synthesize what is known from the existing literature regarding the health of African refugee children who live outside Africa.

Eligibility: A scoping review of the literature was undertaken. We included articles published in English with a focus on the health of African refugee children. We excluded studies of refugees in Africa as the living conditions of these refugees, most of whom reside in camps, are very different from those outside Africa. Using relevant keywords, we searched 10 databases to identify and screen 6,602 articles after duplicates were eliminated.

Sample: In total, 20 studies met our inclusion criteria and were included in this review.

Findings: Published research articles on African child refugees focus on infectious diseases, mental health and neurodevelopmental disorders, food insecurity and psychosocial adjustment, physical health (including obesity), and health promotion strategies. This population is characterized by a high rate of infectious diseases (e.g., malaria), obesity, and mental health problems, especially post-traumatic stress disorder (PTSD).

Conclusions and Implications: To attend to the health needs of refugee children, interventions should address pre-migration factors as well as post-migration factors (including income and community belonging) while employing a strengths-based perspective.

Keywords: Africa; African; Child; Migrant; Refugee

Highlights

- Areas of published research include infectious disease, mental health and nutrition
- African child refugees experience poor mental and physical health
- Experiences during the pre-migration and postmigration stage influence their health
- Income and gender influence the mental health of African refugee children

Introduction

The number of child refugees under the United Nations High Commissioner for Refugees' (UNHCR) mandate has more than doubled in just 10 years, amounting to nearly 50 million children who have migrated across borders or been forcibly displaced; more than half of these girls and boys—28 million in total—fled violence and insecurity (UNICEF, 2016). According to the UNHCR (2020), "refugees are people who have fled war, violence, conflict or persecution and have crossed an international border to find safety in another country." (Paragraph 1). Africa contributes 25% of the global total of child refugees and migrants under the age of 18 years as well as young migrants aged 15-24 years (International Organization for Migration, 2020). Nearly one in three African migrants is a child, more than twice the global average. Addressing the health of African child refugees will contribute to meeting global health targets, including the United Nations' Sustainable Development Goals (United Nations Development Program, 2020).

Migrant and refugee well-being is envisioned in several of the Sustainable Development Goals, including Target 10.2: "By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status" (United Nations Development Program, 2020). However, migrants and refugees continue to experience several social and health challenges in destination countries. Child refugees and young migrants are at risk of abuse, trafficking, and exploitation, especially if they travel alone and through irregular migration pathways (International Organization for Migration, 2020). For some, these dangers persist even after they reach their destination. Violence may come in the form of state action (particularly during migration enforcement or detention), the general public (in the form of xenophobic attacks), employers (in various forms of child labour), other children (including bullying and abuse in schools), or within families (in the

form of domestic violence, which can worsen due to prolonged and extreme stress related to displacement). Even when children do not directly experience violence, the process of displacement and resettlement itself takes a lasting toll on the mental health of children and their caregivers, a reality that can have cascading negative repercussions throughout a child's life, including earlier childbearing, worse health outcomes, and lower income (UNICEF, 2016).

Refugee children face physical and mental health challenges, rendering them vulnerable to developmental challenges that further impact their future health outcomes (Borrego, Ortiz-González, & Gissandaner, 2019). Research is needed to shed light on the health of refugee populations, especially children, and provide useful data that can improve their health outcomes. Despite the existing, albeit sparse evidence, about the large number of African child refugees (International Organization for Migration, 2020) and the general challenges they face, we did not find any synthesis of evidence on this topic. Conducting a review of the literature on this particular population will help illuminate the particular contextual health issues faced by African child refugees.

Methodology

We used a scoping review methodology to map or summarize the range of evidence in the field to convey breadth and depth. Specifically, we utilized Arksey and O'Malley's (2005) approach, which follows five key stages: 1) identify the research question; 2) identify relevant studies; 3) study selection; 4) charting the data; and 5) collating, summarizing, and reporting the results. Scoping reviews differ from systematic reviews in that the goal is not to assess the quality of studies, although this may be done by some reviewers. Rather, scoping reviews "aim to map rapidly the key concepts underpinning a research area and the main sources and types of evidence available" (Arksey & O'Malley, 2005), which is the approach taken here. To map out

evidence in the field, scoping reviews deal with a greater range of study designs and methodologies.

Identify Research Question: Our research question was: What is known from the existing literature on the health of African refugee children who live outside Africa?

Identify Relevant Studies: In line with Arksey and O'Malley (2005), we completed a search of multiple databases. We included articles published in English with a focus on African refugee children and health. We excluded studies of refugees in Africa as the living conditions of these refugees, most of whom reside in camps, are very different from those outside Africa. We also excluded literature reviews, systematic reviews, epidemiological studies (where African refugees were only a variable and not the sole focus), and studies in which results from African refugee children were mixed with other children. Based on the inclusion and exclusion criteria, a research librarian assisted with developing a search of 10 electronic databases: MEDLINE, Embase, Global Health, Psych Info, Cochrane Library, CINAHL, SocIndex, Child Development and Adolescent Studies, Sociological Abstract, and ProQuest Dissertations & Theses Global. Search terms included a combination of words related to Africa (including names of African countries), child, and migrant or refugees. The search resulted in total of 12,720 articles with 6,602 articles remaining after duplicates were excluded. Articles retrieved were exported to www.covidence.org for further selection by research assistants. We also reviewed reference lists of included articles.

Study Selection: Six graduate students supported the selection of articles due to the large number returned from the initial search. The abstract and title of each article were reviewed by

two of the graduate students, all of whom received training prior to the search and met intermittently with the lead author throughout selection to ensure consistency in application of inclusion criteria. Two research assistants then read the full articles to determine relevance to inclusion criteria. Figure 1 is a Prisma flow diagram for the scoping review process.

Charting Data: A research assistant supported the extraction of data on research questions or objectives, methodology, theoretical framework, method (sampling, sample size), age of children, data source (parent versus child versus health professional), period of data collection, country of origin or region, destination country or region, summary of findings, and summary of implications (see Appendix Table 1 for some of the information extracted from the articles).

Collating, Summarizing, and Reporting the Results: We completed a numerical analysis of the extent, range, nature, and distribution of studies included in the review. We identified the country of origin, research methods, sample size, and health focus. We also organized our results thematically according to the health condition of interest. We also considered consistency and contradictions across studies as well as research gaps. This scoping review did not include a quality appraisal of the studies.

Results

After screening, 20 articles were ultimately included in the review, of which 13 used quantitative methods, five used qualitative methods, and two used mixed methods. The authors of these articles predominantly obtained data from children, followed by their parents. The studies included were conducted in the United States of America (n=13), Australia (n=3), Austria (n=3), and Canada (n=1). Sample size ranged from 19 to 101 in the qualitative studies, from 41 to 304 in the quantitative studies, and from 73 to 114 in the mixed-method studies. Sampling methods

included convenience sampling (n=4), purposeful sampling (n=4), and snowball sampling (n=1); eleven articles did not specify. The age of participants ranged from 6 months to 18 years. Data sources included children (n=15), parents, caretakers, and adolescents (n=5), parents only (1). The studies reported on five broad themes: infectious diseases (n=2), mental health and neurodevelopmental disorders (n=9), food insecurity and psychosocial adjustment (n=3), physical health (n=4), and health promotion strategies (n=2).

Infectious Diseases

Two studies (both quantitative) investigated infectious diseases (specifically malaria) among African refugee children. Ndao et al. (2005) in a quantitative study in Canada found 47% of African refugee children with malaria were asymptomatic. In the other quantitative study conducted among African refugee children in the USA, Maroushek et al. (2005) found 29% of children with malaria were asymptomatic. The findings from these two studies suggest small outbreaks of malaria are regularly missed and therefore indicate the need for optimal malaria screening, diagnosis, and treatment for refugee children from malaria-endemic regions.

Mental Health and Neurodevelopmental Disorders

Nine studies focused on mental health disorders among African refugee children, of which seven were quantitative (Ellis et al., 2008, 2010; Geltman et al., 2005, 2008; Huemer et al., 2011, 2013; Volkl-Kernstock et al., 2014), one mixed study (Lincoln et al., 2016) and one was qualitative (Miller-Gairy & Mofya, 2016). The main focus of studies was PTSD, depression, and autism spectrum disorder (ASD). Huemer et al. (2011) in a study on psychopathology in African unaccompanied refugee minors in Austria found girls to be more susceptible to PTSD than boys when controlling for age. This result was constant after war affliction was included in the model. Similarly, Volkl-Kernstock et al. (2014) in a quantitative study among

unaccompanied African refugee minors in Austria reported that girls were more likely to develop PTSD than boys. However, PTSD in their study was significantly correlated with single war-related traumatic events.

Several studies found the incidence rate of PTSD among African refugee children to be between 17 and 20% (Ellis et al., 2010; Geltman et al., 2008; Huemer et al., 2011; Lincoln et al., 2016). Ellis et al. (2008) conducted a quantitative study on the mental health of Somali adolescent refugees in the United States and reported the severity of acculturative stress is associated with higher levels of PTSD symptoms. This result corroborates findings from a study by Geltman et al. (2005) of unaccompanied Sudanese refugee minors in United States that found social isolation and a history of personal injury were associated with PTSD. Four studies found an association between the incidence of PTSD and exposure to war or war-related events (Ellis et al., 2008; Geltman et al., 2005; Huemer et al., 2011; Volkl-Kernstock et al., 2014). In these studies, resettlement stress and acculturation were associated with depression (Lincoln et al., 2016). Huemer and colleagues' (2013) study on unaccompanied minors in Australia used a theoretical model of resilience and had similar findings: unaccompanied minors have increased distress and depression. Finally, an ethnographic study on the perceptions and expectations of ASD among Somali refugee mothers in Georgia in the United States (Miller-Gairy & Mofya, 2015) found communication was the main barrier faced by children with ASD with respect to access to health care services.

Food insecurity and psychosocial adjustment

One mixed-method and two qualitative studies investigated food insecurity and psychosocial adjustment among African refugee children. The qualitative study by Hadley et al. (2007) used an ethnographic approach to study food insecurity among West African refugees resettled in the USA. Their results indicated measures of socioeconomic status are associated with food security

and psychosocial adjustment. Wilson & Renzaho's (2015) qualitative study considered intergenerational difference in acculturation experience and food beliefs among refugees from the horn of Africa in Australia. Three distinct themes emerged from their thematic analysis: acculturation, food beliefs and perceived health consequences, and parental feeding practices. The study by Weine et al. (2013) conducted among Liberian and Burundi refugee children using family eco-developmental theory found that finances, social support network, family engagement, adherence to cultural values, literacy, and participation in religious activities are means of promoting psychosocial adjustment.

Physical health

Four studies (all quantitative) focused on the physical health of African refugee children, including obesity, skeletal growth, body composition, and metabolic risk. Hervey et al. (2009) in their study among Somali refugee children after arrival in the United States found 2% of the sample of 69 were overweight. Mellor et al. (2012) in a quantitative study on obesity in adolescent refugees and migrants from African backgrounds living in Australia found the rate of overweight was 19.0% and rate of obesity was 1% amongst their population of 100 children. However, Alasagheirin & Clark's (2018) study of 64 children found a higher prevalence rate of obesity (32%). Two studies reported an association between gender and increase in body mass index among African refugee children studied. Mellor et al. (2012) found the body mass index (BMI) for girls was on average slightly higher than for boys. Griffith et al. (2014) in a study on obesity among sub-Saharan African migrant adolescents in Australia reported gender and parental BMI were linked with an increase in adolescent BMI, with boys having a lower BMI than girls. However, Hervey et al.'s (2009) study found female Somali refugee children after arrival in the United States without a comorbid condition and those who never attended school were less likely than their counterparts to become overweight.

Health promotion strategies

Two qualitative study investigated health promotion strategies among African refugee children. In their study on adolescent refugees in the United States, Weine et al. (2014) used family eco-developmental theory to identify eight themes of family and community capacities as a means of promoting psychosocial well-being in adolescent refugees. This study also identified nine protective mechanisms as the processes for developing adolescent refugees' competencies and behaviors. Caron et al. (2013) conducted a qualitative study on lead poisoning among African refugee children in a Somali refugee resettlement community in New Hampshire, United States. Childhood lead poisoning was associated with government policies on African refugee education, ineffective communication methods, and lack of adequate education about this public health problem.

Discussion

We sought to synthesize the literature on the health of African child refugees living outside the continent. Major areas of published research identified in our review on the health of African refugee children include infectious disease, mental health, food insecurity, physical health (including obesity), and health promotion strategies. By and large, the literature in this field shows poor health status among African child refugees. Our review is particularly important given that Africa contributes 25% of child refugees and migrants under the age of 18 years (International Organization for Migration, 2020).

Our review found a high rate of reported post-traumatic stress among refugee children, consistent with other reviews of the literature that, for example, show refugees who have been affected by war and violence are vulnerable to poor mental health outcomes including post-traumatic stress (Colucci et al., 2014; Guruge & Butt, 2015). A systematic review of Karen

refugees that included 18 studies shows they experience a high rate of anxiety, depression, and PTSD (Hoffman & Robertson, 2016). Similarly, a review on Sudanese refugees found high rates of post-traumatic stress but that post-migration stressors, such as family stressors, have more impact on mental health than past experience of trauma. While we found limited data on the resilience displayed by African refugee children, researchers report that refugee children generally have a strong resilience and function well even in the face of substantial adversities (Hodes & Vostanis, 2019). Given our current review did not identify studies that focus on the resilience of African refugee children, this remains a gap that needs to be examined. Supporting refugees' resilience and using a strengths-based approach can help with their healing path (Marshall et al., 2016); this is therefore an important consideration for African refugee children.

Better understanding of the health experience of refugees requires consideration of the trajectory of phases refugees experience, including the pre-migration or pre-flight phase, migration or flight phase, and post-migration or resettlement phase (Colucci et al., 2014; Guruge & Butt, 2015; Lustig et al., 2004; Marshall et al., 2016). Our review found that experiences during all stages of the migration process, including premigration trauma, migration as an unaccompanied minor, and socioeconomic context, may influence the mental and physical health of African refugee children. During the pre-flight stage, refugees may have experienced or witnessed several atrocities including rape and murder of loved ones. In addition, children might have been witness to front-line combat, which can expose them to trauma and physical injuries (Lustig et al., 2004). During the flight stage, refugee children may experience separation from parents and become unaccompanied minors. They may also feel depersonalized in refugee camps and lack basic resources that are essential to mental and physical health. Lack of basic resources, such as water, and improper sanitation can increase their risk of contracting infectious diseases. Challenges with access to food can contribute to malnutrition. Some children are also detained or

face a lengthy asylum process. Upon arrival in destination countries, these children may face challenges with settlement including access to health services, discrimination, poverty, and lack of social support (Guruge & Butt, 2015). Refugees often face many hurdles related to accessing healthcare in destination countries, including poor economics and unemployment, cultural differences, language barriers, and legal barriers. To attend to the mental health needs of refugee children, health professionals, including nurses, should pay attention to pre-migration factors as well as post-migration factors (including income) from a strengths-based perspective (Hodes & Vostanis, 2019). Group interventions may also be effective for refugee children but, unfortunately, our research found limited intervention studies in this field. This indicates the need for more research on culturally appropriate interventions to improve the health of refugee children.

Based on our review, several social factors including income and gender influence the mental health of African refugee children. Previous research on the mental health of immigrant and refugee children found female youths experience more mental health problems than male youths (Guruge & Butt, 2015), which is consistent with our findings. A weakness in published research is the lack of information on settlement experience regarding building communities. The importance of community belonging and having a strong social support network has been established as a contributor to immigrant health in Canada (Salami et al., 2017). Research on Karen refugees shows that reformation of community and building a social network contribute to better mental health (Hoffman and Robertson, 2016). Creating natural environments (e.g., during delivery of parenting programs) that foster community belonging and improve social support networks can assist in improving the mental health of refugee children (Salami et al., 2019). Future research should shed light on the influence of the social context on the mental health of immigrants.

Our review found several physical health problems among refugees, including high rates of infectious disease (especially malaria) and obesity. Similarly, Hoffman and Robertson (2016) note that refugees experience acute health conditions including infectious diseases (including tuberculosis and hepatitis) and chronic health conditions (such as hypertension) (Hoffman & Robertson, 2016). In two chart audits at a refugee clinic in Australia, researchers found the refugees were at high risk of being diagnosed with vitamin D deficiency, hepatitis B carrier status, tuberculosis infection, *Helicobacter pylori* infection, schistosomiasis, dental disease, and anaemia (Johnston et al., 2012; Mutch et al., 2012). Two-thirds of children had at least one pathological condition that was not reported in their medical history (Mutch et al., 2012). Similar findings have been reported in studies in Canada (Salehi et al., 2015). A major contributing factor for health problems is pre- and post-migration socioeconomic conditions. Our review identified that refugee children in low income households experience food insecurity, which may influence their nutritional status. Health practitioners should ensure a complete physical and mental assessment of refugees to address and detect these priority health issues. Addressing the social and economic conditions including access to food that may contribute to the health of refugees is also important. In addition, our review indicates gender differences in the rate of overweight and obesity among refugees, but the evidence in this regard is mixed. Thus, more research is needed in this field.

Our numerical summary of studies included in this review further identifies gaps in the literature. Fourteen of the 20 studies reviewed were quantitative, which indicates the need for more qualitative research to provide an in-depth understanding of health issues. Regional disparities in the research are also evident. The majority (n=13) of the studies were done in the USA with others from Canada (n=1), Austria (n=3), and Australia (n=3). Gaps in interventions on key health issues under the thematic areas observed are also apparent. In particular, health

interventions on infectious diseases, nutrition, and mental health issues are needed along with follow-up studies to investigate the association between the exposure of children to the risk factors observed and the development of adverse health outcomes.

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PRISMA Flow Diagram – Scoping Review of African Refugee Children Outside Africa

Identification

Record identified through database searching in Embase, Global Health, Psych Info, Cochrane Library, CINAHL, SocIndex, Child Development and Adolescent Studies, Sociological Abstract, and ProQuest Dissertations & Theses Global. Search terms included a combination of words related to Africa (including names of African countries), child, and migrant or refugees.
(n = 6,602)

Screening

Records after duplicates removed and screened by title and abstracts
(n = 1,675)

Records excluded
(n = 4,927)

Eligibility

Records assessed for eligibility by additional criteria
(n = 1675)

Records excluded after additional criteria was applied
1. No epidemiological studies
2. Limited to only Sub-Saharan Africa Focus only on Sub-Saharan Africa
3. Excluding studies where populations were mixed with non-African populations
4. Limited studies to only publications between 2000 - 2019
5. Only included studies with first-generation children (0 – 18yrs)
(n =1627)

Full text articles screened for eligibility
(n= 48)

Included

Studies included in synthesis
(n = 20)

Records excluded after additional criterion was applied.
(Articles that focus only on African refugee children outside Africa).
(n=28)

Table 1 Studies on Refugees Outside Africa Included in the Scoping Review

Author(s)	Research Question/ Purpose	Methodology and Method	Summary of Findings
1. Alasagheirin, M. H., & Clark, M. K. (2018)	To study the physical growth, bone growth, body composition, metabolic risks, physical activity, and food security of Sudanese children living in the United States.	Quantitative, Cross-sectional study.	About 1/3 of children had low bone mineral (BMC and BMD). Higher prevalence rate of obesity (32%). There was an association between gender and increase in body mass index (BMI) among African refugee children studied.
2. Caron, R. M., Tshabangu-Soko, T., & Finefrock, K. J. (2013).	To describe the agency' role in the settlement process; to examine communication methods used in public heath system; and to develop effective health communication strategies that assist key refugee resettlement agencies, which comprise part of the public health system, in building the community's capacity to manage childhood lead poisoning.	Qualitative: structured interviews	Childhood lead poisoning was associated with a lack of a government regulations and education of African refugee populations; ineffective communication methods by settlement agencies.
3. Ellis, B. H., MacDonald, H. Z., Lincoln, H. Z., & Cabral, H. J. (2008)	To examine relations between trauma exposure, post-resettlement stressors, perceived discrimination, and mental health symptoms in Somali adolescent refugees resettled in the U.S.	Community-based participatory with quantitative design	PTSD symptoms showed positive correlations with depressive symptoms, trauma exposure, post-war hardships, acculturative hassles, and perceived discrimination.
4. Ellis, H. B., Lincoln, A. K., Charney, M. E., Ford-Paz, R., Benson, M., & Strunin, L. (2010).	To examine the utility of the Gateway Provider Model in understanding service utilization and pathways to help for Somali refugee adolescents resettled in the Northeastern United States.	Community-based participatory with quantitative design	Only 10% of parents report seeking help for mental health issues; 2% seek help through prayer. However, 3% screened clinically positive for depression while 20% screened positive for PTSD.
5. Geltman, P. L., Grant-Knight. W., Mehta, S. D., Lloyd-Travaglini, C., Lustig, S., Landgraf, J.	To assess the functional and behavioral health of unaccompanied Sudanese refugee minors approximately 1 year after resettlement in the United States.	Quantitative	20% of the minors had a diagnosis of posttraumatic stress disorder and were more likely to have worse scores on all the Child Health Questionnaire subscales. Social isolation and history of personal injury were associated with PTSD.

M., Wise, P. H. (2005).			
6. Geltman, P. L., Grant-Knight, W., Ellis, H., & Landgraf. J. M. (2007).	To assess whether mental health counseling and other health services were associated with functional health outcomes of unaccompanied Sudanese refugee minors in the U.S.	Descriptive Survey in a quantitative study.	20% of the sample surveyed was diagnosed for PTSD. The use of a variety of health services was high. Ninety-six percent reported having a routine source of care. The Child Health Questionnaire (CHQ) revealed a high prevalence of seeking medical care for somatic complaints and health problems often associated with behavioral or emotional disorders.
7. Griffith, M., Mellor, D., Green, J., & Renzaho, A. M. (2014)	To examine migration- and socioeconomic-related influences on obesity among African migrant adolescents in Melbourne, Australia.	Quantitative: used standardized measures including the acculturation scale	Gender and parental BMI were linked with increase in adolescent BMI. Boys had lower BMI than girls.
8. Hadley, C., Zodhiates. A., & Sellen, D. W. (2006).	To assess the occurrence and severity of food insecurity, and examine associations between food insecurity and measures of socio-economic status and indicators of acculturation.	Ethnography study in a Qualitative research.	Food insecurity was indicated in approximately half of households (53%). Food insecurity was associated with measures of socio-economic status such as income, employment status and participation in the food stamp program. Measures of acculturation such as difficulty in the shopping environment and language difficulty were also associated with the occurrence and severity of food insecurity, as well as time lived in the USA.
9. Hervey, K., Vargas, D., Klesges, L., Fischer, P. R., Trippel, S., & Juhn, Y. J. (2009).	To determine the role of age at the time of arrival in the subsequent risk of becoming overweight; and to assess the impact of age and weight at arrival on the rate of subsequent weight changes.	Quantitative: a retrospective cohort study	Children who were overweight at arrival in the U.S. remained at an increased risk of overweight. Older children showed a tendency to gain weight more rapidly and to be at risk of overweight, in comparison with the younger children.

10. Huemer, J., Karnik, N., Voelkl-Kernstock, S., Granditsch, E., Plattner, B., Friedrich, M., & Steiner, H. (2011).	Hypotheses a) the prevalence of PTSD and related internalizing psychopathology would be higher when compared to age appropriate norms and results among accompanied refugee minors; b) positive quality of life in the assessed youths would be lower than in age matched norms, given their dire psychosocial living circumstances; and c) war exposure would predict higher rates of PTSD symptoms after controlling for age and gender.	Quantitative used 5 standardized measures: Youth self report; UCLA PSTD; Mini - International Neuropsychiatric Interview; Facts about You; and Scales for Children Afflicted by war	Girls are more susceptible to PTSD than boys when controlling for age. There was an association between the incidence of PTSD and exposure to war or war-relented event incidence rate of posttraumatic stress disorders among African refugees.
11. Huemer, J., Volkl-Kernstock, S., Karnik, N., Denny, K. G., Granditsch. E, Mitterer, M., Humphreys, K., Plattner, B., Friedrich, M., Shaw, R. J., & Steiner, H. (2013)	To explore whether high levels of protective intra-individual processes such as repression are present in unaccompanied refugee minors (URMs) when compared to a sample of age-matched norms; and to explore the role of other personality factors.	Quantitative: theoretical model of resilience	Compared to the unaccompanied African refugees, study shows high level of repressive defensiveness. High levels of resilience. Reduction in self - reported satisfaction with life.
12. Lincoln, A. K., Lazarevic, V., White, M. T., & Ellis, B. H. (2016	1. Are acculturative hassles associated with worse PTSD symptoms and depression symptoms? Is there a moderating effect for gender on this relationship? 2. Does the degree to which Somali refugee adolescents experience acculturative hassles differ by acculturation? 3. Does the association between acculturative hassles and mental health (PTSD and depression symptoms) differ by acculturation style?	Community-based participatory research in mixed method study.	The severity of acculturative hassles was associated with higher levels of both PTSD symptoms and depression symptoms. There was no moderating effect of gender in the data obtained. The severity of acculturative hassles varies with acculturative style. The effect of hassles is more detrimental to marginalized participants than other acculturative groups.
13. Maroushek, S. R., Aguilar, E. F., Stauffer,	To determine the prevalence of malaria among asymptomatic children from West Africa.	Retrospective Chart review, Quantitative study	The prevalence rate of malaria was 60% among those who were asymptomatic.

W., & Abd-Alla, M. D. (2005).			
14. Mellor, D., Renzaho, A., Swinburn, B., Green, J., & Richardson, B. (2012).	To investigate the relationship between parenting style and family functioning, and BMI among adolescent migrants and refugees from African countries.	Quantitative	There was an association between gender and increase in BMI among African refugee children studied. Girls' BMI was on average slightly higher than that of boys. Lack of parenting supervision accounts for significant changes in BMI.
15. Miller-Gairy, S., & Mofya, S. (2015).	To examine the elements of culture and tradition that affect perceptions and expectations of Somali refugee mothers regarding autism spectrum disorder (ASD).	Case study using ethnography in qualitative study design	Etiology and pathology of ASD was not well understood because of cultural and traditional beliefs. Communication also affected Somali refugee mother's perception of ASD. Lack of access to healthcare resource by children because of misunderstanding between health care providers and mothers.
16. Ndao, M., Bandyayera, E., Kokoskin, E., Diemert, D., Gyorkos, T. W., MacLean, J. D., St. John, R., & Ward. B. J. (2005).	To investigate the performance of the health care system in the diagnosis and management of imported malaria.	Quantitative and clinical	Small outbreaks of malaria were missed regularly. Therefore, there is a need for optimal malaria diagnosis and treatment for refugee children from the malaria-endemic region.
17. Völkl-Kernstock, S., Karnik, N., Mitterer-Asadi, M., Granditsch, E., Steiner, N., Friedrich, M. H., & Huemer, J. (2014).	To investigate African unaccompanied refugee minors living in Austria for PTSD prevalence and related symptoms, comorbidity, demographics, and coping strategies.	Quantitative: used standardized measures	Girls were more likely to develop PTSD, which was significantly correlated with single war-related traumatic events.
18. Weine, S. M., Ware, N., Tugenberg, T., Hakizimana, L., Dahnweih,	To characterize the patterns of psychosocial adjustment among adolescent African refugees in U.S. resettlement.	Longitudinal study employing ethnography in a mixed methods design	Identified means of promoting psychosocial adjustment as finances, social support network, family engagement, adherence to cultural values,

G., Currie, M., Wagner, M., & Levin, E. (2013).			literacy, and participation in religious activities.
19. Weine, S. M., Ware, N., Hakizimana, L., Tugenberg, T., Currie, M., Dahnweih, G., Wagner, M., & Wulu, J. (2014).	1. What protective agents and protective resources appear to contribute to psychosocial well-being in adolescent refugees? 2. What are the protective mechanisms through which these protective resources appear to contribute to psychosocial well-being in adolescent refugees?	Longitudinal study employing ethnography in a qualitative methods design	Eight family and community capacities were identified that appeared to promote psychosocial well-being in the adolescent refugees. These included: 1) finances for necessities; 2) English proficiency; 3) social support networks; 4) engaged parenting; 5) family cohesion; 6) cultural adherence and guidance; 7) educational support; and 8) faith and religious involvement. Protective mechanisms were 1) relational (supporting, connecting, belonging); 2) informational (informing, preparing); and 3) developmental (defending, promoting, adapting).
20. Wilson, A., & Renzaho, A. (2013).	To investigate the differences in acculturation experiences between parent and adolescent refugees from the Horn of Africa in Melbourne, Australia; and to explore food beliefs and perceived health risks from an intergenerational perspective.	Exploratory design in a Qualitative study	There were differences between parents and adolescents in relation to lifestyle, diet and physical activity, and views on health consequences of their changed diets. Three distinct themes emerged: (i) acculturation; (ii) food beliefs and perceived health consequences; and (iii) parental feeding practices.