Sickle cell disease in african immigrant children: A scoping review

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Abstract

Despite the research on African-America parents, children and families who suffer from sickle cell disease (SCD), less is known about African immigrant children who migrated outside of Africa. Therefore, the purpose of this scoping review was to assess the extent, range, and nature of the existing index of research on African immigrant children with SCD living outside of Africa, to map out research activity and to identify gaps in the existing literature.This review followed the scoping review methodology of Arksey & O'Malley. A comprehensive search in ten electronic databases was conducted. The search strategy combined the keywords "sickle cell" and "African immigrant children". Inclusion criteria focused on research published between 2000 and 2019, reporting on the health of African immigrant children aged 0 to 18 years. Systematic & literature review reviews, conferences, case studies, viewpoint articles, & epidemiology studies were excluded. Also, studies in which findings were based on mixed populations containing less than 80% African immigrant children, were excluded from the review.

This review was guided by the five-step approach to scoping reviews of Arksey & O'Malley. Articles were included if they focused on African immigrant children living abroad. Two independent reviewers screened and selected articles. We analyzed and synthesized data using thematic analysis for qualitative data. The search yielded 6,602 records. After removing duplicates and titles, and abstracts were screened, 1,675 articles were included for full-text screening; 6 met inclusion criteria. Chain searching generated 10 articles, 1 met the inclusion criteria. Seven articles were included for analysis. The studies were all quantitative in design and none mentioned a theoretical framework. Even though all the studies were quantitative the usage of clinical assessment of the only means of attaining data, and the usage of insufficient sample size made the studies found, inconclusive in making generalizations. There are significant research gaps regarding African immigrant children with SCD living outside of Africa. A major limitation of the studies use is they were all conducted in Italy even though there are many other countries known to host immigrants from the African continent. Furthermore, most of the studies only state the disadvantages this population faces and only two studies took the initiative in addressing these issues. Overall, this review underlines the need for future research on the impact of migration on the health outcomes of African immigrant children with SCD living outside of Africa.

Key words:

Sickle cell, sickle cell disease, scoping review, African Immigrant children, Africa immigrant, migration, SCD

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Sickle Cell Disease in African Immigrant Children: A Scoping Review

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Introduction

Globally, in 2017 there were an estimated 35 million migrant children (aged 19 years and under) who accounted for 13.9% of the total international migrant population (Migrant Data Portal, 2019 & WHO, 2017). According to the United Nations International Emergency Funds (2019), 6.5 millions of these children are African immigrant children living abroad. The prevalence of sickle cell disease in Africa affects up to 3% of the population and some studies have recorded that up to 20% of Africans have the sickle cell trait (Grosses, 2011). Sickle cell disease (SCD) is an inherited disorder of hemoglobin, endemic in some regions of Africa, and has also spread due to migration flow (Arfé, 2018).

Purpose

Despite the excessive research on SCD in African nationals (CDC, 2019), less is known about African immigrant children living abroad. Therefore, the purpose of this scoping review was to assess the extent, range, and nature of existing bodies of literature on African immigrant children with sickle cell disease living outside of Africa, to map research activity and to identify gaps in existing literature.

Methods

Develop a research question → Identify relevant studies → Article selection → Data charting and data extraction → Collating, summarizing and reporting the results

- This scoping review was guided by the 5-stage approach of Mark & O'Malley (2005).
- Research questions were established based on Levac, Colquhoun, and O'Brien's perspective (2005).
- We searched 10 electronic databases: MEDLINE, EMBASE, Ovid Global Health, PsycINFO (via Ovid), Cochrane Database of Systematic Reviews, CINAHL, EBSCO SocIndex, EBSCO Child Development & amp; Adolescent Studies, ProQuest Sociological Abstracts; ProQuest Dissertations & Theses Global.
- For data management we used RefWorks and Covidence (Reference manager and online software for the completion of systematic reviews).

Inclusion Criteria	Exclusion Criteria
➢ Published between 2000 and 2019 ➢ Reporting on the health of African immigrant children aged 0 to 18 years	➢ Systematic & literature reviews, conferences, case studies, viewpoint articles, & epidemiology ➢ Mixed studies where African population make up < 80%

- Data was extracted using Excel spreadsheet, we extracted: a) author name, b) title, c) year of publication, d) research questions or objectives, e) methodology, f) theoretical framework, g) method, h) clinical area of focus period of data collection, j) country of origin or region, k) destination country or region, l) summary of findings, m) summary of implications.
- Quirkos (a software for qualitative data analysis) was used to 'code' (i.e., thematically sort) the data into categories.

Results

Research questions

1. What is the scope, range and nature of evidence on the health of African immigrant children with sickle cell disease (SCD) living abroad?
- What is known from existing international literature on the health of African immigrant children with SCD living abroad?

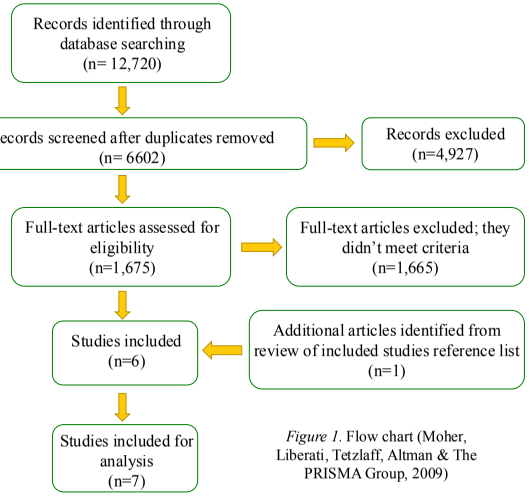

Figure 1. Flow chart (Moher, Liberati, Tetzlaff, Altman & The PRISMA Group, 2009)

Findings: Diagnosis of SCD n=5 Consequences of SCD n=2 Quantitative studies n=7 Conducted in Italy n=7 Theoretical Framework Mention n=0 Clinical assessment n=7 Only African Immigrant Population n=1 States disadvantages n=6 Implemented interventions n=2 Physical health n=5 Mental health n=2

Discussion

- All seven studies identified current disadvantages African immigrant children with SCD face, however only two studies implemented interventions to tackle those disadvantages
- Due to the main method of data collection being clinical assessment, the data extracted lack meaningful insight and the incentive to effectively address the issues disclosed in their studies.
- The predominant use of mixed population studies' (n=6) between non-African children and African immigrant children resulted in inconclusive findings on the African population.
- One major limitation found within the reports is that all the studies examining sickle cell patients in North America focus on the health of African-American children, while studies conducted outside of North America all took place in Italy.
- Even though all the studies were quantitative in design, the combined sample size was insufficient to make conclusive generalizations.
- We did not retrieve any studies with a qualitative approach.
- Of the included studies, none reported a theoretical framework.

Conclusions

- Overall, this review underlines the need for future research on the impact of migration on the health outcomes of African immigrant children with SCD living outside of Africa.
- Our review was on African immigrant children only. It is possible that authors have excluded pertinent demographic information about migration status. The lack of this information decreased the number of studies meeting our inclusion criteria. Thus, researchers working in this field should include information on these variable in future publications.
- Based on the results of these studies, we made recommendations for future research and practices which included:
  - the need for full-scale, randomized controlled trials to evaluate the effectiveness of interventions for this population.
  - more qualitative consideration of the cultural background and traditional lifestyle when conducting research or implementing interventions.
  - more studies should be conducted in places with high migration flow from Africa (Europe & North America) (UN DESA, 2015).

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