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?

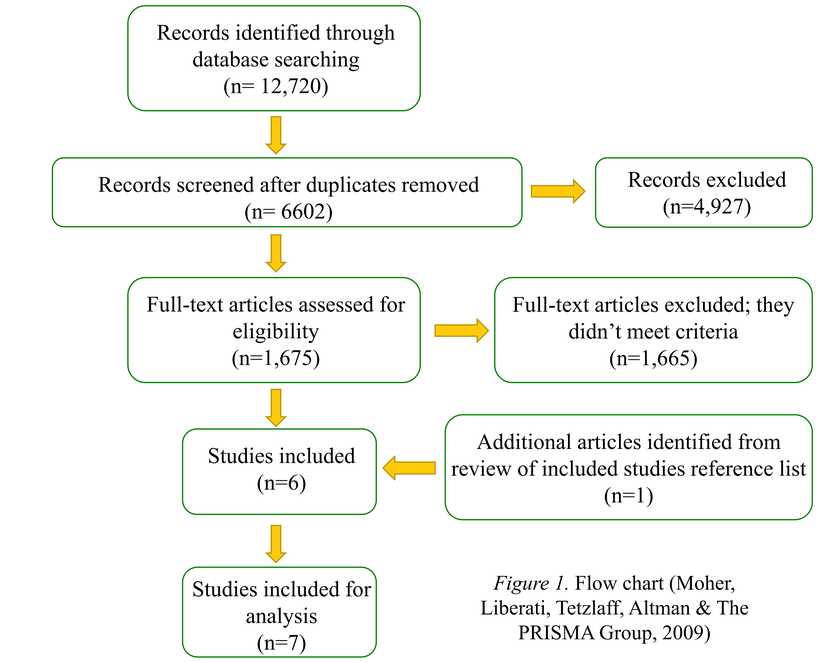

Figure 1. Flow chart (Moher, Liberati, Tetzlaff, Altman & The PRISMA Group, 2009)

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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