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The bidirectional effects of the COVID-19 pandemic on the social determinants of health among refugees and internally displaced persons in low and lower-middle income countries: A systematic review of qualitative studies

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ABSTRACT

Background: This systematic review aims to synthesize the available qualitative evidence on the bidirectional effects of the COVID-19 pandemic on the social determinants of health among refugees and internally displaced persons in low and lower-middle income countries.
Methods: A systematic search of peer-reviewed articles published in English was conducted in August 2025 using five databases: PubMed, Scopus, PsycINFO, Embase, and ASSIA. The Critical Appraisal Skills Program qualitative studies checklist was used to assess the quality of qualitative and mixed-methods studies. The Dahlgren and Whitehead model of the social determinants of health was used as a reference framework for data extraction and analysis. The themes that emerged during the data extraction process were used to create an adapted framework
Results: Out of 12,607 studies found, 32 studies were included for review. The COVID-19 pandemic had profound effects on most of the social determinants of health among refugees and internally displaced persons in low and lower-middle income countries. Also, unfavorable health determinants of refugees and internally displaced persons residing in these countries made them more susceptible to COVID-19.
Discussion: The COVID-19 pandemic had bidirectional effects on refugees' and internally displaced persons' social determinants of health. The pandemic negatively affected their work conditions, economic status, education, and healthcare access. On the other hand, lack of access to clean water, crowded housing, and poor health literacy level affected their compliance with protective measures making them more prone to COVID-19 infection.

1. Introduction

With more than 778 million confirmed cases and over 7 million deaths globally up to date, the Coronavirus Disease (COVID-19) has had dramatic impacts worldwide (WHO 2025). After the World Health Organization (WHO) declared COVID-19 a global pandemic in March 2020 (Listings of WHO's response to COVID-19 [Internet] 2022), countries across the globe responded by implementing strict measures such as closing borders, suspending flights, and imposing local lockdowns (Tabari et al., 2020). Several sectors were adversely affected including healthcare (Kaye et al., 2021), education (Pokhrel and Literature, 2021), tourism (Yang et al., 2021), manufacturing (Ardolino et al., 2022), and transport (Abduljabbar et al., 2022). Strict containment actions, such as social distancing and curfews, impacted many people's social, financial, and mental health statuses on different levels. Large population sectors became unemployed (ILO 2021), and/or psychologically affected (Xiong et al., 2020).

Refugees (Bukuluki et al., 2020) and internally displaced persons (IDPs) (Niyi-Gafar and Adelakun, 2022) were at higher risk to suffer from the direct and indirect impacts of COVID-19 as a result of their living conditions (Abbara et al., 2020; Kluge et al., 2020). The United Nations High Commissioner for Refugees (UNHCR) defines refugees as "people who have fled war, violence, conflict or persecution and have crossed an international border to find safety in another country"

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(UNHCR Ireland [Internet] 2022). In contrast, IDPs do not cross international borders when fleeing war, or violence; instead, they stay in their home countries (UNHCR US [Internet] 2022; OHCHR [Internet] 2023). According to the latest statistics, there are around 42.7 million refugees and 73.5 million IDPs worldwide (Refugee Statistics | USA for UNHCR [Internet] 2025). More than third of refugees (36 %) and 80 % of IDPs live in low and lower-middle income countries (LLMICs) (UNHCR Ireland [Internet] 2025; IDMC - Internal Displacement Monitoring Centre 2025). These countries have high rates of informal employment, poverty, food insecurity, and low social protection measures. The COVID-19 pandemic placed additional strain on these vulnerable populations (Statistics on the informal economy 2025; OECD [Internet] 2022; Global Report on Food Crises 2021; Annual Report 2021 | International Labour Organization [Internet] 2022).

Health is determined by many wider social factors known as "social determinants of health (SDH)", which are defined as "the conditions in which people are born, grow, work, live, and age" (Social determinants of health [Internet] 2022). The SDH range from genetic and constitutional factors to more broadly cultural, socioeconomic, and environmental factors (Dahlgren and Whitehead, 2021). Socioecological frameworks situate individuals' behaviours within wider interpersonal, intrapersonal, and social structures (Roura, 2023). The Dahlgren & Whitehead model of social determinants of health (Dahlgren and Whitehead, 2022) (Fig. 1) explicitly accounts for various layers of interrelated factors, which affect and are affected by each other. These layers include genetic, individual lifestyle factors, social and community networks, living and working conditions, and general socio-economic, cultural, and environmental factors. This model was modified by the WHO and the International Organization for Migration (IOM) to illustrate the policies and legislation required to improve the SDH among migrants and ethnic minorities and to reduce health inequities (How Health Systems Can Address Health Inequities Linked to Migration and Ethnicity [Internet] 2022).

As for all populations, there are bidirectional effects between the SDH and the health status of refugees and IDPs. On one hand, the SDH play a major role in determining refugees' and IDPs' health. On the other hand, refugees' and IDPs' health affects their SDH in myriad ways. For instance, research has shown that the health of refugees with permanent contracts or full-time jobs is better than the health of refugees with non-permanent contracts or part-time jobs (Lai et al., 2022). In turn, refugees with better health conditions have higher odds of employment (Lai et al., 2022).

From the start of the COVID-19 pandemic until August 2025, many studies were conducted on the pandemic and its effects on specific populations. A review was carried out to assess the impact of COVID-19 on the mental health of the general public and vulnerable groups such as adolescents, refugees, and homeless people (Tsamakis et al., 2021). Another study summarised the unequal impact of the pandemic on asylum seekers and undocumented migrants in high and upper-middle income countries (Mengesha et al., 2022). A narrative review examined the effectiveness of government policies in addressing the healthcare needs of refugees during the pandemic (Lupieri, 2021). Finally, a scoping review investigated the best-recommended measures for COVID-19 prevention in refugee shelters (Führer et al., 2022), and another focused on the risk of COVID-19 infection and transmission among migrants, refugees, asylum seekers, and IDPs, as well as how they were affected by lockdowns (Hintermeier et al., 2021). Despite the availability of studies that were conducted on the impact of COVID-19 on different vulnerable groups, the bidirectional effects of the COVID-19 pandemic on the SDH among refugees and IDPs in LLMICs have not been examined in a systematic way. This review fills this gap in the literature. Another review is underway to focus on qualitative data from upper-middle income countries (UMICs).

This systematic review is conducted to answer the following questions:

Q1) How did the COVID-19 pandemic affect the SDH among refugees and IDPs in LLMICs?
Q2) How did the refugees' and IDPs' SDH affect their vulnerabilities to COVID-19?

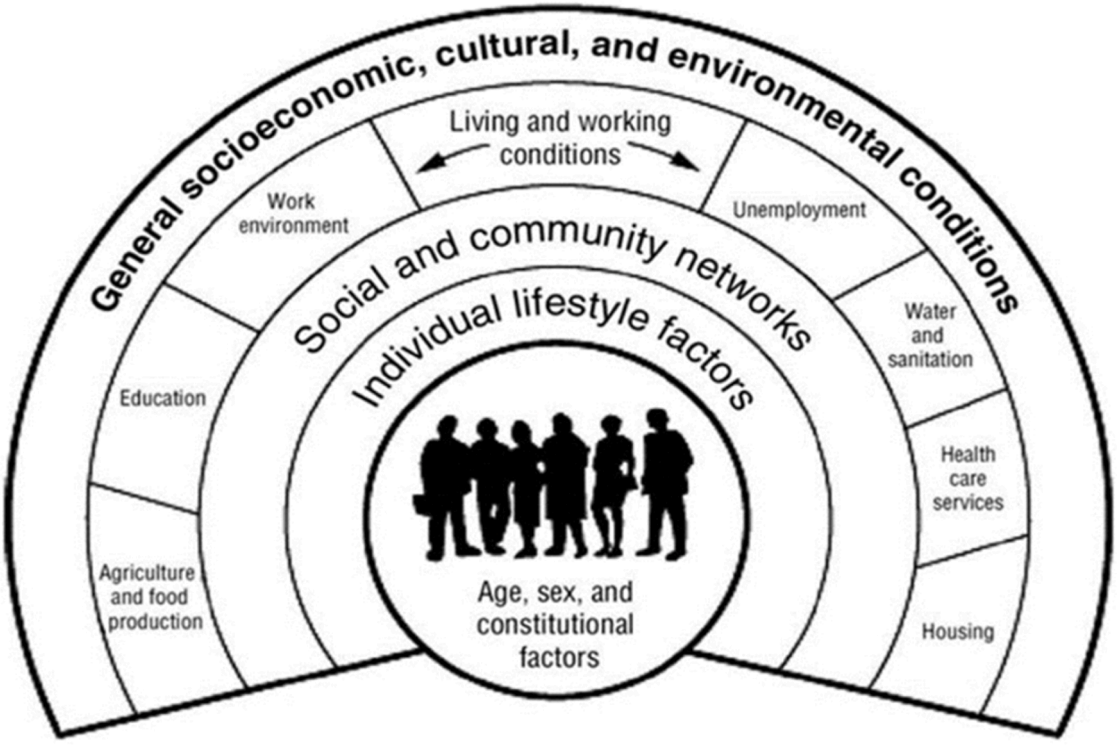


Fig. 1. The Dahlgren and Whitehead model of the social determinants of health.
Source: Dahlgren & Whitehead (Dahlgren and Whitehead, 2021).

2. Methods

The focus of this review is on qualitative studies, which are particularly useful to gain in depth insights into the HOWs and personal experiences of vulnerable populations (Teti et al., 2020).

This systematic review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) 2020 guidelines (Page et al., 2021) (Appendix A).

2.1. Inclusion criteria

Studies were considered eligible if they met the following criteria:

- Peer-reviewed
- Include qualitative data (e.g., qualitative research, mixed-methods research, case studies, multiple case studies, and case series)
- Written in the English
- Conducted during the COVID-19 pandemic (December 2019- August 2025)
- Participants are refugees/ IDPs, or service providers who dealt with refugees / IDPs
- Conducted in LLMICs
- Refugees/ IDPs are the main study population or part of the participants as long as there is sufficient data on these populations
- Investigate the effect of the COVID-19 pandemic on one or more SDH among refugees / IDPs
- Explore the effect of the SDH on the refugees' /IDPs' vulnerability to COVID-19

2.2. Exclusion criteria

- Non-peer-reviewed articles
- Non-English language
- Quantitative studies
- Mixed-methods studies not providing qualitative data specific to refugees /IDPs
- Government reports, editorials, conference proceedings, grey literature, notes, letters, commentaries, thesis, and dissertations
- Studies conducted in UMICs or high-income countries
- Studies measuring primarily the impact of COVID-19 on the mental health of refugees/ IDPs
- Studies that focus completely on the effects of the COVID-19 pandemic on citizens or other population groups (e.g. asylum seekers, undocumented migrants, and international labor migrants)

2.3. Information sources and search strategy

Five electronic databases were initially searched in June 2022 to find eligible studies. These included PubMed, Scopus, PsycINFO, Embase, and ASSIA (Applied Social Sciences Index and Abstracts). An English language filter was used. A PubMed search was conducted to identify relevant Medical Subject Headings (MeSH). Next, the Thesaurus was used to identify other synonyms for key terms to include in the search. The PubMed search was initially conducted on 8th, June 2022 by using several MeSH terms and keywords related to refugees, COVID-19, and SARS-CoV-2 in the title and abstract fields. An updated search was conducted in August 2025 to include the studies that were published in the period of June 2022-August 2025. All the terms that were used are listed in detail (Appendix B). Boolean operators such as (AND, OR) were used in the final search strategy presented in Appendix C.

2.4. Study selection

Zotero reference management software was used to save articles retrieved from the search for each of the five databases, which were exported to Covidence and Rayyan software where duplicated studies were deleted. Two authors (N.A.) and (L.J.M) individually screened the titles and abstracts of the retrieved articles to determine their eligibility according to the inclusion and exclusion criteria using Rayyan software as it is accessible by the two reviewers. Eligible studies were then full-text screened. All studies that met the inclusion criteria were included in this review, and reasons for exclusion were given for each excluded study (Fig. 2). Any discrepancies were resolved by discussion between the two reviewers.

2.5. Data extraction

The first author (N.A) developed a structured data extraction form to capture basic study information including title, authors, year of publication, sampling and data collection methods, and research design. For the purpose of data synthesis, we focused on data from qualitative studies and the qualitative components of mixed-methods studies. Data extraction was guided by Dahlgren and Whitehead's SDH model, which helped us organize the key findings in a systematic way. The first author extracted data and summarized them under relevant levels of the SDH framework (e.g., individual lifestyle factors, social and community networks, living and working conditions, and broader socioeconomic, cultural, and environmental conditions) (Appendix D). Seven authors were contacted to clarify unclear or missing information, of which 6 provided responses.

2.6. Quality assessment

A quality assessment of all the included studies was conducted by the first author. Qualitative studies/components were critically appraised using the Critical Appraisal Skills Program (CASP) checklist (CASP 2022). This tool has ten questions divided into three categories (validity, results, and practical relevance) (CASP 2022). The quality of the study is determined according to the number of quality criteria met by each study. Studies are considered high quality if the score is (>8–10), fair (5-8), or low (<5) (Appendix E).

2.7. Data synthesis

We employed a framework synthesis approach (Dixon-Woods, 2011) to systematically synthesize data (Barnett-Page and Thomas, 2009) drawing from the socio-ecological framework developed by Dahlgren & Whitehead in 1991 (Dahlgren and Whitehead, 2021). Following data extraction, key findings were organized in a table in which coloumns represented different levels of the SDH framework. Within this structure, emerging themes were summarized from the extracted data (Table 2). This process allowed us to adapt the framework by incorporating the themes that emerged directly from the included studies.

3. Results

3.1. Study selection

The database search retrieved 12,607 articles, using Covidence software 4441 duplicated studies were removed automatically. Then, the remaining articles were exported to Rayyan software where another 275 duplicated studies were removed. A total of 7891 articles remained for title/abstract screening. After applying eligibility criteria, 7793 records were excluded. Ninety-eight articles were left for full-text screening. Sixty-six articles were excluded for the following reasons: four for absence of focus on the review populations, six studies were excluded due to insufficient qualitative data on the COVID-19 pandemic, two articles were written in another language, sixteen studies did not answer review question, seven studies were not conducted in LLMICs, and 31 articles were wrong publication type. A total of 32 studies met the inclusion criteria and were included in this systematic review. The PRISMA 2020 flow diagram (Haddaway et al., 2022) shows the data

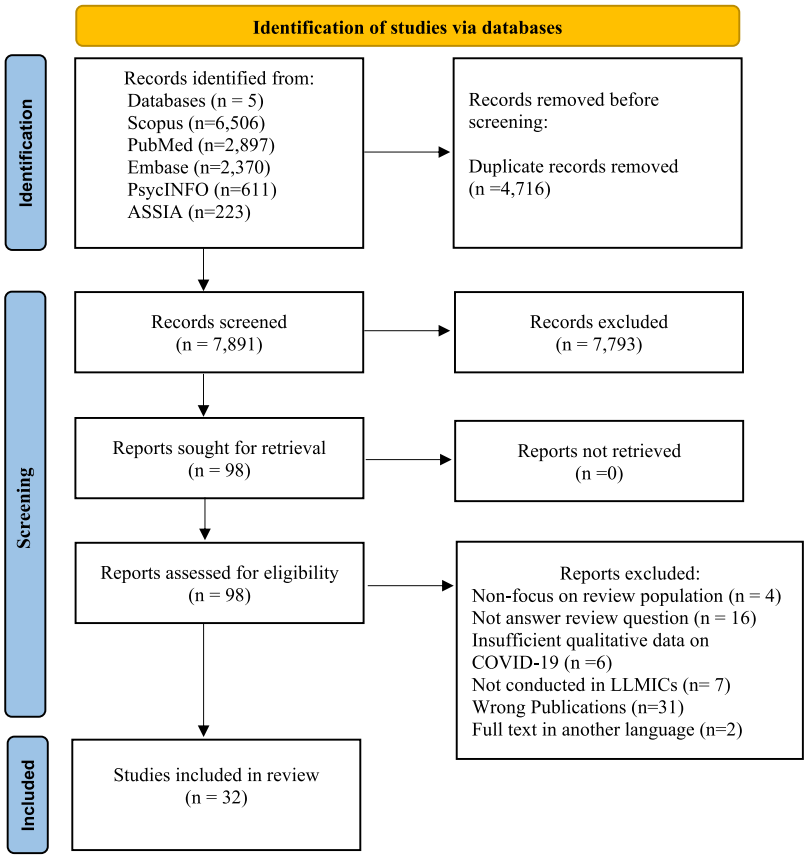


Fig. 2. PRISMA 2020 flow diagram.

selection process (Fig. 2).

3.2. Study characteristics

Thirty two studies were included in the systematic review, of which 27 qualitative (Adejoh, 2025; Ag Ahmed et al., 2021; Akter et al., 2021; Chowdhury et al., 2022; Douedari et al., 2020; Masri and Minoia, 2022; Enns, 2025; Hossain et al., 2023; Jamal, 2025; Kadio et al., 2023; Kadio, 2025; Khai, 2023; Klabbers et al., 2023; Logie et al., 2021; Lusambili et al., 2021; Lusambili et al., 2020; Ly et al., 2022; Meyer et al., 2022; Moawad and Andres, 2020; Mourtada and Melnikas, 2023 Sep 6; Moyo et al., 2021; Munajed and Ekren, 2020; Sahfiq, 2025; Shayo et al., 2024; Siddiqi and Khan, 2025; Tsegaye et al., 2022; Zuntz et al., 2022) and five mixed-methods (Barnes et al., 2024; Claude et al., 2020; Guglielmi et al., 2020; Ozer et al., 2022; Palattiyil et al., 2022). Included studies were conducted in Bangladesh (Akter et al., 2021; Chowdhury et al., 2022; Hossain et al., 2023; Siddiqi and Khan, 2025; Guglielmi et al., 2020), Uganda (Klabbers et al., 2023; Logie et al., 2021; Palattiyil et al., 2022), Mali (Ag Ahmed et al., 2021; Ly et al., 2022), Kenya (Enns, 2025; Lusambili et al., 2021; Lusambili et al., 2020), Pakistan (Sahfiq, 2025; Barnes et al., 2024), the Democratic Republic of the Congo (DRC) (Claude et al., 2020) Syria (Douedari et al., 2020), Lebanon (Masri and Minoia, 2022; Moawad and Andres, 2020; Mourtada and Melnikas, 2023 Sep 6), Burkina Faso (Kadio et al., 2023; Kadio, 2025; Ozer et al., 2022), Ethiopia (Tsegaye et al., 2022), Nigeria (Adejoh, 2025), Palestine (Jamal, 2025), Myanmar (Khai, 2023), Rwanda (Meyer et al., 2022), Tanzania (Shayo et al., 2024), Uganda and South Africa (Moyo et al., 2021), Lebanon and Türkiye (Munajed and Ekren, 2020), and one study was conducted in Lebanon, Syria, Jordan, Türkiye, and Iraq (Zuntz et al., 2022) . For studies conducted in multiple countries, only data from LLMICs were extracted.

A total of nine studies focused on IDPs (Adejoh, 2025; Ag Ahmed et al., 2021; Douedari et al., 2020; Kadio et al., 2023; Kadio, 2025; Khai, 2023; Ly et al., 2022; Claude et al., 2020; Ozer et al., 2022), while the remaining 23 studies focused on refugees as main participants along with other participants such as citizens from the host communities, and different service providers such as academics, healthcare practitioners, camp leaders, volunteers, policymakers, and Non-Governmental Organization (NGO) staff. (Table 1)

3.3. Quality assessment

The CASP tool checklist (CASP 2022) was used to appraise qualitative studies/components. None of the articles were excluded due to their low quality. A total of 21 studies met more than 80 % of the criteria and were considered high-quality studies, 11 studies were of fair quality, and none of the studies was of low quality (Appendix E).

3.4. Data synthesis and development of updated SDH framework

Qualitative data from quotes, observations, and authors' interpretations were extracted and categorized according to the different levels of the SDH framework (individual lifestyle factors, social and community networks, living and working conditions, and general socioeconomic, cultural, and environmental conditions) as shown in Appendix D. Several themes emerged inductively from the data which lie within different layers of the socio-ecological framework. Emerging themes were organized according to the reference framework (Table 2). Illustrative quotes for each theme were summarized in Appendix F. To reflect the themes derived from the data, the framework was adapted iteratively during the data synthesis process (Fig. 3). Therefore, our adapted SDH framework draws from the original conceptual structure

Table 1
Characteristics of the included studies.

Author & Year	Location	Participants	Study Design	Data collection	Analysis methods	Quality Assessment
1.1.Adejoh S. et al. (2022)	Nigeria	IDPs	Qualitative	Face-to-face interviews	Content	Fair
2. Ag Ahmed M, et al. (2021)	Mali	IDPs, administrative and health authorities, humanitarian actors	Qualitative	Face-to-face interviews and focus group discussions (FGDs)	Thematic content	High
3. Akter S, et al. (2021)	Bangladesh	key informants, refugees, camp leaders	Qualitative Case study	Interviews, questionnaires, and direct observation	Thematic	Fair
4. Barnes K, et al. (2023)	Pakistan	Refugees	Mixed-methods	interviews	Thematic	High
5. Chowdhury S, et al. (2022)	Bangladesh	Healthcare workers (HCWs)	Qualitative	Virtual interviews (except one)	Thematic	High
6. Claude K, et al. (2020)	The Democratic Republic of the Congo	IDPs	Mixed-methods	FGDs	Thematic	High
7. Douedari Y, et al. (2020)	Syria	IDPs	Qualitative	Remote and in-person interviews	Thematic	High
8. El Masri Y, et al. (2022)	Lebanon	Refugees and UNRWA social worker	Case study	Fieldwork observation and interviews	Not stated	Fair
9. Enns C, et al. (2025)	Kenya	Refugees	Qualitative	FGDs	Not stated	Fair
1. Guglielmi S, et al. (2020)	Bangladesh	Adolescent refugees, host communities, camps experts	Mixed-methods	phone interviews and key informant interviews (KIIs)	Thematic	Fair
11. Hossain M, et al. (2023)	Bangladesh	Refugees and host community	Qualitative	Interviews	framework	Fair
12. Jamal Z, et al. (2022)	Palestine	Refugees, UNRWA Headquarters, field and clinical staff	Qualitative	Virtual interviews	Thematic Content	High
13. Kadio K, et al. (2023)	Burkina Faso	IDPs, humanitarian actors and social and health authorities	Qualitative	face-to-face interviews	Thematic Discourse	High
14. Kadio K, et al. (2024)	Burkina Faso	IDPs and authorities and/or humanitarian actors involved in the care of IDPs	Qualitative	Interviews	Thematic	High
15. Khai T, (2023)	Myanmar	IDPs and camp leaders	Qualitative	Virtual interviews	Thematic	High
16. Klabbers R, et al. (2023)	Uganda	Refugees	Qualitative	Interviews	Thematic content	High
17. Logie C, et al. (2021)	Uganda	Refugees	Qualitative	FGDs and interviews	Thematic	High
18. Lusambili A, et al. (2021)	Kenya	HCWs, volunteers, refugees	Rapid qualitative study	Interviews	Thematic	High
19.Lusambili A, et al. (2020)	Kenya	HCWs, antenatal and post-natal care patients	Qualitative	Interviews	Thematic	High
20. Ly BA, et al. (2022)	Mali	IDPs, humanitarian actors, health, administrative and political stakeholders	Qualitative	Interviews and FGDs	Thematic and content	High
21. Meyer K, et al. (2022)	Rwanda	Refugees	Qualitative	Stories and FGDs	Content	High
22.Moawad P, et al. (2020)	Lebanon	Representatives from government organizations, NGOs, refugees, and host communities	Qualitative	Online interviews	Thematic	High
23. Mourtada R, et al. (2023)	Lebanon	Refugee women	Qualitative	FGDs	Thematic	High
24. Moyo K, et al. (2021)	Uganda	Refugees, policymakers, politicians, civil society activists, leaders, and academics	Qualitative	In-person and interviews and FGDs	Not stated	Fair
25. Al Munajed D, et al. (2020)	Lebanon	refugee experts and development practitioners, and refugees	Qualitative	Online interviews	Thematic content	High
26. Ozer P, et al. (2022)	Burkina Faso	IDPs	Mixed-methods	Surveys and interviews	Not stated	Fair

(*continued on next page*)

Table 1 (*continued*)

Author & Year	Location	Participants	Study Design	Data collection	Analysis methods	Quality Assessment
27. Palattiyil G, et al. (2022)	Uganda	Refugees and stakeholders	Mixed-methods	Interviews and KIIs	Thematic	High
28. Shafiq Y, et al. (2025)	Pakistan	Refugees and key Informants	Qualitative	Interviews and FGDs	Thematic	High
29. Shayo E, et al. (2024)	Tanzania	Teachers and refugee students	Qualitative	Face to face interviews	Content	High
30. Siddiqi B, et al. (2025)	Bangladesh	Refugees and humanitarian actors	Qualitative	in-depth interviews, group and informal discussions and field observation	Thematic	Fair
31. Tsegaye A, et al. (2022)	Ethiopia	Refugees, community leaders, humanitarian organization staff	Qualitative	FGDs and KIIs	Thematic	Fair
32. Zuntz A, et al. (2022)	Lebanon, Syria	Syrian families	Qualitative	WhatsApp interviews, observations, diaries and videos	Not stated	Fair

(deductively) while is simultaneously fed by the key themes that emerged (inductively) from our qualitative analysis.

After data extraction and synthesis, different themes emerged within each level of the Dahlgren and Whitehead SDH framework. These themes are explained in the following sections:

3.4.1. *Individual lifestyle factors*

During the pandemic, refugees and IDPs often reported to live in fear of the disease (Akter et al., 2021; Logie et al., 2021; Moawad and Andres, 2020; Shayo et al., 2024; Siddiqi and Khan, 2025; Claude et al., 2020; Guglielmi et al., 2020) or isolation if infected (Akter et al., 2021; Hossain et al., 2023). Some reported to have become more anxious (Meyer et al., 2022; Claude et al., 2020), depressed (Shayo et al., 2024), and even "desperate" (Claude et al., 2020). Some refugee adolescents reported increase in drug use during the lockdown (Meyer et al., 2022). Several studies reported widespread adoption of prevention measures such as handwashing (Akter et al., 2021; Douedari et al., 2020; Klabbers et al., 2023; Tsegaye et al., 2022; Guglielmi et al., 2020). Misconception was a major factor to hindering adherence to COVID-19 measures in Uganda as some refugees believed that it affected only "white" people. (Klabbers et al., 2023)

3.4.2. *Social and community networks*

Five studies found that social norms could negatively affect compliance with social distancing measures (Ag Ahmed et al., 2021; Kadio et al., 2023; Kadio, 2025; Ly et al., 2022; Tsegaye et al., 2022). This included eating together (Ag Ahmed et al., 2021; Kadio et al., 2023; Tsegaye et al., 2022), shaking hands (Ag Ahmed et al., 2021; Tsegaye et al., 2022), visiting ill people (Ag Ahmed et al., 2021; Ly et al., 2022; Tsegaye et al., 2022), praying together (Tsegaye et al., 2022), and attending social events (Kadio et al., 2023). An occasionally reported barrier was ideas of fatalism/ the belief that "death" was their inevitable destiny (Tsegaye et al., 2022).

The COVID-19 pandemic impacted the social interactions of refugees and IDPs and restricted their movements into and out of camps and shelters (Enns, 2025; Moawad and Andres, 2020; Claude et al., 2020; Guglielmi et al., 2020). Most of them suffered from social isolation during lockdowns (Douedari et al., 2020; Logie et al., 2021; Shayo et al., 2024; Claude et al., 2020; Guglielmi et al., 2020) and missed their gatherings with friends, peers, and family members (Shayo et al., 2024; Guglielmi et al., 2020). The closure of worship and entertainment places aggravated feelings of isolation (Logie et al., 2021; Claude et al., 2020). Some of them adopted new ways to communicate, such as using online communication instead of face-to-face (Douedari et al., 2020). Many refugees adopted new ways of greeting to avoid shaking hands (Logie et al., 2021; Lusambili et al., 2021). Some refugee students considered marriage or pregnancy as alternative life options due to school closures (Klabbers et al., 2023; Shayo et al., 2024). Despite the social isolation, refugees reported supporting each other (Masri and Minoia, 2022; Jamal, 2025). Some refugees also reported receiving support and a more positive attitude from local communities (Enns, 2025).

The pandemic had negative impacts on relationships amongst family members. Three studies highlighted an increase of domestic and partner violence during the pandemic (Chowdhury et al., 2022; Klabbers et al., 2023; Meyer et al., 2022). Staying together at home for longer periods (Chowdhury et al., 2022; Jamal, 2025), financial strains (Chowdhury et al., 2022), unemployment (Chowdhury et al., 2022), psychological stress (Jamal, 2025), or increased alcohol consumption exacerbated domestic disputes (Chowdhury et al., 2022),with women being more exposed to sexual and gender-based violence (SGBV) (Chowdhury et al., 2022; Jamal, 2025; Shayo et al., 2024). The presence of abusive spouses and lack of access to mobile phones prevented many women from reporting sexual violence, which led to decreased reported cases of SGBV (Chowdhury et al., 2022).

3.5. *Living and working conditions*

3.5.1. *Education*

Refugees and IDPs in many countries were not able to attend schools and educational centers (Ag Ahmed et al., 2021; Jamal, 2025; Logie et al., 2021; Meyer et al., 2022; Shayo et al., 2024; Siddiqi and Khan, 2025; Barnes et al., 2024; Guglielmi et al., 2020; Esses and Hamilton, 2021), which affected most of them negatively. Parents with low education levels could not help their children with online learning processes (Jamal, 2025). Many refugees/IDPs and camp schools lacked or had a limited number of digital devices needed for online learning (Enns, 2025; Jamal, 2025). The lack or poor quality of internet connection were huge barriers to attending internet-based classes (Jamal, 2025; Barnes et al., 2024). Some refugee students reported self-directed study due to lack or low quality of online lessons, inadequate teaching, and lack of teachers' competency for remote learning methods (Shayo et al., 2024; Barnes et al., 2024). Due to poor internet connections, some refugee students traveled to urban areas for better internet access (Barnes et al., 2024). Female refugee students were more impacted as they were less likely to own electronic devices and were unable to travel due to restrictions (Barnes et al., 2024).

3.5.2. *Health literacy*

Six studies found that refugees and IDPs had a good awareness level of the disease, its symptoms, and protective measures (Kadio et al., 2023; Klabbers et al., 2023; Munajed and Ekren, 2020; Shayo et al., 2024; Tsegaye et al., 2022; Claude et al., 2020). The most credible

Table 2
Summary of themes emerged from qualitative data and classified according to the SDH framework.

The Social Determinants of Health											
Individual Lifestyle Factors	Social and Community Networks	Living and Working Conditions									Socioeconomic, Cultural, and Environmental Conditions
		Education	Health Literacy	Employment	Economic Status	Healthcare Access	Housing	Food Security	Water& Sanitation	Transportation	
Personal and religious beliefs Staying home Hygiene as priority Fear and depression Alcohol intake Drug use	Social norms Social isolation Domestic violence More support Online communication Restricted movements Early marriage and pregnancy	Closure of schools and learning centres Online learning Lack of digital devices Lack or poor internet connection Out-of-school children Cultural restrictions	High awareness of the disease and recommendations Limited or erroneous information Difficulties to organize awareness campaigns	Lack of permanent employment Unemployment/ job loss Businesses were closed Inability to work remotely Job insecurity Reduced working hours Inequalities	Lack of or limited savings Economic challenges Inability to buy hygiene & protective products Loss of income Inability to pay rents and bills	Language barriers Difficulties to reach healthcare facilities Fear of going to hospitals Medical xenophobia Changes in waiting times Shortage of medical staff and services Mistrust Barriers to using telehealth Medical costs Challenges to isolation	Crowded shelters Unhealthy living condition Inability to isolate Forced eviction	Hunger and food insecurity Insufficient food support Malnutrition Increase in food prices	Water shortage Shared latrines Lack of cleaning supplies Open defecation Lack of hygiene conditions	Difficulties accessing public transport High prices	Limited governmental and non-governmental support Discrimination and gender bias Border closures COVID-19 Stigma Xenophobia Inequities

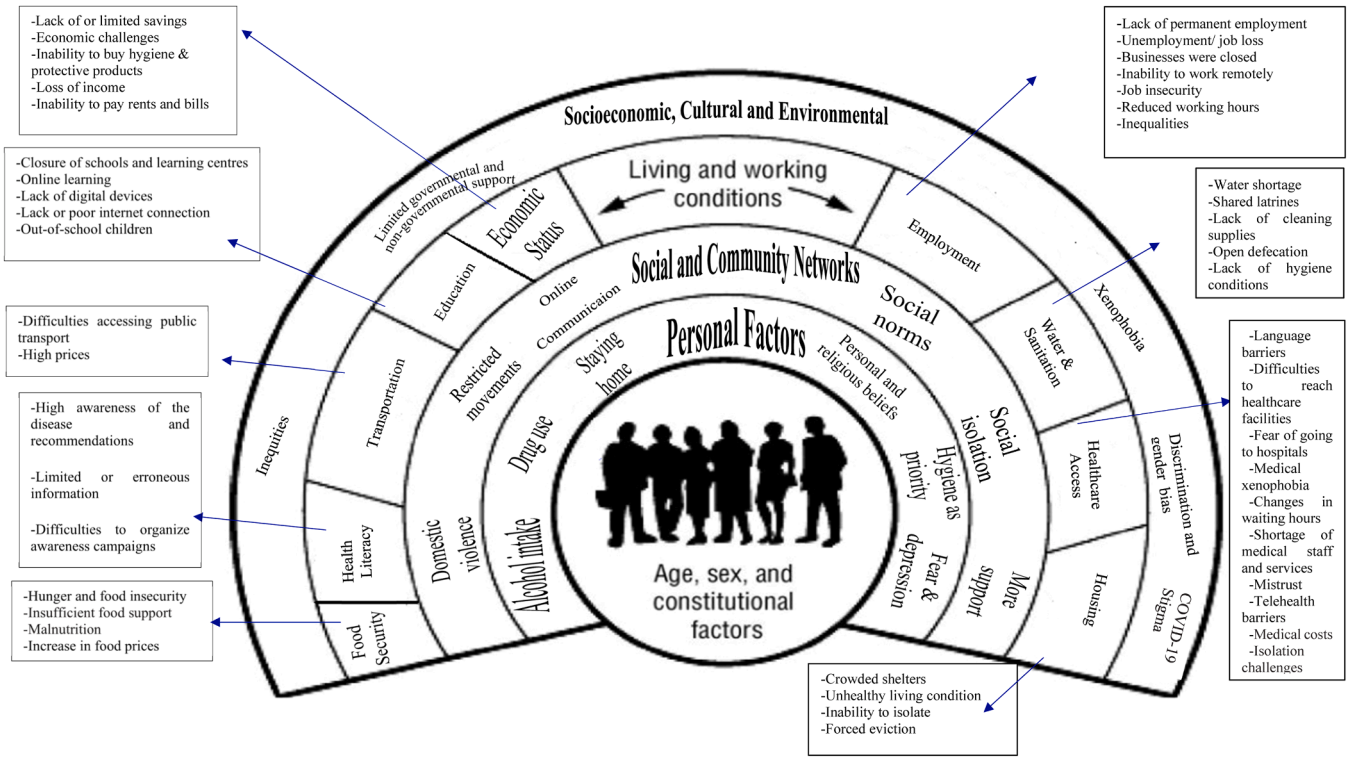


Fig. 3. The modified framework of the bidirectional effects of the COVID-19 pandemic on the social deteminants of health among refugees and IDPs in LLMICs. Source: Nisrein Al-Aqqad

sources of information were T.V (Douedari et al., 2020; Kadio et al., 2023; Klabbers et al., 2023; Lusambili et al., 2021), radio (Akter et al., 2021; Kadio et al., 2023; Klabbers et al., 2023; Lusambili et al., 2021), internet (Douedari et al., 2020), healthcare workers, community members and social media (Klabbers et al., 2023). However, ten studies reported that many refugees and IDPs had limited/erroneous information (Akter et al., 2021; Douedari et al., 2020; Hossain et al., 2023; Kadio, 2025; Klabbers et al., 2023; Lusambili et al., 2021; Ly et al., 2022; Siddiqi and Khan, 2025; Tsegaye et al., 2022; Guglielmi et al., 2020). This was due to many reasons such as the lack of T.Vs or internet connection to access trusted information sources (Douedari et al., 2020; Guglielmi et al., 2020). Therefore, they depended on their relatives (Douedari et al., 2020), neighbors (Lusambili et al., 2021), and informal networks (Lusambili et al., 2021). Poor literacy levels and language barriers made understanding the disease and related control measures challenging for many refugees and IDPs (Akter et al., 2021; Ly et al., 2022). Lockdowns and curfews hindered implementation of health awareness interventions (Chowdhury et al., 2022).

3.5.3. *Employment*

The dramatic impacts of the COVID-19 pandemic on job security among refugees and IDPs were described in several studies (Adejoh, 2025; Masri and Minoia, 2022; Jamal, 2025; Kadio et al., 2023; Kadio, 2025; Moyo et al., 2021; Siddiqi and Khan, 2025; Zuntz et al., 2022; Palattiyil et al., 2022). Many refugees and IDPs lacked the right to work in legal jobs (Siddiqi and Khan, 2025). Therefore, they worked in informal or daily jobs during the pandemic (Ag Ahmed et al., 2021; Douedari et al., 2020; Masri and Minoia, 2022; Jamal, 2025; Kadio, 2025; Ly et al., 2022; Munajed and Ekren, 2020; Siddiqi and Khan, 2025; Zuntz et al., 2022) without adequate access to social protection or health coverage (Masri and Minoia, 2022; Moyo et al., 2021). Restricted movements during the pandemic hindered many refugees' access to jobs or work on a daily basis (Siddiqi and Khan, 2025). Unemployment was aggravated by border closures and curfews (Ag Ahmed et al., 2021; Jamal, 2025; Siddiqi and Khan, 2025). Most refugees and IDPs became unemployed (Ag Ahmed et al., 2021; Akter et al., 2021; Chowdhury et al., 2022; Jamal, 2025; Klabbers et al., 2023; Moawad and Andres, 2020; Zuntz et al., 2022; Ozer et al., 2022; Palattiyil et al., 2022), and many businesses were closed (Klabbers et al., 2023; Logie et al., 2021; Moyo et al., 2021). Others worked with reduced working hours which meant less income (Zuntz et al., 2022). The majority of refugees and IDPs could not work remotely during the lockdown (Douedari et al., 2020) due to the nature of their jobs.

3.5.4. *Economic status*

Economic uncertainty affecting refugees and IDPs were exacerbated during the pandemic. Most had limited or no savings (Ag Ahmed et al., 2021; Akter et al., 2021; Moyo et al., 2021) which put them in dire conditions when they lost their livelihoods (Ly et al., 2022; Guglielmi et al., 2020; Ozer et al., 2022). The vast majority suffered from severe economic burdens during the pandemic (Adejoh, 2025; Ag Ahmed et al., 2021; Akter et al., 2021; Masri and Minoia, 2022; Enns, 2025; Hossain et al., 2023; Jamal, 2025; Kadio et al., 2023; Kadio, 2025; Klabbers et al., 2023; Lusambili et al., 2021; Meyer et al., 2022; Moawad and Andres, 2020; Moyo et al., 2021; Munajed and Ekren, 2020; Zuntz et al., 2022; Guglielmi et al., 2020; Ozer et al., 2022; Palattiyil et al., 2022). Many refugees and IDPs were unable to pay their bills and rent or buy their necessities such as food, and hygiene and protective products (Akter et al., 2021; Douedari et al., 2020; Kadio et al., 2023; Klabbers et al., 2023; Meyer et al., 2022; Munajed and Ekren, 2020; Siddiqi and Khan, 2025; Palattiyil et al., 2022). All these factors forced them to cut down their necessities (Akter et al., 2021), sell their rations and furniture (Akter et al., 2021; Siddiqi and Khan, 2025), borrow from friends and relatives (Akter et al., 2021), prioritize basic needs over protective measures like face masks (Jamal, 2025; Munajed and Ekren, 2020), and adopt poor personal hygiene behaviors (Douedari et al., 2020; Lusambili et al., 2021). One study highlighted that women were more financially vulnerable during the pandemic as they had poor wages (Akter et al., 2021).

3.5.5. Healthcare access

During the pandemic, refugees faced many challenges to reach healthcare facilities (Enns, 2025; Hossain et al., 2023; Lusambili et al., 2020; Meyer et al., 2022; Munajed and Ekren, 2020; Sahfiq, 2025; Siddiqi and Khan, 2025; Guglielmi et al., 2020; Palattiyil et al., 2022). Many healthcare centers limited their services (Akter et al., 2021; Chowdhury et al., 2022; Hossain et al., 2023; Lusambili et al., 2020; Meyer et al., 2022; Sahfiq, 2025; Siddiqi and Khan, 2025). Scheduling appointments was very challenging, especially with reduced numbers of healthcare professionals (Akter et al., 2021; Chowdhury et al., 2022; Hossain et al., 2023; Lusambili et al., 2020; Meyer et al., 2022; Sahfiq, 2025; Siddiqi and Khan, 2025). Many barriers hindered healthcare access among refugees such as language (Akter et al., 2021), miscommunication with healthcare workers (Akter et al., 2021; Mourtada and Melnikas, 2023 Sep 6; Sahfiq, 2025), medical costs (Adejoh, 2025; Hossain et al., 2023; Khai, 2023; Mourtada and Melnikas, 2023 Sep 6; Palattiyil et al., 2022), lack of insurance coverage (Masri and Minoia, 2022), refugee registration status (Hossain et al., 2023; Sahfiq, 2025), and lack of culturally sensitive approaches (Sahfiq, 2025). Disruption of healthcare services increased the risk of unwanted pregnancies (Klabbers et al., 2023; Meyer et al., 2022). Fear was reported as a huge obstacle that impeded healthcare access in six studies (Adejoh, 2025; Hossain et al., 2023; Lusambili et al., 2020; Meyer et al., 2022; Mourtada and Melnikas, 2023 Sep 6; Palattiyil et al., 2022). They were afraid of contracting the virus in hospitals (Adejoh, 2025; Hossain et al., 2023; Palattiyil et al., 2022), paying the costs of the COVID-19 tests and hospital isolation (Lusambili et al., 2020), or being isolated if their tests were positive (Adejoh, 2025; Hossain et al., 2023; Lusambili et al., 2020). The fear of going to hospitals resulted in many home births (Lusambili et al., 2020), medication noncompliance (Palattiyil et al., 2022), and skipping childhood vaccination (Lusambili et al., 2020). Some refugees were reluctant to undergo COVID-19 tests, which resulted in lower reported cases in the camps (Siddiqi and Khan, 2025).

Medical xenophobia and discrimination were aggravated during the pandemic (Akter et al., 2021; Meyer et al., 2022; Mourtada and Melnikas, 2023 Sep 6; Sahfiq, 2025; Palattiyil et al., 2022). Refugees were blamed by the host communities as being the main factor for the spread of the disease (Palattiyil et al., 2022). Some refugees reported to be treated rudely and unfairly by medical staff (Akter et al., 2021; Mourtada and Melnikas, 2023 Sep 6). Four studies reported mistrust between refugees and healthcare workers as a barrier (Adejoh, 2025; Akter et al., 2021; Hossain et al., 2023; Tsegaye et al., 2022). Challenges to using telehealth included lack of internet connection or privacy as some refugee women used their partners' mobiles (Chowdhury et al., 2022). Studies had contrasting findings; while three studies showed that the pandemic increased waiting times and crowding in front of healthcare centers (Akter et al., 2021; Meyer et al., 2022; Mourtada and Melnikas, 2023 Sep 6), only one study found that during the pandemic patients had fewer waiting hours (Palattiyil et al., 2022).

3.5.6. Housing

Overcrowding in shelters was a key obstacle to physical distancing and quarantine among most refugees and IDPs (Adejoh, 2025; Ag Ahmed et al., 2021; Akter et al., 2021; Douedari et al., 2020; Enns, 2025; Jamal, 2025; Kadio, 2025; Klabbers et al., 2023; Lusambili et al., 2021; Ly et al., 2022; Moawad and Andres, 2020; Munajed and Ekren, 2020; Siddiqi and Khan, 2025; Tsegaye et al., 2022; Claude et al., 2020; Ozer et al., 2022). Nearly all of them resided in cramped dwellings such as tents, caravans, or flats. Many refugees and IDPs had large family sizes (Douedari et al., 2020; Lusambili et al., 2021; Tsegaye et al., 2022; Ozer et al., 2022), and some lived with their relatives or other families in small accommodations (Douedari et al., 2020; Enns, 2025; Munajed and Ekren, 2020; Claude et al., 2020), which made social distancing impossible (Akter et al., 2021; Douedari et al., 2020) and facilitated the spread of disease (Jamal, 2025). School closures and the lockdown increased shelter crowding as most family members stayed at home. (Ag Ahmed et al., 2021). Most refugees and IDPs lived in unhealthy conditions (45,47,51,54), including shelters with poor lighting/ventilation (Akter et al., 2021; Jamal, 2025), leaking ceilings/walls (Akter et al., 2021), improper disposal management (Douedari et al., 2020), insecure surrounding environment, and risk of flooding (Akter et al., 2021).

3.5.7. Food security

Many studies found that refugees and IDPs often suffered from hunger and lack of nutritious food (Adejoh, 2025; Ag Ahmed et al., 2021; Akter et al., 2021; Enns, 2025; Jamal, 2025; Kadio et al., 2023; Kadio, 2025; Khai, 2023; Klabbers et al., 2023; Moawad and Andres, 2020; Siddiqi and Khan, 2025; Tsegaye et al., 2022; Zuntz et al., 2022; Guglielmi et al., 2020; Palattiyil et al., 2022). Many refugees and IDPs lack food unless going out daily and gain money to buy it (Ag Ahmed et al., 2021; Klabbers et al., 2023). This constrained their ability to follow social distancing measures and stay home (Ag Ahmed et al., 2021) and compounded food insecurity (Adejoh, 2025). To adapt to the food shortage, many refugees skipped main meals (Akter et al., 2021; Enns, 2025; Guglielmi et al., 2020), had less nutritious diets (Akter et al., 2021; Zuntz et al., 2022; Guglielmi et al., 2020). This led to malnutrition and increased susceptibility to COVID-19 (Akter et al., 2021). Many refugees and IDPs were unable to buy food due to unemployment (Guglielmi et al., 2020), financial burdens (Akter et al., 2021; Khai, 2023; Zuntz et al., 2022; Guglielmi et al., 2020), and increased food prices (Akter et al., 2021; Khai, 2023; Zuntz et al., 2022; Guglielmi et al., 2020). Food aid and rations were delayed, reduced, or limited (Adejoh, 2025; Ag Ahmed et al., 2021; Enns, 2025; Jamal, 2025; Kadio et al., 2023; Klabbers et al., 2023; Siddiqi and Khan, 2025; Guglielmi et al., 2020; Palattiyil et al., 2022).

3.5.8. Water and sanitation

Water shortage is a serious problem faced by many refugees and IDPs (Adejoh, 2025; Ag Ahmed et al., 2021; Akter et al., 2021; Douedari et al., 2020; Claude et al., 2020; Ozer et al., 2022). Most of them had to walk long distances to fetch water (Adejoh, 2025; Klabbers et al., 2023). This had two dire consequences: first, they lacked water for cleaning and washing their hands, which meant that they could not follow the WHO recommendation of washing hands frequently with soap and water to protect themselves from COVID-19 (Akter et al., 2021). Second, they gathered and lined up at the water collection points which impeded social distancing (Ag Ahmed et al., 2021; Akter et al., 2021). The quality of water was another issue as in many cases it is contaminated (Akter et al., 2021; Douedari et al., 2020; Khai, 2023; Ozer et al., 2022). Many refugees could not afford to buy soap or sanitizers (Douedari et al., 2020; Claude et al., 2020). Several refugees and IDPs shared public toilets with other families (Adejoh, 2025; Ag Ahmed et al., 2021; Akter et al., 2021; Douedari et al., 2020). Public latrines have poor hygiene conditions and facilitate the spread of the virus (Douedari et al., 2020; Khai, 2023). People queued in front of public toilets which hindered physical distancing (Ag Ahmed et al., 2021; Akter et al., 2021; Douedari et al., 2020). Some of them did not have latrines and practiced open defecation (Ozer et al., 2022).

3.5.9. Transportation

Many countries banned or restricted the use of public transportation during the pandemic which affected the mobility of all populations. Going to work was more difficult (Guglielmi et al., 2020). Some refugee patients defaulted on their treatments due to their inability to reach healthcare facilities (Palattiyil et al., 2022). Overcrowded and limited public transportation and road closures discouraged healthcare seeking among some refugees (Mourtada and Melnikas, 2023 Sep 6; Sahfiq, 2025). In some countries, public transport prices rose which further hampered healthcare access (Palattiyil et al., 2022).

3.5.10. General socioeconomic, cultural, and environmental conditions

Many governments did not include refugees in their support

programs as they were restricted to nationals only (Akter et al., 2021; Munajed and Ekren, 2020). Some refugees reported that they did not receive humanitarian or governmental aid, others stated that aid was limited or decreased compared to pre-pandemic times (Akter et al., 2021; Masri and Minoia, 2022; Enns, 2025; Kadio et al., 2023; Khai, 2023; Moawad and Andres, 2020; Moyo et al., 2021; Munajed and Ekren, 2020; Siddiqi and Khan, 2025; Zuntz et al., 2022; Ozer et al., 2022). In contrast to registered refugees in camps, urban refugees did not receive systemic support such as healthcare access and food rations (Enns, 2025).

Refugee and IDP women were more vulnerable and had less access to information during the COVID-19 pandemic. This was sometimes due to gender-biased health campaigns mainly directed to men (Akter et al., 2021; Douedari et al., 2020; Tsegaye et al., 2022). Xenophobia was exacerbated during the pandemic as anti-immigration attitudes intensified. The fear of COVID-19 stigma forced many refugees and IDPs to avoid seeking medical services (Akter et al., 2021) and hiding their COVID-19 positive results (Ly et al., 2022).

4. Discussion

This systematic review compiles qualitative evidence on the bidirectional effects of the COVID-19 pandemic on the SDH among refugees and IDPs in LLMICs. Our findings indicate that the COVID-19 pandemic dramatically affected different health determinants including education, healthcare access, employment, social interaction and family relationships, and socio-economic status. Moreover, this review has found that the refugees' and IDPs' unfavorable social determinants of health-such as lack of access to clean water and private latrines, personal beliefs, poor health literacy, lack of permanent jobs, food insecurity, crowded dwellings, and poor hygiene behaviors affected their compliance with public health measures; making them more susceptible to COVID-19.

All the reviewed studies showed that the SDH in the four outer layers of Dahlgren and Whiteheads' model (personal, social, living and working, and general socioeconomic, cultural, and environmental) were negatively affected by the COVID-19 pandemic. This framework also describes how these factors are interrelated, affect, and are affected by the COVID-19 pandemic.

Our findings largely resonate with prior syntheses of COVID-19′s effects on displaced populations. A recent global systematic review of migrants, refugees, and IDPs documents how pandemic responses and structural inequalities disproportionally affected displaced groups (Hintermeier, 2025). Evidence syntheses focused on refugee education emphasize the lack of internet access, digital devices, and private learning spaces as major barriers to remote learning (Ndibalema, 2024; Shah, 2025). UNHCR analyses also describe how the pandemic suspension of services amplified pre-existing vulnerabilities among displaced population (UNHCR [Internet] 2025). While earlier syntheses often treat these determinants as background vulnerabilities, our review highlights their bidirectional nature.

Our results found that most refugees and IDPs struggled financially to buy their necessities such as food and pay rents. This was due to working in informal jobs which were highly impacted during the pandemic, in addition to jobs loss. Moreover, results indicate that refugees were excluded from many government and humanitarian aids during the pandemic which exacerbated their vulnerabilities and increased social inequalities. These findings are consistent with other literature which showed that the pandemic had unequally affected refugees and other marginalized groups (Mukumbang et al., 2020) and aggravated social inequalities (Bambra, 2022).

Results showed inconsistencies concerning healthcare waiting times, and health awareness levels. The awareness levels of COVID-19 disease and prevention measures varied among refugees and IDPs. While some refugees and IDPs had good knowledge about the disease, others had poor health awareness and therefore poor compliance with the health protection measures. Barriers to healthcare access among refugees and IDPs in LLMICs reported before COVID-19 (Chuah et al., 2018) such as language, mistrust, xenophobia, and fear were exacerbated. The results of this review are in line with another study which found that fear of the disease and its financial and health dire consequences was obvious among several refugees (Gautham et al., 2021).

COVID-19 aggravated domestic violence and SGBV which were common in refugee and IDP camps even before the pandemic (Lugova, 2022). Results indicate that poor SDH among refugees and IDPs increased their inability to follow public health guidelines during the pandemic. Most refugees and IDPs lacked access to clean water, hygiene products, and private latrines which made them unable to wash their hands regularly. Our results show that living in overcrowded shelters hindered physical distancing, quarantine, and isolation which are consistent with the results of other studies (Shammi et al., 2020).

There is a clear distinction between the terms refugees, asylum seekers, and migrants. When people forcibly flee their countries due to wars or persecution, they seek international protection in the hosted countries. If their claims are successfully accepted, they are officially recognized as refugees. However, during the time of their applications, they are still called "asylum seekers" (UNHCR, 2025) . Migrants, on the other hand, voluntarily move to other countries, for different reasons, usually to improve their living conditions with no fears of returning to their countries as they are safe (UNHCR viewpoint 2025). Most studies did not clearly define the study population and some authors used the word "refugees" for describing refugees and asylum seekers. Moreover, refugees were called "migrants" in other studies.

4.1. Implications for policy and practice

In light of the findings of this review, policy makers can improve the preparedness for future crises. Humanitarian support and programs should be more inclusive for all citizens and include targeted and tailored interventions at camp and urban refugees of all nationalities. Additionally, more government support is needed for NGOs as many of them lacked government assistance during the pandemic. The language was a huge barrier to healthcare access and miscommunication; therefore, more language courses and training are required for refugees. In addition, more interpreters are needed in healthcare facilities to reduce misunderstanding and mistrust between refugees and healthcare workers. The right to work in formal jobs should be given to all refugees to help them improve their financial status and receive some benefits such as work leaves, health insurance and social security.

4.2. Strengths and limitations

This systematic review is the first to summarize the **bidirectional** effects of the COVID-19 pandemic on the SDH among refugees and IDPs in LLMICs. The use of the Dahlgren & Whitehead's model illustrates explicitly the bidirectional effects of the pandemic across the different layers of the socio ecological framework.

The included studies were carried out during the COVID-19 pandemic so virtual interviews were conducted instead of face-face in several studies. These methods were new for both the researchers and the participants which might influence their responses and participation. Interpretation/translation may have affected the validity of some findings. Data extraction was conducted by one reviewer and publication bias may exist as only published articles in English were included in this review.

5. Conclusion

The COVID-19 pandemic had profound bidirectional effects on the SDH of refugees and IDPs in LLMICs exacerbating pre-existing challenges. The pandemic had dramatic impacts on multiple SDH such as education, economic status, healthcare access, food security, employment, social and family interactions, and transportation. On the other

hand, Refugees' and IDPs' deteriorated SDH such as lack of clean water, sanitation, and hygiene (WASH), crowded shelters, lack of private latrines, poor health literacy level, food insecurity, job instability, financial burdens, and inadequate healthcare access, hindered their compliance with health measures such as social distancing and washing hands frequently, which made them more susceptible to COVID-19 infection.

List of abbreviations

ASSIA: Applied Social Sciences Index and Abstracts
CASP: Critical Appraisal Skills Program
COVID 19: Coronavirus Disease 2019
FGDs: Focus Group Discussions
HCWs: Healthcare workers
IDPs: Internally Displaced Persons
IOM: International Organization for Migration
KIIs: Key Informant Interviews (KIIs)
LLMICs: Low and-Lower- Middle Income Countries
MeSH: Medical Subject Headings
NGO: Non-Governmental Organization
PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analysis
SARS-CoV-2: Severe Acute Respiratory Syndrome Coronavirus 2
SDH: The Social Determinants of Health
SGBV: Sexual and Gender-based Violence
UMICS: Upper-Middle Income Countries
UNHCR: The United Nations High Commissioner for Refugees
WASH: Water, Sanitation, and Hygiene
WHO: World Health Organization

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CRediT authorship contribution statement

Nisrein Al-Aqqad: Writing – original draft, Visualization, Methodology, Formal analysis, Data curation, Conceptualization. **Laura-Jane McCarthy:** Methodology. **Maria Roura:** Writing – review & editing, Writing – original draft, Supervision.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Supplementary materials

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