




BMJ Open Scoping review protocol on the health of sub-Saharan African migrants in the Asia-Pacific region

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ABSTRACT

Introduction Increasing economic opportunities have attracted people from sub-Saharan Africa to migrate to the Asia-Pacific region in the last two decades. The information on the health situation of these migrants is limited. We aim to assess scientific evidence on the health of sub-Saharan African migrants in the Asia-Pacific region using a scoping review.

Methods and analysis The review will be conducted according to the JBI guide on evidence synthesis, and the final results will be organised and reported in line with the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for scoping reviews. Search strategies have been developed centred on population-concept-context elements including sub-Saharan Africa, Asia-Pacific, migration and health. A total of eight databases will be searched, including PubMed, Embase, Cumulative Index to Nursing and Allied Health Literature, ProQuest, Scopus, Web of Science, *Wanfang* and CNKI. Title and abstract screening and full-text screening will be conducted by two researchers independently. Data will be charted according to predesigned form.

Ethics and dissemination This study involves neither human participants nor unpublished secondary data. Institutional review board approval is therefore not required. Findings of this scoping review will be disseminated through publication in a peer-reviewed journal, through academic network and project report.

INTRODUCTION

Background

African communities started to establish themselves in major Asia-Pacific cities including Guangzhou, Hong Kong, Seoul and Sydney.¹⁻⁴ This population movement is unique compared with the African diaspora movement to European countries and migration within Africa. Movement from sub-Saharan Africa to the Asia-Pacific region is partly driven by international trade between the country of origin and the destination country.⁵ For example, in Guangzhou, African merchants purchase wholesale goods directly from manufacturers at low cost and then sell them through retail shops in African countries.¹ Additionally, increased research

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This review will consider both English and Chinese language publications to capture available evidence.
- ⇒ The search will comprehensively consider literature from multiple disciplines such as public health, clinical medicine, international relations and other social sciences fields.
- ⇒ Study results will be rigorously reported according to the guideline “Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for scoping reviews”.
- ⇒ Since this review focuses primarily on scientific publications, relevant information from news reports, and other non-peer reviewed informal sources will not be included, which can be a potential limitation.

and study opportunities have attracted scholars and students from sub-Saharan Africa to study or visit the Asia-Pacific region.⁵ Also, highly skilled professionals such as healthcare workers may choose to move to Asia-Pacific countries, particularly Australia, to seek better work condition and employment opportunities. Taken together, those migrants are potentially motivated to move by the pull factors as theorised by Lee in 1966.⁶ Previous ethnographic work also provided a rich account of the context and individuals’ life stories to distinguish such south-to-south population mobility.^{3 5 7} Sub-Saharan African diaspora and its associated health topics have been extensively studied and summarised in receiving countries in Europe and the United States, but rarely reported in the Asia-Pacific region.⁸ A systematic examination of existing evidence on health related to migration from sub-Saharan Africa to the Asia-Pacific region demonstrated novelty and fills the gap as the Asia-Pacific countries prepare themselves for south-to-south migration.⁹

The health situation of migrants remains debatable and in certain context even paradoxical. On the one hand, *healthy immigrant effect* asserted that migrants tend to be in good

condition due to the positive health selection process through which healthier persons are more likely to move to places far from home.^{10 11} In the postmigration period, migrants of poorer health tend to return or move closer to their country of origin for more familiar environment, known as *salmon bias* theory.^{12 13} Both theories contributed to a conclusion of the healthy profile of migrants. On the other hand, studies observed suboptimal health outcomes in lieu of mortality advantage among migrant groups in certain contexts.^{14 15} Little has hitherto been known about the health situation of migrants from sub-Saharan Africa to the Asia-Pacific region which warrants a systematic inquiry. With emerging migration trend from sub-Saharan Africa to the Asia-Pacific region, it is pivotal to summarise key interdisciplinary evidence on those migrants' health.

Access to and utilisation of healthcare services among migrants are also crucial areas that call for a holistic investigation. Barriers to health services were prevalent according to a global systematic review synthesising 28 qualitative studies published in English or Spanish focusing on migrants primarily living in the United States.¹⁶ Concerning the Asia-Pacific region, several empirical studies have also reported barriers to health services among sub-Saharan African migrants living in Guangzhou and Melbourne.¹⁷⁻¹⁹ Furthermore, other elements such as nutrition, also fall under the umbrella of health and await clear answers when it comes to sub-Saharan African migrants in the Asia-Pacific region.

Health is a broad and complex topic—on which information includes empirical research, perspectives and reviews around health status, interaction with the health system, ethnomedicine and so forth. To map existing scholarly evidence and perspectives on what has been researched and discussed on the broad health topics of sub-Saharan African migrants in the Asia-Pacific region, a scoping review is urgently needed to gather key concepts, map various topics and identify research gaps. This review will be conducted according to the Joanna Briggs Institute (JBI) guide on evidence synthesis and the final results will be organised and presented in line with the reporting checklist in the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for scoping reviews.^{20 21}

Study aims and objectives

This scoping review will systematically search for and screen literature, categorise included studies, summarise currently available evidence to map the scientific evidence related to the health of sub-Saharan African migrants in the Asia-Pacific region. Scoping review is the suitable approach to this inquiry because it gauges the scope of literature on a relatively broad topic or in an evolving field. The methodology of a scoping review permits a systematic search as well as rounds of rigorous screening, and allows for heterogeneity of study types and findings.²² For our study, we seek to address an interdisciplinary research topic, migrants' health, with regard to

evidence broadly stemming from several fields and generated from heterogeneous methodologies. In this case, a scoping review is a preferred methodology compared with systematic review which is commonly used to answer a narrowly defined question such as treatment effect of a particular intervention. Under this overarching study aim, the objectives of this review are to:

1. Identify the outcomes, indicators, concepts and perspectives related to the health of sub-Saharan African migrants in the Asia-Pacific region including but not limited to the following aspects:
 - a. Interaction with health systems (services needs and demands, user experience, etc).
 - b. Programmatic research (description or evaluation of existing health programmes).
 - c. Ethnomedicine: practices, perspectives, comments and opinions.
 - d. Epidemiology, surveillance and studies involving case report or focusing on specific diseases.
2. Discuss the knowledge gaps on the health of sub-Saharan African migrants in the Asia-Pacific region.

Review questions and data output

This review will address several research questions and provide various data output corresponding to each research question as described in [table 1](#).

Among these research questions, the first one will address the scope of existing evidence on the health among sub-Saharan African migrants in the Asia-Pacific region. Questions 2–5 will help facilitate the understanding of the health situation, the healthcare services and programmes landscape, the comprehensiveness and breadth of existing evidence as well as the gap in research.

METHODS AND ANALYSIS

Search strategies

The search comprises three stages as suggested by the JBI guideline.²⁰ First, we will carry out a targeted search in a selection of two databases (PubMed and CNKI) and select several key studies that are relevant to the broad topic. We will analyse the text words and keywords of those studies to derive a tentative list of search terms commonly used to specify the 'Population-Concept-Context (PCC)' components for the scoping review. Built on that list, we will search multiple databases to review their lexical trees (eg, Medical Subject Headings in PubMed) and develop the search terms. In the second stage, we will finalize the detailed search criteria for PubMed and adapt them to all included databases. As a last stage, we will search the reference list of included studies to look for other potentially relevant studies. Our protocol is registered on the Open Science Framework (access: https://osf.io/4xn-hg/?view_only=4e1daabaac5346839a071a8a261ba70c).

Databases

We will include a total of eight databases for this search. Among them, six are English databases including

Table 1 Indication, research question and data output for conducting the scoping review

	Indications for conducting a scoping review suggested by Munn <i>et al</i> ²²	Research question in this scoping review	Data output of this review
1	To identify the types of evidence in a given field	What types of studies/research have been conducted on health topics of SSA migrants in AP?	Descriptive analysis on types of articles (review, opinion pieces, protocol, empirical research articles) on the health of SSA migrants in AP
2	To identify and analyse knowledge gaps	What are the health priorities for SSA migrants in AP? What aspects are neglected from currently available evidence?	Reported disease epidemiology, burden, healthcare needs, healthcare service uptake and experience among SSA migrants in AP
3	To clarify key concepts/definitions in the literature	What are the guiding theories commonly used to study the health of SSA migrants in AP?	Theoretical/Conceptual framework guiding the study of health-related topics among SSA migrants in AP
4	To examine how research is conducted on a certain topic or field	How are studies carried out in this area? What types of data have been collected on the health of SSA migrants in AP?	Summary of methodology and methods used (observational studies, case studies); summary of types of data available
5	To identify key characteristics or factors related to a concept	What are key health-related outcomes or constructs that have been explored in previous studies?	Summary of existing research findings on specific health outcomes of SSA migrants in AP

AP, the Asia-Pacific region; SSA, sub-Saharan African.

PubMed, EMBASE, Cumulative Index to Nursing and Allied Health Literature (CINAHL), ProQuest Dissertation and Thesis, Scopus and Web of Science core (with Medline included). To capture publications in Chinese language, we will include two most commonly used databases, *Wanfang* database and CNKI for the search.

Search terms

Search strategies are developed using the principle of PCC based on the JBI recommendations for scoping review²⁰, population being migrants from sub-Saharan African countries, concept being health and context being in the Asia-Pacific region. Search terms in English are first developed for PubMed as below and then adapted to the other five databases with necessary database-specific modifications (online supplemental appendix 1). Four search concepts were developed and linked between each other by the Boolean “AND” as follows:

- Search concept 1: country of origin/areas
- Search concept 2: destination countries/areas
- Search concept 3: migration
- Search concept 4: health

Search terms in Chinese are developed separately for *Wanfang* database and CNKI tailored to their distinct search functions. Search terms are listed in online supplemental appendix 2.

Search limits

No limit will be applied on publication language. To achieve a balance between comprehensiveness and reflecting the recent trend, years of publication will be limited to a range from the year of 2000 (inclusive) to the last search date and time. No filters for study type (review, trial, observational studies, etc) will be applied.

Grey literature

Grey literature will be searched from clinical trial registration platforms (including clinicaltrials.gov and China Clinical Trial registries), preprints platforms (MedRxiv, BioRxiv, PsyArXiv, SocArXiv and Chinaxiv), working papers (Google Search and Google Scholar) and conference papers (Google Search and Google Scholar). Additionally, from the included studies, we will reach out the authors who were the first author and/or corresponding authors on two or more included studies and solicit information on unpublished studies on this topic.

We will also search beyond scientific databases and include relevant institutional and organisation reports from the following sources: the International Organization for Migration, WHO, United Nations Network on Migration and Migration Data Portal.

Study screening

Pilot screening

Before starting the formal screening process, the review team will perform a pilot testing on a selection of 50 title/abstracts in English and 50 ones in Chinese. During the pilot process, the first three authors will screen those same studies in two rounds, that is, title and abstract screening as well as full-text screening; discrepancies will be resolved through discussion. Consensus will be reached on all those pilot articles before the formal screening process begin.

Screening procedures

We will import all search results into EndNote X9. First, we will use EndNote to identify and remove search results that have the same authors, titles, publication year. Furthermore, we will manually sort the search results alphabetically by author names and by titles to identify the same abstracts that were submitted to different conferences and therefore

published by different journals; using the same strategies, we will also identify different publications from the same studies where interim analysis results were published first and later did the main publications. We will keep the more comprehensive and later publications from the same studies.

After deduplication, remaining search results will be uploaded to Covidence, an online platform that aids the process of systematic and scoping reviews. Study screening includes firstly title and abstract screening, and then full-text screening. Two reviewers will independently review titles and abstracts. When conflict occurs, a third reviewer will independently judge the study. If during title and abstract screening it is impossible to determine whether that study contains relevant information, we will select 'Maybe' to examine further in the full-text step. Publications that have been deemed as 'relevant' or 'maybe' proceed to the full-text screening where full-text documents for each publication will be scrutinised by two reviewers independently. A third reviewer will serve as a referee when the decisions made by the initial two reviewers are inconsistent.

Inclusion criteria

Studies are eligible if they report or discuss on health-related topics of non-refugee sub-Saharan African migrants living in Asia-Pacific region. We chose to focus on non-refugee migrants because they have been understudied and may experience drastically different postmigration health issues compared with refugee populations. Studies will be included if they contain information on sub-Saharan African origin country (or countries), AND Asian-Pacific country (or countries) of arrival AND migration AND health. To further rule out irrelevant search results, we will apply the following exclusion criteria in screening (table 2).

Data charting

Data charting will be completed using a predesigned table to gather an overall descriptive account of available evidence on health among migrants from sub-Saharan African countries living in the Asia-Pacific region. Study characteristics will be summarised including: authors, year of publication, country of origin, destination country, information source, study type, study aims/objectives, population types (eg, subcategories including students, labour workers, merchants, etc), sample size, methodology/methods, key outcomes and key conclusions (see the table column headings in online supplemental appendix 3). A total of five publications will be used for pilot data charting to ensure consistency between reviewers. Once the reviewers are familiar about the information to be charted, the remaining studies will be charted by one reviewer and critically examined by a second reviewer. When conflict occurs, a third reviewer will join the discussion and make a joint final decision.

If information is concentrated in selected areas, for example, ethnomedicine practices, then a secondary data charting will be conducted within that type, and key results will be described qualitatively.

Presentation of results

Findings will be presented in a tabular form (see table 3) in response to research questions listed in table 1.

Figures, such as bubble chart and flow charts will be used to aid the illustration of findings from this scoping review.

Patient and public involvement

Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Table 2 Exclusion criteria and examples for study screening

Exclusion categories	Exclusion examples
Wrong population	<ol style="list-style-type: none"> 1. Non-human studies, such as migrating birds/strain of pathogens/genetic traits. 2. Participants are Chinese migrants residing in Africa. 3. Participants are solely refugees, displaced population, human trafficking victims and migrants in humanitarian settings. 4. Participants were born and grew up in the Asia-Pacific region to immigrant parents from sub-Saharan countries or to a naturalised citizen of the destination country; they themselves have not experienced migration. 5. Studies that mentioned origin and destination countries of interest but have not mentioned migrants (eg, international/global studies).
Wrong destination	<ol style="list-style-type: none"> 1. Study destination countries are not in Asia-Pacific. For example, studies where migration destinations are in Europe (eg, Norway, Italy), Middle East (eg, Israel), other African countries (eg, South Africa), North America (USA, Canada), South Asia (India, Bangladesh), etc. 2. Study that focus solely on internal migrants within countries.
Non-health related	<ol style="list-style-type: none"> 1. Studies that do not have any health-related outcomes, but solely focus on other aspects such as economics, international trade, border security and foreign aid. 2. Studies that report solely biological or genetic characteristics of migratory groups from the perspective of physical anthropology. 3. Studies that report solely the phenomenon of health professionals emigrating.
Others	<ol style="list-style-type: none"> 1. Studies that lack any of the four key concepts (migration, health, sub-Saharan Africa, Asia-Pacific). 2. Conference abstract book that is not centred on migration and health. 3. Studies that do not have abstract or full text.

Table 3 Presentation of results based on preplanned parameters

Parameter	Results
Numbers of publication by information source	<ol style="list-style-type: none"> Total number of included studies Number of studies by time period (2000–2010, 2011–present) Number of research articles Number of comments Number of published proposals/protocols Number of other types of information source
Aims/Objectives	<ol style="list-style-type: none"> Summarise aims and objectives of include studies Enumerate the number of sources in each category
Type of study	<ol style="list-style-type: none"> Review Cross-sectional studies Longitudinal studies Case report Other types of observational studies Trials/Quasi-experimental studies Qualitative studies Mixed-methods studies Other
Population identified	
By region of origin	<ol style="list-style-type: none"> East Africa Central Africa Southern Africa Western Africa
By destination country	<ol style="list-style-type: none"> Australia China Japan New Zealand Other
By age	<ol style="list-style-type: none"> Minors (aged 18 years) Adults (aged ≥18 years)
By migration purpose	<ol style="list-style-type: none"> Business/Trade Public services/Diplomacy Employment/Labour work Unspecified Education/Research exchange Leisure travel Visiting family Unknown Other
Study implementation	<ol style="list-style-type: none"> Sampling and recruitment strategies Data collection format (offline/online) Theoretical lenses adopted Overarching methodologies adopted
Health domains	<ol style="list-style-type: none"> Interaction with health systems (services needs and demands, user experience, etc) Programmatic research (description or evaluation of existing programmes) Cultural medicine practices/transnational perspectives, comments and opinions Epidemiology, surveillance and studies that focus on health issues Other
Disease/illness specialty	<ol style="list-style-type: none"> Infectious diseases Non-communicable diseases Mental health/Quality of life Reproductive health Other

ETHICS AND DISSEMINATION

This study involves neither human participants nor unpublished secondary data. Institutional review board approval is therefore not required. Findings of this scoping review will be disseminated through publication in a peer-reviewed journal, through academic network and project report.

Contributors FY conceptualised this study with input from WT, CW, XH and JT. FY and XH developed the search strategies for the English databases; YS developed the Chinese databases search strategies with assistance from XH and FY. FY, XH and YS developed the inclusion and exclusion criteria. FY wrote the initial draft of this manuscript. WT, DW, CW, YG, ABB and JT provided critical review and comments on the draft. All authors have approved the final version.

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Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

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REFERENCES

- Bodomo A. The African trading community in Guangzhou: an emerging bridge for Africa–China relations. *China Q* 2010;203:693–707.
- Alaeze I, Newell M, Yun M, *et al*. Prevalence and perception of obesity among sub-Saharan Africans in Korea. *J Immigr Minor Health* 2019;21:555–62.
- Mathews G, Yang Y. How Africans pursue low-end globalization in Hong Kong and mainland China. *J Curr Chin Aff* 2012;41:95–120.
- Akosah-Twumasi P, Alele F, Smith AM, *et al*. Prioritising family needs: a grounded theory of acculturation for sub-Saharan African migrant families in Australia. *Soc Sci* 2020;9:17.
- Bodomo A. *Africans in China*. Cambria Press, 2012.
- Lee ES. A theory of migration. *Demography* 1966;3:47–57.
- Castillo R. ‘Homing’ Guangzhou: emplacement, belonging and precarity among Africans in China. *International Journal of Cultural Studies* 2016;19:287–306.
- UN.ESCAP. *Asia-Pacific migration report 2020: assessing implementation of the global compact for migration*, 2020. Available: <https://hdl.handle.net/20.500.12870/380>.
- (IOM), I.O.f.M. Iom and South-South and triangular cooperation, 2022. Available: <https://www.iom.int/resources/iom-and-south-south-and-triangular-cooperation> [Accessed 4 Dec 2022].
- Aldridge RW, Nellums LB, Bartlett S, *et al*. Global patterns of mortality in international migrants: a systematic review and meta-analysis. *Lancet* 2018;392:2553–66.
- Maskileyson D, Seddig D, Davidov E. The comparability of perceived physical and mental health measures across immigrants and natives in the United States. *Demography* 2021;58:1423–43.
- Diaz CJ, Koning SM, Martinez-Donate AP. Moving beyond salmon bias: Mexican return migration and health selection. *Demography* 2016;53:2005–30.
- Dunlavy A, Cederström A, Katikireddi SV, *et al*. Investigating the salmon bias effect among international immigrants in



- Sweden: a register-based open cohort study. *Eur J Public Health* 2022;32:226–32.
- 14 Wallace M, Darlington-Pollock F. Poor health, low mortality? Paradox found among immigrants in England and Wales. *Population, Space and Place* 2020;28.
 - 15 Boen CE, Hummer RA. Longer-but Harder-Lives?: the Hispanic health paradox and the social determinants of racial, ethnic, and Immigrant-Native health disparities from midlife through late life. *J Health Soc Behav* 2019;60:434–52.
 - 16 Agudelo-Suárez AA, Gil-González D, Vives-Cases C, et al. A metasynthesis of qualitative studies regarding opinions and perceptions about barriers and determinants of health services' accessibility in economic migrants. *BMC Health Serv Res* 2012;12:461.
 - 17 Lin L, Brown KB, Hall BJ, et al. Overcoming barriers to health-care access: a qualitative study among African migrants in Guangzhou, China. *Glob Public Health* 2016;11:1135–47.
 - 18 McCann TV, Mugavin J, Renzaho A, et al. Sub-Saharan African migrant youths' help-seeking barriers and facilitators for mental health and substance use problems: a qualitative study. *BMC Psychiatry* 2016;16:275.
 - 19 Bodomo A, Liem A, Lin L, et al. How African migrants in China cope with barriers to health care. *Lancet Public Health* 2020;5:e192.
 - 20 Peters MDJ, Godfrey CM, Khalil H, et al. Guidance for conducting systematic scoping reviews. *Int J Evid Based Healthc* 2015;13:141–6.
 - 21 Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med* 2018;169:467–73.
 - 22 Munn Z, Peters MDJ, Stern C, et al. Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Med Res Methodol* 2018;18:1–7.