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Access to medicines among asylum seekers, refugees and undocumented migrants across the migratory cycle in Europe: a scoping review

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ABSTRACT

Introduction Access to essential medicines is a critical element of health systems and an important measure of their performance. Migrants may face barriers in accessing healthcare, including essential medicines, throughout the migration cycle, which includes the stages of departure from home or residence countries, transit through non-European or European countries, reception and settlement in a country in Europe and deportation. We aim to provide an overview of research and grey literature concerning access to essential medicines for asylum seekers, refugees and undocumented migrants in or heading to Europe (European Union, European Economic Area, Switzerland and the UK).

Methods To delineate and conceptualise access to medicines, we considered the definition of the Lancet Commission on Essential Medicines and the Pharmaceutical Management framework. These frameworks were combined to guide several critical steps in our review, including defining the search terms, data extraction, data analyses and reporting. Relevant studies and reports were identified through searches in bibliographic and grey literature databases.

Results Out of 5760 studies and 66 grey literature reports, 108 met the inclusion criteria, with 72 focusing on medicine access. Overall, medicine use and medicine expenditure were found to be lower in migrant populations compared with the host population in many European countries. Although many studies focused on the use of infectious disease and psychotropic medicines, the most frequently used medicines by migrants were analgesics, hypertension and diabetes medicines. Determinants of medicine access were legal restrictions, language and transit times, which all contributed to interruption of and inequities in access to medicines among this population. This scoping review also indicated significant gaps in the literature regarding the evidence on access to medicine at different stages of the migration cycle, specifically in departure, transit and deportation stages.

Conclusion Overall, our findings highlighted significant unmet medicine needs among migrants in or on the way to Europe and access disparities attributable to various interconnected barriers. Urgent access is needed to address such inequities, particularly legal barriers, including registration of certain medicines required for treatment. Future research should prioritise investigating medicine access during departure, transit and deportation stages. Policy discussions around migrants' access to medicines should be centred on framing healthcare as a fundamental right.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Migration involves various stages, and migrants often face barriers in accessing healthcare across the various stages of the migration cycle.

WHAT THIS STUDY ADDS

⇒ This review provides a comprehensive analysis of access to medicines among migrants along the migration cycle, identifying significant gaps in the literature regarding access to medicines, especially at the stages of departure, transit and deportation.
⇒ This review has revealed a concerning misalignment between the interests of academic research and migrant population needs.
⇒ We identified various interconnected barriers and determinants affecting migrants' access to medicines, leading to inequities and instances of limited or interrupted access.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ To tackle the complexity and inequity in medicine access among migrants, we need more inclusive research that aligns with their specific needs, and legal reforms that uphold health access as a fundamental right for everyone.

INTRODUCTION

Access to medicines is highlighted in the Sustainable Development Goals as an important component of Universal Health Coverage (UHC).[1] Essential medicines play a vital role in preventing, treating and managing diseases,[2] thus ensuring access is a critical element of health systems and a significant

measure of their performance. Improving access to medicines is essential for both communicable and non-communicable diseases (NCDs), as inadequate access can lead to the progression of diseases, increased transmission of communicable diseases and a higher burden on healthcare systems.[3 4] Migrants may face various barriers to accessing healthcare and essential medicines,[5 6] including system-related restrictions, administrative and financial barriers and language barriers,[5] at different stages of the migration cycle.[6] Language barriers can impact access to essential medicines in several ways. These include a lack of understanding of information about the medicines, their use and the conditions under which they are prescribed and/or dispensed.[5] Additionally, studies reported that the perspectives of some migrant patients on the treatment and management of their diseases were not taken into account by physicians due to language barrier. Some of them were even exposed to medical errors that involved administering a medicine that caused them harm. These issues can be directly linked to language barriers.[5]

Access to essential medicines among asylum seekers, refugees and undocumented migrants is a critical but under-researched area. An important distinction exists between access to healthcare services and access to medicines. While healthcare access is a broader issue that consultations with medical professionals, access to diagnostic tests, adequate access require that patients also have access to needed medicines. Some initiatives have tried to combine access to healthcare with access to medicines; for instance, in France, the PASS (Permanences d'Accès aux Soins de Santé) initiatives provide interim access points where patients can receive medical consultations and pharmacy services without prepayment while waiting for health insurance entitlements to be processed.[7] Such models highlight the need for integrated approaches to ensure comprehensive access to care.

Reports about migrants embarking on dangerous sea and land journeys have become commonplace in global news, paralleled by (often polarised) political debates about migrants' entitlement to remain in the host countries, obtain protection and be granted access to healthcare services.[8] In December 2023, the Council of the European Union (EU) and the European Parliament agreed on a reform of the EU asylum and migration policy,[9] which introduces rapid processing of asylum applications at EU's external borders and quick deportation if asylum is not granted. Concerns have been risen that the reform de facto denies the rights of migrants and puts individuals at increased risk of abuse along the migration journey, including preventive and unsafe deportation.[10] Unilateral attempts are taken by some countries toward offshoring asylum seekers to non-EU countries, for example, Italy recently considered to offshore asylum seekers in Albania.[11] Questions about the impact of these policies on migrants' health and access to healthcare should be factored into the policy debate.

Despite an increase of research on migrants' access to healthcare in Europe,[12] questions about access to medicines remain neglected. There is limited publicly available information on access to and use of medicines at different stages of the migration cycle, including in countries of origin, transit, reception and settlement, or deportation. The WHO Global Evidence Review on Health and Migration report 'Continuum of care for noncommunicable disease management during the migration cycle' identified significant evidence gaps in the literature pertaining to migration and NCDs.[6] This report called for further research to address evidence gaps regarding specific groups, such as undocumented migrants, and under-represented migration stages, such as pre-migration, transit and deportation.[6]

Objective

This scoping review aims to describe the access to essential medicines among asylum seekers, refugees and undocumented migrants who are in Europe, or who aim to reach Europe at different stages of the migration cycle. By 'Europe', we mean any countries belonging to the EU and/or the European Economic Area (EEA), and Switzerland and the UK. Although we comprehensively investigated access to medicines, including both medicines and vaccines, we have chosen to report our findings on vaccines separately to keep this manuscript concise and focused. Therefore, in the next sections of this paper, the term 'medicines' does not include vaccines. Furthermore, we use the term 'migrants' to collectively refer to asylum seekers, refugees and undocumented migrants. We focused on these groups due to their high risk of precarity and often limited access to healthcare services and essential medicines.[13]

MATERIALS AND METHODS

Study design

This scoping review followed the Arksey and O'Malley methodological framework,[14] as updated by Levac *et al*.[15] The results of the search were synthesised and reported using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) extended reporting guidelines for scoping reviews (online supplemental file 1).[16] The full protocol has been published elsewhere,[17] and the review has been registered with Open Science Framework.[18] We followed five iterative stages:

- Stage 1. Clarifying objectives and identifying the research questions (RQs).
- Stage 2. Identifying relevant published and grey literature.
- Stage 3. Selection of relevant research and grey literature.
- Stage 4. Extracting and charting the data.
- Stage 5. Collating, summarising and reporting the results.

Stage 1. Clarification of objectives and identifying the RQs

The overarching RQ is: What are the key determinants of access to essential medicines for migrants along the

migration cycle?[17] The detailed questions we aimed to address included:

1. What are the patterns of access to essential medicines for migrants?
2. Which barriers limit migrants' access to essential medicines at different stages of the migration cycle (country of origin, transit, country of destination and deportation)?
3. How do these barriers contribute to gaps in access to (essential and lifesaving) treatment for acute conditions?
4. Are any populations, conditions and contexts particularly under-represented in academic and grey literature?

Stage 2. Identifying relevant published and grey literature

The following bibliographic databases were searched: PubMed, CINAHL, Cochrane Database of Systematic Reviews and Scopus. Grey literature databases were also searched, including Google Scholar, and various non-governmental organisations (NGOs) and UN agency websites, for example, of Medicins Sans Frontiers, WHO, Medicins du Monde, the International Committee of the Red Cross, the UN High Commissioner for Refugees and UNICEF. Our search covered the period 1 January 2000 to 31 December 2022.

The search strategy was constructed using the PCC elements: Population, Concept and Context.[19] The search was conducted in English. The search terms are presented in online supplemental file 2. More details are described in the published protocol.[17] Search results were documented, and the references were exported to separate folders using reference management software (RAYYAN),[20] where search results were consolidated, and study duplicates were identified and removed. We also used snowballing, by using the reference lists of eligible studies as a starting point to find additional relevant studies.

Stage 3. Selection of relevant research and grey literature

The study selection included two phases. The first phase entailed screening of titles and abstracts of retrieved studies and grey literature reports as per inclusion and exclusion criteria (online supplemental file 3). Any research study or grey literature report that contained at least one exclusion criterion was excluded. In the second phase, full texts of publications that have passed the first phase were retrieved and independently screened by the two reviewers (SA and ABP) to determine whether they met the inclusion criteria. Any disagreement was resolved through discussion with a third reviewer (RR) until full agreement. We used the PRISMA flow diagram to illustrate the progress of the selection process (figure 1).[16]

Stage 4. Extracting and charting the data

We created a data extraction template based on the RQs and through an iterative process. This matrix incorporated bibliometric details of included studies and grey literature reports with findings addressing the RQs. We adopted this comprehensive approach to ensure a

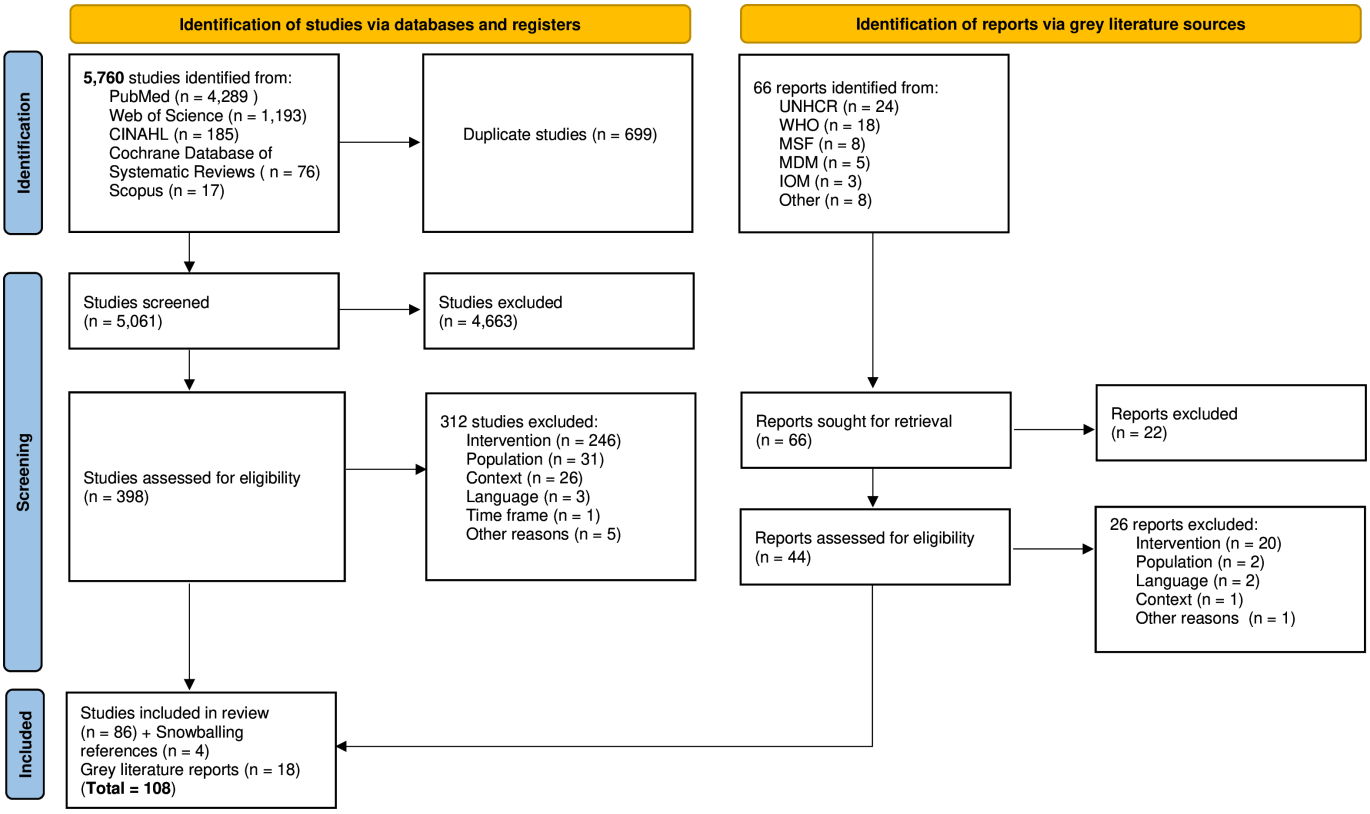

Figure 1 PRISMA flowchart of study selection. From Page *et al.*[113]

systematic data extraction and prevent overlooking pertinent findings. The research team continually assessed this template to identify the specific variables to be collected from included studies and grey literature reports. Additionally, two reviewers (SA and ABP) conducted a pilot test on five randomly selected eligible studies using this data extraction template.

Stage 5. Collating, summarising and reporting the results

We generated descriptive analysis from extracted bibliometric data, which was presented using tables and graphs. Thematic analyses were presented in a narrative format. We discussed the meaning of the findings and implications for future research and practice, and reported gaps in the academic and grey literature that warrant attention in future research. Findings are reported according to the PRISMA Extension for Scoping Reviews guidelines.[16]

Defining the concepts of migration cycle and access to medicine

To define the migration cycle, we considered the framework of the WHO report 'Continuum of care during the migration cycle' (online supplemental file 4),[6] which is an adaptation of the earlier framework of Zimmerman *et al*[21] and Thomas.[22] Stages in the migration cycle are country of origin, departure, country or countries of transit, country of destination, returning to country of origin or movement to a further country.

To delineate and conceptualise access to medicines, we considered the definition of the Lancet Commission on Essential Medicines and the Pharmaceutical Management framework (figure 2).[23 24] The concept of access to medicine encompasses availability, affordability, quality, appropriate use, acceptability and accessibility. These frameworks were combined to guide several critical steps in our review, including defining the search terms, data extraction, data analyses and reporting.

Patient and public involvement

This research represents a review of previously published literature. Patients were not directly involved in the design, conduct, assessment or dissemination of this study.

RESULTS

First, we retrieved 5760 research studies from the database searches. After removing 699 duplicates, the screening of titles and abstracts of 5061 studies resulted in the exclusion of 4663 studies, as per figure 1. We evaluated the remaining 398 studies for full-text eligibility, which led to the exclusion of 312 studies, and the inclusion of 86 studies. Second, we retrieved 66 reports from the grey literature sources, 18 out of which were eligible for inclusion. Third, four more studies were identified by searching the reference lists of the included studies and reports, resulting in a total of 108 research studies and reports. Out of them, 72 focused on access to essential medicines and were included in this analysis, while 36 concerned access to vaccines and will be analysed separately.

Characteristics of included sources of evidence

We included research studies, identified through bibliographic databases and grey literature reports, comprising nine reports identified through the search of grey literature. The research studies employed different research methods, including quantitative methods (40 studies), qualitative methods (11), mixed methods (4) and reviews (7) (online supplemental file 5).

Our findings indicate that over the years 2000–2022, there has been a substantial increase in the number of published studies and grey literature reports about access to medicines among migrants in Europe. About 93% (67/72) of included studies and grey literature reports were published after 2013, and about 61% (44/72) after 2019 (figure 3).

20 out of the 72 studies and grey literature reports covered more than one country, with the highest number of studies being conducted in Germany (13 studies), followed by Italy (10) and Sweden (8) (online supplemental file 6). 30 out of 72, covered various groups of

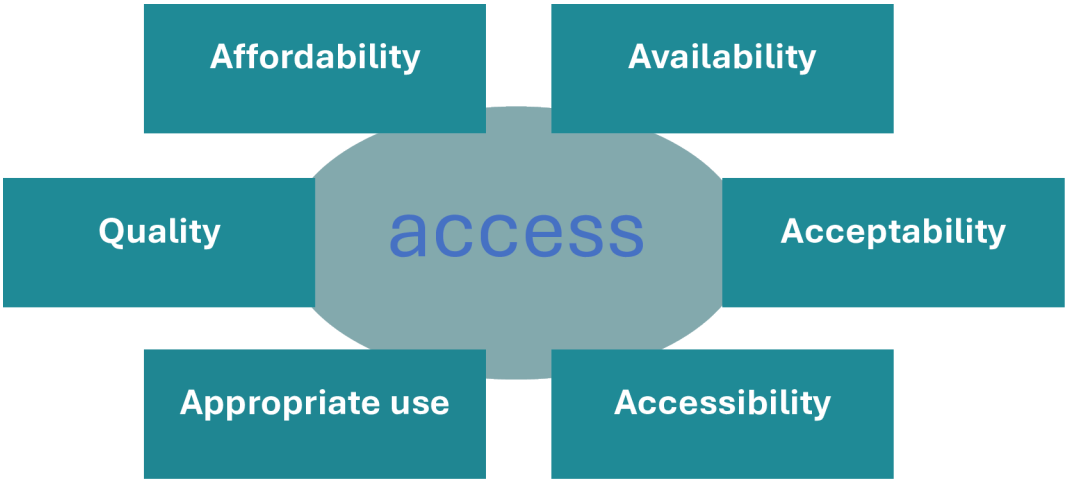

Figure 2 Determinants of medicines access framework.

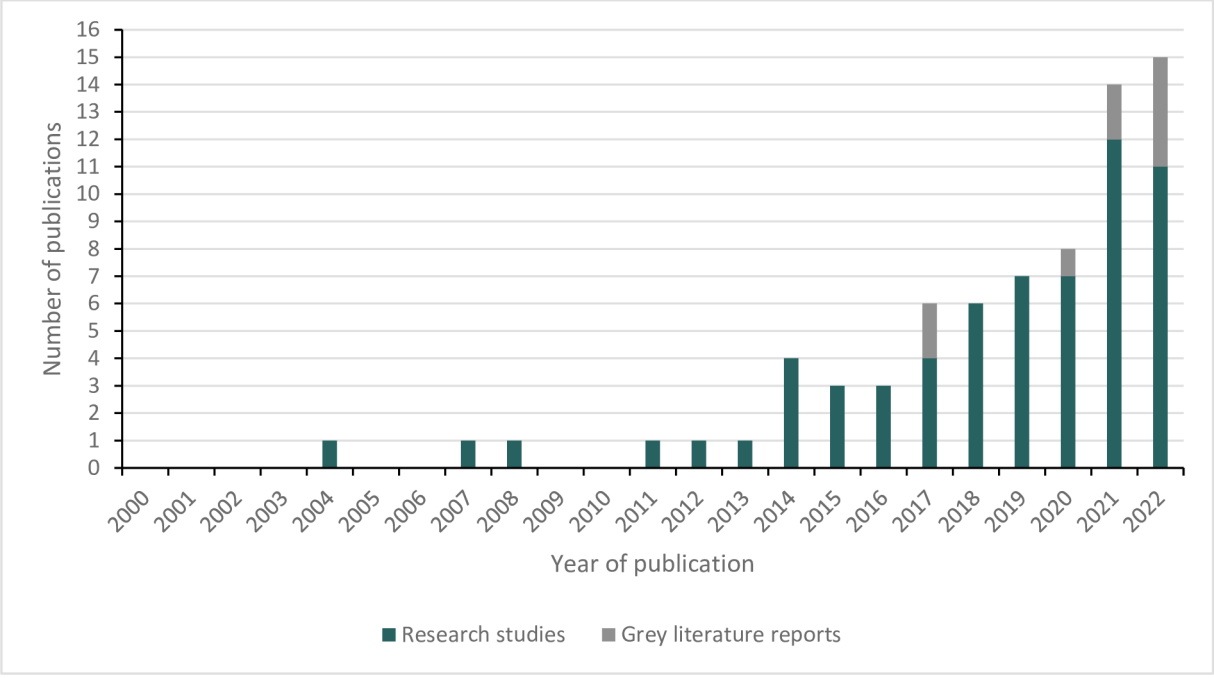

Figure 3 Number of publications over the period 2000–2022.

migrants (asylum seekers, refugees, undocumented migrants); 19 refugees only; 13 undocumented migrants only and 10 asylum seekers only.

Rates and patterns of medicine access and use

Three studies looked at the rates of medicine use among migrants versus the host populations in countries of destination, and reported lower use among migrants. In particular, a study from Germany reported that 41% of asylum seekers and refugees used at least one medicine over a 7-day period, versus 74% of the host population.[4] In Spain, about 51% of undocumented migrants reportedly used at least one medicine over a year, which is lower than in the local population with low and very low socioeconomic status (69% and 82%, respectively).[25] Both studies adjusted the rates of medicine use to age. A study from Italy reported the average annual expenditure for healthcare services, including pharmaceutical expenditure, among the beneficiaries of the national healthcare insurance. Pharmaceutical expenditure for undocumented migrants accounted for 6% only of the total expenditure of undocumented migrants, which is very low compared with the expenditure for the host population (45%) and documented migrants (52%).[26]

24 out of the 72 studies and reports addressed access to medicines among migrants in general, without focusing on a certain category of medicines or specific medical conditions. Conversely, 48 studies and reports addressed access to medicines for certain diseases or conditions. Medicines access or use for infectious diseases was the most commonly researched (20 studies and reports out of 72), followed by psychotropic medicines (13/72), NCDs (12/72) and contraceptives (3/72) (online supplemental file 7).

Seven studies reported that analgesics were the most commonly prescribed and used medicines among migrants,[4 27–32] at higher rates of use versus host populations, in many European countries. Access to medicines for infectious diseases was investigated in 20 studies and reports, nine of which focused on access to HIV antiretrovirals and reported low access among HIV-positive migrants.[33–41] Two studies reported low continuity of access to tuberculosis (TB) treatment among migrants in different European countries,[42 43] while a study from Germany reported higher rates of use of broad-spectrum antibiotics among asylum seekers compared with the host population.[44]

Access to psychotropic medicines was investigated in thirteen studies and reports. Access to psychotropic medicines among migrants generally appeared to be limited, compared with host populations. For instance, according to a study from Sweden, psychotropic medicines including anxiolytics and antidepressants were dispensed less frequently among refugees than in the general population,[45] despite reported higher rates of mental health conditions among.[45]

12 studies and reports focused on access to NCDs medicines. According to two studies from Germany and Italy, hypertension and diabetes accounted for the highest rates of medicine prescription among migrants.[4 46] Other studies and reports indicated lower rates of medicine use for diabetes among migrants compared with host populations,[47–49] including lower rates of insulin use but higher rates of use of oral antidiabetics versus the host population, as reported in Italy.[49] Access to contraceptives was the focus of three studies,[50–52] which reported lower rates of use among migrants compared with local populations in many European countries.

Barriers and determinants of access to medicines

Out of 72 studies and reports, 30 indicated that language barriers posed a significant challenge for migrants' access to medicines, making language the most commonly reported barrier.

Regarding the determinants of access to medicines (figure 2), affordability emerged as the most frequently reported one (22/72 studies and reports). Notably, copayment schemes for medicines were highlighted as major obstacles to access to medicines for asylum seekers, refugees and undocumented migrants.[5 53 54]

Acceptability was the second most commonly reported determinant (16/72). Some studies and reports, including several studies from Sweden and Denmark, noted low acceptance of psychotropic medicines among some migrant groups due to (perceived) stigma.[39 55–60] However, a study from Germany reported higher acceptance among a specific group, for example, Yezidi female refugees.[61] Cultural views and perceptions also influenced acceptance of medicines.[62] For instance, reported low use of HIV pre-exposure prophylaxis among migrants from Sub-Saharan Africa in Belgium was likely due to fear of stigma and provider judgement.[63] Tanser *et al* reported that some HIV-positive migrants attending family events were reluctant to take HIV antiretrovirals in front of relatives, and placed the pills in containers with other labels to conceal their condition.[40] Chalmiers *et al* reported low acceptance of contraceptives among some groups of migrants in many European countries.[50] In a study from Germany, female participants and those older than 50 years showed lower acceptance of medicines that (may) contain alcohol or products of pork origin compared with other groups with the same cultural background.[5]

Accessibility as a determinant of medicine access was reported in 16 of the 72 studies and reports. Of these, 12 specifically reported system-related barriers. For instance, access to antivirals for hepatitis is reportedly significantly or completely restricted for undocumented migrants in four EU countries (Hungary, the UK, Italy, Germany and the Netherlands).[64] Access to healthcare for asylum seekers in Germany is restricted to acute conditions and life-saving interventions during the initial 18 months of asylum application.[5] Denial of asylum and being undocumented pose significant barriers to treatment for HIV-positive migrants[34 40]; Whyte *et al* highlighted described the impact of these policies for HIV-positive asylum seekers denied asylum as 'catastrophic'.[34] In 2014, undocumented migrants were denied access to HIV antiretrovirals in 13 out of 29 EU/EEA countries.[33] Relocation also affects medicine accessibility, as noted in studies from the Netherlands[65] and rural Greek islands.[66]

Availability was indicated as a determinant of access to medicines in six studies and reports.[37 67–71] Some authors reported limited or no availability of specific medicines, such as anti multidrug resistant (MDR)-TB and antimalarial medicines, in host countries.[67 71 72] For instance, some anti-MDR-TB medicines were not registered for use in some host countries.[67] The WHO Europe is working at establishing an emergency stock of anti-MDR-TB medicines, including paediatric formulations, for Ukrainian refugees,[67] for which marketing authorisations or special importation permits will be required.[67] A study from Germany raised explicit concerns related to the lack of access to the essential anti-malarial primaquine, due to lack of marketing authorisation in Germany. Ordering it from abroad is risky and challenging for any patients, and even more for those seeking asylum who may lack a fixed place of residence.[71]

Concerns about the appropriate use of medicines were raised in only four out of the 72 studies and reports. Their focus was on issues such as the misuse of broad-spectrum antibiotics[44 73] and sharing psychotropic medicines.[74] Individuals may also take more of a medicine versus the prescribed schedule.[75] No studies or reports mentioned the quality of medicines as an issue in the context of (forced) migration in Europe. Last, 24 studies and reports did not explicitly address any determinants of access to medicines (figure 2).

Four studies emphasised the positive impact of individual healthcare professionals, NGOs and informal networks of healthcare professionals in addressing barriers to accessing medicines among migrants.[5 34 76 77] For instance, Pérez-Urdiales *et al* highlight the efforts of healthcare professionals to challenge perceived injustices experienced by Sub-Saharan African migrant women in the Basque Country.[76] In 2012, national and regional law reforms in Spain and the Basque Country limited access to healthcare services among undocumented migrants.[76] In response, a robust network of healthcare professionals emerged, advocating against the new restrictive legal conditions and upholding the principles of UHC.[76] Additionally, it is contended that ethical guidelines for healthcare professionals, as articulated in deontological codes, extend beyond the fluctuating content of laws, by emphasising the obligation to provide equal and non-discriminatory care to all patients.[76] For instance, Whyte *et al* reported that a group of HIV-positive undocumented migrants informally retained access to health services, including HIV antiretrovirals, thanks to the commitments of general practitioners and other concerned healthcare professionals.[34]

Continuity of access to medicines at different stages of the migration cycle

Most included studies and reports (54/72) focused on the 'country of destination' stage of the migration cycle. Eight out of 72 covered various stages of the migration cycle[6 29 61 70 78–80]; two the transit stage only[66 81] and one grey literature report the deportation stage only.[82] Four grey literature reports did not refer to any specific stage of the migration cycle (figure 4).

Eight studies and reports addressed questions about the continuity of access to medicines among migrants at different stages of the migration cycle.[6 29 40 43 70 78 80 83] They provide evidence that mobility in the context of forced migration triggers the interruption of access to

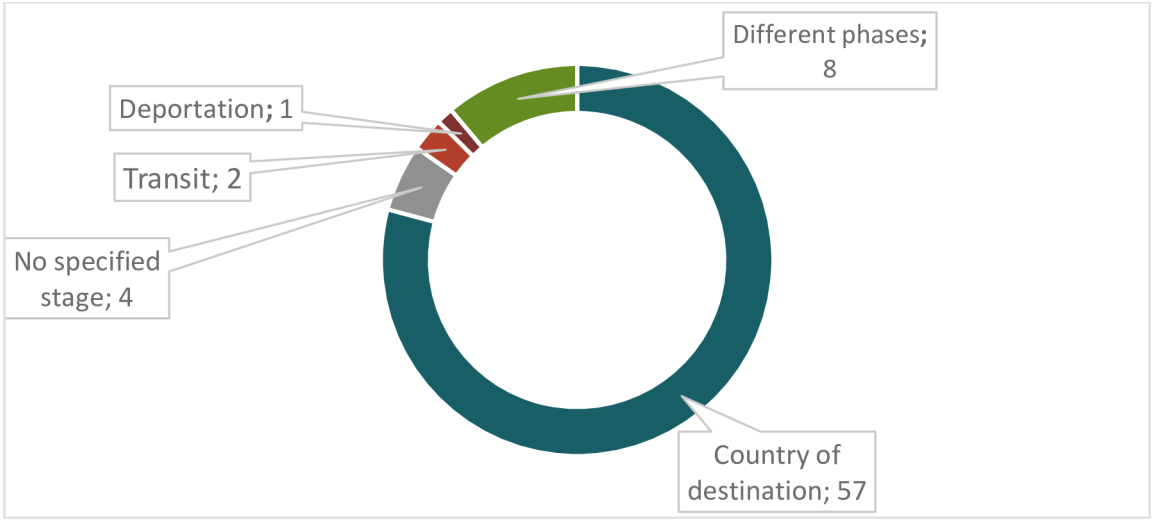

Figure 4 The stages of migration cycle considered in the included studies and reports.

medicines for diseases and conditions that require long-term, continuous access. For instance, it increases the risk of interruption of access to NCDs medicines[6 84] and HIV medicines—the latter results in poor HIV virologic suppression, and poor (unwanted) adherence to antiretroviral regimens.[40] The frequent relocation of asylum seekers in some host countries, such as the Netherlands, posed challenges to adherence to TB treatment regimens.[43] The discontinuity of access posed a challenge for NCDs care among migrants in many European countries.[80 85] These cases collectively show the direct detrimental impact of limited access to medicines on treatment adherence and health outcomes for people along the migration itinerary.

DISCUSSION

This scoping review used a systematic approach to provide an overview and summarise the findings of research studies and grey literature reports on access and continuity of access to medicines among asylum seekers, refugees and undocumented migrants in EU/EEA countries, Switzerland and the UK. First, our findings indicate major gaps in the literature concerning access to medicine across the migration cycle. In particular, there is a dearth of data regarding access to medicines at the stages of departure, transit and deportation. More research is needed to answer questions about the patterns of medicine use, the gaps in access to essential medicines including by therapeutic field (eg, acute or chronic conditions), and by specific groups (eg, children, the elderly, immunocompromised people, etc), the challenges limiting access to essential medicines by therapeutic field and specific subgroups, and the facilitators to improve access to essential medicines for migrant populations at these stages of the migration cycle, generally characterised by a high level of insecurity. Second, we identified various interlinked barriers and determinants of access to medicines among migrants, such as limited (legal, regulatory and geographic) accessibility and limited affordability of medicines. These barriers result in both lack of access to essential medicines and lack of continuity of access throughout the migration cycle. Lack of access occurs due to various barriers (eg, languages barriers, legal restrictions and limited affordability), while lack of continuity is caused by disruptions during different stages of the migration cycle, including exclusion from local health systems, language and legal barriers, and supply disruption due to political instability and conflicts. These issues magnify inequalities by limiting access to interventions critical for the prevention and control of diseases, including essential and potentially life-saving medicines. This leads to higher rates of untreated illnesses and more severe health outcomes among migrants compared with other groups.

Access to medicine along the migration cycle

Research in this area surged after 2017, particularly in Germany, likely influenced by the substantial influx of migrants since 2014, with Germany hosting the largest number of refugees in Europe since 2014.[86] Despite the increase in research, there is not yet a comprehensive understanding of medicines' access throughout the migration cycle. In particular, we found limited information on access to medicines at departure, transit and deportation stages: most studies focused on the countries of reception or settlement. This may stem from the intricate logistical challenges to conducting research in other settings. Moreover, accessing reliable and ethically collected data, for example, from local health authorities or NGOs, poses additional challenges.[6] Studies using routinely collected data also face other limitations, such as incomplete diagnostic information and uncertainty regarding legal statuses.[44 52]

Efforts to collect primary data at various migration stages encounter numerous challenges, including limited follow-up of mobile migrants,[26 87 88] issues

related to sampling methods,[5] language barriers[89] and ethical concerns related to power dynamics between researchers and participants in a precarious situation.[37] Some researchers employed creative sampling methods tailored to forced migration contexts.[5 89] These methods included combining different sampling methods (quota sampling, convenience sampling and snowball sampling). Quota sampling involved dividing the population into relevant strata based on key demographic variables, such as age and sex, to ensure a balanced sample. Convenience sampling was used to select participants from readily available groups, while snowball sampling helped reach isolated groups by asking initial respondents to invite their social contacts to participate. This approach helped mitigate selection bias and ensured a more representative sample.[5] There is a need for more sensitivity and reflexivity in research practices, to avoid exploiting migrant populations.[37]

Maintaining continuity of care is hindered by a lack of structured systems for securely sharing health data. Cross-border collaboration should prioritise data security and confidentiality. De-identifying health data before sharing and using them in research is essential to protect migrants from legal and security risks, especially considering reports of human rights abuses during transit and deportation.[40] Full data anonymisation (with no possibility to link data back to a specific person) will be critical to protect migrants from legal and security risks potentially associated with research reports. Our findings highlight the unique challenges faced at different stages of the migration cycle—departure, transit, reception and deportation. This comprehensive approach underscores the complexity of maintaining continuous access to medicines across the different stages of the migration cycle. Given the difficulties in conducting these studies, international research networks are essential to facilitate data collection and comparison across countries of origin and host countries.

Aligning RQs to migrants' needs

Some researchers explicitly call for (more) involvement of migrants in planning and designing research, for research to addresses their own actual priorities.[4 5 89] Most studies and reports in our review focused on access to medicines for infectious diseases, followed by psychotropics, with a less publication focusing on NCDs medicines, despite the increasing NCDs relevance globally. The management of NCDs requires continuous access to essential medicines, which can be expensive, for example, for cancer treatment.[90] Irregular availability and shortages pose a challenge for HIV, MDR-TB and NCDs care among migrants in many countries.[80 85] Our findings are in line with previous observations that research about access to healthcare and medicines in humanitarian settings generally prioritises emergency care and infectious diseases, neglecting chronic care.[91–93] Researchers, policymakers and relevant stakeholders should pay more attention to other medicines and formulate broader RQs, rather than just assuming that infectious diseases will be the only priority. Engagement with migrant communities will be essential to align research priorities with migrants' actual needs, particularly in a decade when the largest forced displacements concerned Syria and Ukraine, two countries with high NCDs burden.[92 94]

When researchers presented the patterns and rates of medicine use among migrants versus the host populations, (generally) after adjustment by age, they found lower rates among migrants.[4 95 96] The same applies to medicines used for certain specific conditions (eg, diabetes, psychotropic medicines).[48 96] This is not unexpected and can be related to the various and interlinked barriers to access to medicines in these groups, which reflects the broader socioeconomic inequalities compared with host populations.

Analgesics (eg, Ibuprofen) were the most commonly prescribed and used medicines. This can be a possible marker of the lack of access to adequate care: the frequent prescriptions of analgesics can be seen as the consequence of lack of accurate diagnostics and a symbol of 'the lack of interest of and the rejection by the healthcare system'.[28 97] Also other findings can be explained by lack of access to adequate care: for instance, undocumented migrants in Italy were less likely to access adequate diabetes care and in particular insulin,[48 49] but they used more oral antidiabetics versus the host population.[48] This could be explained by the easier availability of oral antidiabetics in charities, leading to an over-use that 'compensates' lack of insulin.[48] In other words, the reported inappropriate use of medicine often is not due to irrational behaviours, but to a rational attempt to access some form of treatment despite inequity in access.

Barriers to and determinants of access to medicines in migrants

Language barriers were the most commonly reported barriers to accessing medicines, as they limit the understanding of instructions and prevent effective communication with healthcare professionals about side effects, ultimately compromising safety and adherence to treatment.[5 43 62 98] There is a need to design and test interventions to help migrants address language barriers in health settings. A study described a successful intervention implemented in Sweden to improve access to latent TB treatment among asylum seekers[99]: the consistent involvement of interpreters improved (trust and) understanding of medicine information, leading to improved treatment completion rates.[99] A study from Germany recommended providing migrants with translations of the medicines leaflets, as a short-term measure to address the language barrier.[5] In France, the national health authority recommends the use of interpreters in healthcare, and there are several schemes that provide funded access for healthcare professionals at a structural or territorial level. Such models can serve as examples for other countries to address language barriers effectively.[100]

Language barriers are the most visible, but factors influencing access to medicines and their appropriate use are diverse and interconnected. Affordability at patient level was the most commonly reported determinant of access to medicines, especially for undocumented migrants facing co-payments and out-of-pocket expenses.[101 102] Firoini *et al* suggested the creation of low-cost voluntary insurance programmes specifically designed for undocumented migrants.[103] Microhealth insurance and community-based health insurance are widely used in low-income and middle-income countries to provide some social health protection to populations that are excluded from existing health insurance schemes, such as informal sector workers and other marginalised populations.[104] However, more research is needed to understand the institutional and funding structures required for such schemes to ensure essential healthcare without absolving governments of their responsibility to provide UHC. Research should answer concrete questions about who would provide the funds to subsidise the premium, who would hold the concerned health providers accountable for providing the care agreed on in the terms of references, and who would manage the scheme and take care of the administrative back offices.

Acceptability also appears to be a common determinant of access to medicine, particularly in case of specific cultural features or of diseases associated with stigma, such as mental health disorders or sexually transmitted diseases.[39 50 55–57 63] However, the fact that at least one study reported high acceptance of psychotropic medicines among a group of migrants[61] is a reminder for researchers, healthcare providers and policymakers that migrants are, just like populations in host countries, heterogeneous. Factors that influence their health status and health-seeking behaviours can vary across different groups of migrants,[89] and certain fears or concerns can be equally present in the host population. Research, policies and interventions targeting migrants should consider this diversity. Equipping pharmacy personnel with cross-cultural communication skills can help address acceptability issues, while innovative HIV antiretroviral packaging designs may reduce stigma and improve adherence, benefiting both migrants and non-migrants.[5 105] Active engagement of researchers with migrant communities can help to understand how to reduce the stigma related to certain medicines, such as HIV antiretrovirals and psychotropics.[30 54 90]

Legal restrictions represent significant barriers, with regulations varying widely across EU/EEA countries.[105] For instance, Article 32 of the Italian constitution states that health is a fundamental right of the individual, regardless of citizenship or residency status, and ensures cost-free essential healthcare for those who cannot afford it.[106] In Germany, the 'asylum seekers benefit act' limits asylum seekers' healthcare access to emergency medical care, pregnancy and childbirth, acute and painful conditions, vaccinations and other essential preventive measures (art. 4 & 6).[4] Some scholars criticise policies that restrict access to healthcare services among migrants.[107 108] It has been argued that defining the healthcare access of any group of people based on their legal status, citizenship or residency status should be regarded as a violation of the human right to health.[31 107 109] The European Union Agency for Fundamental Rights advocates for legal entitlements ensuring that undocumented migrants have access to essential healthcare services, and calls on the EU member states to clearly distinguish healthcare provision from immigration-control policies.[33] According to Tanser *et al*, a human rights-based and inclusive approach should guide policymakers and practitioners toward non-discriminatory and culturally sensitive national health systems, with emphasis on the right to healthcare as a fundamental right for all, regardless of citizenship or legal status.[40] Moreover, in situations leading to deportation, it remains crucial to ensure that individuals continue to receive treatment until and after they reach their country of origin[34]: deportation should be conditional on continuity of access to care, including medicines.

Access to medicines for migrants and for the general population

Some medicines are unavailable in some European countries for all, not only for migrants. For instance, many medicines for MDR-TB, paediatric TB medicines, malaria and scabies seem not to be registered and available in many European countries[67 68 71] due to reasons such as lack of commercial interest or intellectual property rights protection. But whatever the reason, the choice not to register and market these medicines in Europe leaves unmet needs, both for the local population and for migrants.[66] Establishing inclusive health systems that address the needs of migrants would also benefit nationals with uncommon conditions. In response to the influx of Ukrainian refugees, there have been calls for a comprehensive cross-border system for TB prevention and management, including facilitating registration and supply of essential medicines lacking in Europe, for example, for MDR-TB.[78]

Inappropriate medicine use, like broad-spectrum antibiotic misuse[44 73] and sharing of psychotropics,[74] has been reported among migrants. Even if this is not an exclusive feature of migrants, in their specific case there may be some additional determinants, including lack of affordability, limited availability and legal restrictions that push people towards sub-optimal therapeutic approaches, for example, using oral antidiabetics when insulin would be indicated.[110 111] Research, policy and practice should take into account this complexity when developing policies and recommendations to address the inappropriate use of medicines among migrants or any other group.

None of the included studies considered the quality of medicines as an issue—confirming a general trend of scientific literature, where access to and quality of medicines are rarely brought together in the same research.[112] While Europe maintains strict pharmaceutical regulations, groups in precarious conditions, including

migrants, may resort to compromised quality medicines due to limited access, for example, by procuring them from unofficial sources with uncontrolled quality or due to poor storing practices, particularly in case of heat-sensitive products.[112] More attention should be paid by researchers to practices and behaviours that could trigger medicine quality problems in the context of forced migration in Europe.

Strengths and limitations

Our scoping review provides comprehensive analyses about access to medicines among migrants along the whole migration cycle. Through the lens of 'access to medicines' research, we provided evidence about the inequity in accessing medicines among asylum seekers, refugees and undocumented migrants in and around the European context. We identified gaps in the literature that should be addressed by future research and provided recommendations to address these gaps.

The main limitation is that we only included studies and grey literature reports in English, which may have led to the exclusion of relevant articles and reports. Another limitation of this review is that we did not search the EMBASE database due to limited access and institutional subscriptions. By searching multiple other databases and screening the reference lists of the included studies, we minimised the impact of this limitation. Additionally, the included studies varied in design and quality, with many being observational and qualitative in nature. This variation should be considered when interpreting our findings. Furthermore, there is a general lack of high-quality data on access to medicines at various stages of the migration cycle, which underscores the need for more rigorous research in this area.

CONCLUSIONS

Migrants face various and interlinked challenges that limit their access to medicines at the different stages of the migration cycle. Our scoping review identified several key barriers affecting access to medicines among migrants. These barriers cause lack of initial access and lack of continuity of access throughout the migration cycle. There is concerning misalignment between the interests of researchers and research funders versus migrant population's needs. Notably, a substantial number of research studies focused on infectious diseases and psychotropic medicine use, while the studies on general use of medicines found that medicines for pain relief, hypertension and diabetes were most common. Our review provided evidence about the inequity in accessing medicines among migrant populations compared with host populations in the European context. Addressing this inequity will require urgent legal reforms across Europe, and adapted regulatory policies to push for registration of medicines that are required to respond to the medical needs of migrants.

Future research on access to medicines among migrants should have a high social value, and its findings should be translated into policies and practices to improve access and facilitate the continuity of access to medicines along the migration cycle. To do so, future research should be better synchronised with migrants' needs, by actively engaging with migrant communities. Researchers should also develop and refine methods to accurately and ethically collect health data on migrants health and establish international research networks to improve data collection. The discussion and deliberations around migrants' access to healthcare services, including medicines, should be framed under the right to access health as a fundamental right for all individuals, regardless of their citizenship or legal status.

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