

# Health-seeking behaviours of immigrants, asylum seekers and refugees in Europe: a systematic review of peer-reviewed articles

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## Abstract

**Purpose** – Immigrants, asylum seekers and refugees living in Europe face a number of challenges in accessing or using health information and healthcare services available in their host countries. To resolve these issues and deliver the necessary services, providers must take a comprehensive approach to better understand the types of health information and healthcare services that these individuals need, seek and use. Therefore, the purpose of this paper is to develop that comprehensive approach.

**Design/methodology/approach** – In this paper, a systematic literature review of peer-reviewed publications was performed, with 3,013 articles collected from various databases. A total of 57 qualifying papers on studies conducted in Europe were included in the review after applying the predefined inclusion and exclusion requirements, screening processes and eliminating duplicates. The information seeking and communication model (ISCM) was used in the analysis.

**Findings** – The findings revealed that while many health information and healthcare services are accessible in Europe for immigrants, asylum seekers and refugees, many of these individuals are unaware of their existence or how to access them. While our findings do not specify what health-related information these groups need, use or seek, they do suggest the importance and value of providing mental health, sexual health and HIV, as well as pregnancy and childbirth information and services. Furthermore, according to our results, health information services should be fact-based, easy to understand and raise awareness about healthcare structure and services available in Europe for this vulnerable population.

**Practical implications** – This study has a range of practical implications, including (1) highlighting the need for mental health and behavioural health services and (2) stressing the value of addressing cultural context and religious values while investigating (health) information seeking of people with foreign background.

**Originality/value** – This is one of the first studies to systematically review and examine the behaviour of immigrants, asylum seekers and refugees in relation to health information and healthcare services in the European context.

**Keywords** Asylum seekers, Europe, Healthcare services, Health-seeking behaviour, Health information, Immigrants, Refugees, Systematic review

**Paper type** Literature review

## Introduction

Europe has historically faced several internal migrations and also migrations from other continents. There has been a significant increase in the number of people migrating to Europe in recent years. For example, the number of asylum seekers in Europe grew from 200,000 in 2008 to 1,400,000 in 2015 (Eurostat, 2020) and this figure is continuously rising. This has led to

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remarkable changes in the cultural, social, political, economic and healthcare structures of the European countries that are open to migration (Sansus *et al.*, 2020, p. 59). People move to Europe for different reasons such as immigration, family ties, work, in search of refuge, or seeking for asylum due to political situations in their countries of origin (Van Mol and De Valk, 2016).

The provision of healthcare services to these individuals living in Europe is one of the most highly investigated problems. The importance of studying this demographic, especially their seeking behaviour for health information and healthcare services, is increasing as the number of residents with a foreign background in Europe continues to rise. Understanding what sort of health information and healthcare services this group of people needs, as well as how they pursue those information and services, is the first step towards addressing the challenges they may face.

In this study, we looked for scientific research on health information-seeking behaviour (HISB) and health-seeking behaviour. According to Lalazaryan and Zare-Farashbandi (2014), HISB refers to a range of possible situations, from an accidental exposure to health information, to the need for such information, as well as finding, selecting, using and even ignoring information. The HISB has been extensively researched among immigrants in the USA (e.g. Chen *et al.*, 2010; Gaeshi *et al.*, 2018; Lee, 2018; Shin and Maupome, 2017; Yoon and Huang, 2017; Woodall *et al.*, 2009). However, we found very few studies in Europe that focused on these groups. As a result, it was considered necessary and timely to concentrate on this demographic, extend the spectrum from health information-seeking behaviour to a broader viewpoint and examine the population's health-seeking behaviour. In this approach, we hope to look at research from the perspectives of both health-seeking behaviour and health communication. The existing studies that have focused on immigrants, asylum seekers and refugees in Europe have used common categories regarding the population's health-seeking behaviours. These studies have focused on topics such as healthcare needs, healthcare seeking, selection of healthcare sources, healthcare assessment and use, evaluation of health-seeking outcomes, health-seeking strategies and future healthcare seeking intentions; all from the patients' perspectives (Biswas *et al.*, 2011; Gondek and Kirkbride, 2018; Onyigbo *et al.*, 2018).

In light of these categories, this research employs Robson and Robinson's (2015) information seeking and communication model to cover all specific aspects of the health-seeking process from the perspectives of both users and healthcare providers. In this paper, "users" refers to immigrants, asylum seekers and refugees residing in Europe, while "healthcare providers" refers to, e.g. healthcare professionals and medical staff. Moreover, in the European context, this study examines the experiences of healthcare professionals in terms of health information needs, information sharing with patients, evaluation and utilisation of health information and healthcare services by these individuals (Degni *et al.*, 2012; Delilovic *et al.*, 2018; Koehn, 2006; Misra *et al.*, 2006b; Sundvall *et al.*, 2018). By using the information seeking and communication model as a categorisation method, we hope to gain a holistic view of the phenomenon. We used this model to conduct a literature review of healthcare providers' perspectives on health communication needs, communication methods and communication barriers between healthcare professionals and their patients. To the best of our knowledge, there is a dearth of studies on the health information-seeking behaviours of immigrants, asylum seekers and refugees in Europe. Of the handful existing studies, few have been conducted on the behavioural aspects of health information-seeking (Devillanova, 2008; Ekblad *et al.*, 2012; Garnweidner *et al.*, 2013; Lecroft *et al.*, 2011). Furthermore, a comprehensive analysis of the literature on the health information and healthcare service needs of immigrants, asylum seekers and refugees, as well as the type of information sought and used by them, and how they interpret the information received, is missing. As a result, this review paper seeks to fill this void by presenting new perspectives and highlighting areas that need more study. We hope to have answers to the following research questions in particular.

- RQ1.* From the perspective of immigrants, asylum seekers, and refugees residing in Europe, what are their health information and healthcare service needs, what types of health information and healthcare services are sought and used, and how do they evaluate such services?
- RQ2.* From the healthcare providers' perspective, what type of health information and healthcare services are used, and how do they evaluate the health-seeking behaviour of immigrants, asylum seekers and refugees residing in Europe?

## Methods

To pursue the aim of this study, a literature search was conducted in October 2019, using the preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines (Shamseer *et al.*, 2015). The primary goal of this study was to focus on the health information-seeking behavior of immigrants, asylum seekers and refugees living in Europe, as there have been few studies on this subject (see, e.g. Ekblad *et al.*, 2012; Lecrofer *et al.*, 2011). In this study "health information-seeking behaviour" refers to individuals' use of specific actions and/or strategies to acquire health information (Lambert and Loissele, 2007, p. 1,008). This approach includes HISB processes related to how individuals cope with health-threatening situations (Davison *et al.*, 2002; Garvin *et al.*, 2003; Hoskins and Haber, 2000; Ransom *et al.*, 2005; Rees and Bath, 2000). In addition, we also focused on studies of health-seeking behaviours as problem-focused coping strategies adopted by patients and healthcare providers as responses to threatening situations (Rees and Bath, 2000). We argue that this approach will provide a better understanding of which health information and healthcare services are needed, sought and used by this target group.

In order to be as comprehensive as possible and include all relevant information, we considered qualitative, quantitative and mixed-methods studies as well as the case reports provided that they were original studies and published in peer-reviewed journals or conference proceedings. To be included in the review, studies had to (1) be published in English or English along with another language, (2) focus on human health-related issues, (3) focus on immigrants, asylum seekers and/or refugees residing in Europe and (4) be original studies, not a brief review of an original study published in a conference paper or editorial note. Since our focus was on specific target groups in Europe, other minorities such as indigenous ethnic minorities or subcultures (e.g. Sámi-speaking minorities in Finland, Sweden or Norway) were excluded. Furthermore, studies were also excluded if they focused primarily on the legal or political aspects of healthcare service provision for refugees and/or asylum seekers, rather than focusing their health-seeking behaviour.

### *Search terms*

The search consisted of free terms related to the main objectives of the study, and truncation (\*) as well as research subject terms and keywords were used. The search terms were combined by using the Boolean operators "AND" and "OR." In addition, the terms "asylum seeker," "refugee" and "immigrant" along with all their synonyms and related terms were combined with proximity operators with a distance space of 10 (adj 10) to retrieve more results. The formulated search statement of this study was as follows:

(health information OR health seek\* OR health help\* OR care seek\* OR health behavi\* OR health commun\* OR information practice\* OR information literacy) AND (emigra\* OR immigra\* OR refuge\* OR asylum seek\* OR foreign\* OR migra\*).

### *Study model*

The information seeking and communication model (ISCM) was used to categorise the articles (Robson and Robinson, 2015). This model was developed to track information sharing

and communication between users and providers (see [Robson and Robinson, 2015](#), p. 1,045). In our study, as mentioned earlier, users were immigrants, asylum seekers or refugees residing in Europe, and providers were healthcare providers in Europe. Moreover, this model also covers all factors relevant to health information-seeking behaviour such as information needs, information seeking, selection of information sources and information assessment, use or dismissal. The ISCM is a relatively new and a more comprehensive model compared to previous models of information seeking and communication, such as those developed by [Wilson \(1981\)](#) and [Ellis \(1989\)](#). Moreover, the ISCM was developed building on previous models from the fields of library and information science (LIS) and communication studies (e.g. [Dervin, 2005](#); [Ellis, 1989](#); [Ingwersen and Järvelin, 2005](#); [Johnson, 1997](#); [Thackeray and Neiger, 2009](#); [Wilson, 1981](#)).

We categorised our selected articles according to the information seeking and communication model aiming at analysing and interpreting the findings from health-seeking behaviour research and to explore factors influencing this process in the studied groups of people. We reinterpreted the model from information seeking behaviour to healthcare seeking in order to explore the topic and shed light on different aspects of the phenomenon from both providers and users' points of view. We did not consider any labelling for the last step of the ISCM, which refers to the user needs' satisfaction from the health-seeking process. The satisfaction, if mentioned in the selected studies, is described in relevant sections either in the summary of findings or when answering the research questions. The following categories were created based on the original model:

- (1) User: needs/wants/goals/perception.
- (2) User: assess/use/ignore communication.
- (3) User: communication medium/process.
- (4) Provider: needs/wants/goals/perception.
- (5) Provider: assess/use/dis-/misinformation.
- (6) Provider: communication medium/process.
- (7) Health or information seeking activity/feelings/thoughts.
- (8) Source selection: credibility/utility.
- (9) Outcome: actions/decisions/knowledge.
- (10) Future information seeking.

#### *Search strategy*

We searched scientific databases through Web of Science (WoS) and EBSCO for peer-reviewed journal articles, conference papers, books and book chapters. From WoS, we selected all available databases, including Web of Science Core Collection; KCI Korean Journal Database; Medline; Russian Science Citation Index and SciElo Citation Index. The rationale behind including the KCI Korean Journal Database and the Russian Science Citation Index was that they contain studies on Korean immigrants, and Russian immigrants or asylum seekers in Europe. From EBSCO, we selected all databases related to library and information sciences and health communication, including Academic Search Premier, Library, Information Science and Technology Abstracts (LISTA), Communication and Mass Media Complete, Cumulative Index to Nursing and Allied Health Literature (CINAHL), eBook Collection (EBSCOhost), The Cochrane Library, PsycINFO and PsyARTICLES. Educational Resource Information Center (Eric) and Comprehensible Language and Effective

Communication (CLEC) from EBSCO were eliminated because the findings were either duplicates of documents collected from other databases or did not contain relevant studies.

*Selection of studies*

Studies were selected based on the research model in three phases: reviewing titles, abstracts, keywords and full-text records. All databases were searched simultaneously, and records were extracted either directly or through Publish or Perish Version 7.11 [1]. We used Rayyan [2] website and mobile application for conducting the systematic review. This tool is designed to help researchers in screening and selecting records based on the PRISMA guidelines. In the review phase, the first author screened all records and excluded those that did not fit to any of the categories created based on the ISCM (Robson and Robinson, 2015). We tried different strategies for selecting records conducted in Europe. In order to be sure that the studies are conducted in a European country, we read abstracts and methods of the articles. Table 1 shows the keywords used in the screening process.

In the second phase, abstracts of the selected articles were double-checked by all authors. Finally, full texts were screened for relevance by the first author and checked for accuracy by the co-authors.

*Full text review: data extraction and search results*

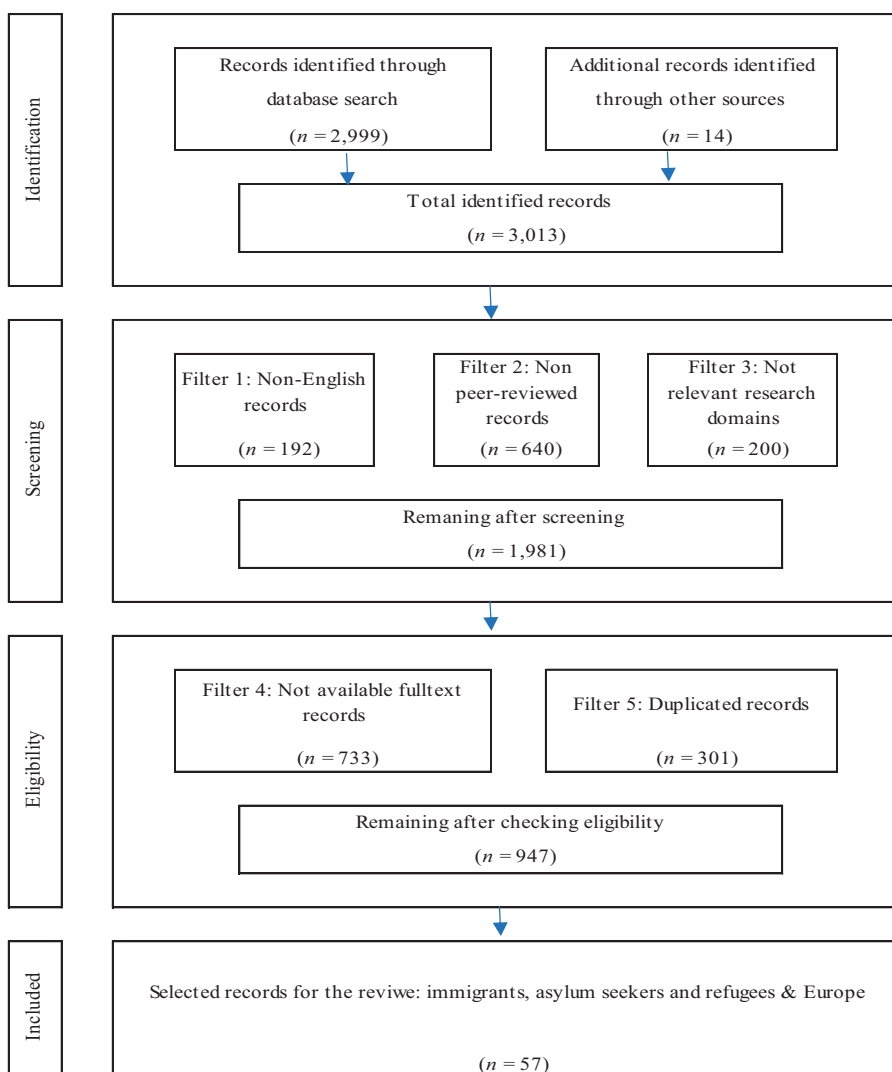
A code was developed for data extraction. The code captured general information of the studies (author, publisher, publication type and year), characteristics of the population studied (sample size, sample group background, place of recruitment and countries where the studies were conducted), methodological components (study design, methodological characteristics and means of data gathering), themes, objects and study results. A total of 3,013 records were retrieved from 12 databases. In addition to excluding the duplicated records, we removed the records if they were not available in English, within the relevant research domain, available in full text or did not match the criterion about the publication type. As such, we ended up with 947 articles. After title and abstract screening and removal of irrelevant records, 57 articles remained as the final sample (see Appendix 1). Figure 1 presents a complete overview of the whole screening and selection process.

*Characteristics of the included studies*

The final list (57 articles) addressed a wide variety of themes, including information about different health issues (e.g. cardiovascular disease, diabetes, diet and nutrition, mental health, oral health, perinatal health, pregnancy and childbirth, sexual health and HIV) and issues experienced by healthcare providers (e.g. communication and cultural issues, attitudes and perceptions as well as the research methods (see Table 2).

**Table 1.**  
Search strategy  
keywords, inclusive  
and exclusive terms

	Keywords
Title	((health information OR health seek* OR health help* OR care seek* OR health behavi* OR health commun* OR information practice* OR information literacy) and (emigra* OR immigra* OR refuge* OR asylum seek* OR foreign* OR migra*))
Inclusive	European countries
Exclusive	Sub-culture, systematic review, literature review, editorial notes, human rights, health law, role of the employer, ambulatory care, safety science, mediators, education and debate, health information systems, health promotion, health policy and practice, faith-based community action, medicine and medical science and public health



**Figure 1.**  
Flowchart of the  
selection process

In studies on health-seeking behaviours, a qualitative approach (50%) was the most widely used methodology, and more than half of the studies focused on specific health-related issues (61.40%). In addition, the largest share of studies on mental health adopted a qualitative approach (47.36%), while 22 out of 57 selected studies did not focus on any particular health related theme as specified in [Table 2](#). Some studies objectively focused on topics such as informing, educating or helping patients to decide on their health issues (e.g. [Knipscheer and Kleber, 2001](#); [Knipscheer and Kleber, 2005](#); [Leavey et al., 2007](#); [Lecrofer et al., 2011](#); [Straiton et al., 2018](#)), and others objectively focused on understanding the healthcare provider's perceptions, attitudes and challenges in health services provision (e.g., [Delilovic et al., 2018](#)).

[Appendix 1](#) and [Appendix 2](#) provide additional information on the articles such as categories, participants (place of recruitment) and means of data gathering, a descriptive

**Table 2.**  
Key findings on health-seeking behaviours of immigrants, asylum seekers and refugees in Europe

Theme	Quantitative		Qualitative		Mixed methods		Overall
	N	Reference	N	Reference	N	Reference	
Cardiovascular disease	0	—	1	18	0	—	1
Diabetes	0	—	1	14	0	—	1
Diet and Nutrition	2	15, 17	1	57	0	—	3
Mental health	5	33, 41, 54, 2, 30	9	24, 34, 38, 42, 44, 47, 48, 49, 8	5	21, 25, 26, 53, 1	19
Oral health	1	12	1	13	0	—	2
Perinatal, Pregnancy and Childbirth	2	36, 50	4	7, 11, 51, 52	1	55	7
Sexual Health and HIV	2	28, 56	0	—	0	—	2
Other	9	4, 5, 9, 10, 23, 31, 32, 37, 43	11	3, 6, 16, 19, 27, 29, 35, 39, 40, 45, 47	2	20, 22	22
Total	21		28		8		57

summary of the selected studies including the country, participants (sample size, ethnic background of sample group). The largest share of studies was conducted in the United Kingdom, Sweden, The Netherlands and Germany (75.44%), while the rest were conducted in seven other European countries. Interviews and semi-structured interviews were the most common means of data gathering for qualitative studies (36.84%), whereas questionnaires were most commonly used in quantitative studies (15.79%). A mixed-methods approach was adopted in 14.03% of the studies. More than half of the studies had small sample sizes (1–100); the majority of participants were of African or Middle East background (59.65 and 50.88%, respectively). Participants were mainly recruited through hospitals, clinics, health centres (33.33%), voluntary groups, cultural communities (28.07%) or refugee camps or refugee reception centres (17.54%) (see [Appendix 1](#) and [2](#)).

#### *Summary of findings based on the research categories*

The results showed that most of the studies focused on users' points of view and covered issues related to needs (24.56%), use (28.07%) and communication medium and process (8.77%). Health communication medium and process (8.77%), healthcare needs (7.02%) and healthcare use (1.75%) were also discussed from healthcare providers' points of view. We also found discussions on other issues such as information seeking (26.32%), source selection (8.77%), outcomes (8.77%) and further information seeking (1.75%). The largest number of studies on using health services had participants with either African or the Middle East ethnic backgrounds (81.25 and 56.25%, respectively). These studies highlighted issues related to the provision of access to medical services for asylum seekers, refugees and immigrants in Europe (see [Appendix 1](#)). Next, we present findings based on our model of study.

*User: needs/wants/goals/perception.* In total, fourteen articles discussed and covered the various types of health services that asylum seekers need, using either qualitative or quantitative approaches (see [Appendix 1](#)). These studies emphasised that mental health services were highly needed (e.g. [Bartolomei et al., 2016](#); [Djuretic et al., 2007](#); [Gondek and Kirkbride, 2018](#); [Kleinert et al., 2019](#); [Laban et al., 2008](#); [Maier and Straub, 2011](#); [Misra et al., 2006a](#); [Palmer, 2007](#); [Papadopoulos et al., 2003](#)). However, healthcare services related to respiratory diseases, infections, musculoskeletal or connective tissue problems, gastrointestinal issues, injuries, perinatal health, pregnancy and childbirth, as well as diet and nutrition were also found to be needed ([Garnweidner et al., 2013](#); [Gewalt et al., 2018](#); [Goodman et al., 2018](#); [Emtell Iwarsson et al., 2019](#)). [Misra et al. \(2006a\)](#) argued that providing health services for asylum seekers and refugees, due to their complex needs, must be broad-based and include social service and advocacy groups, as well as primary care and specialised mental health services.

*User: assess/use/ignore communication.* Sixteen articles covered issues related to assessing or using healthcare services. More than half of the studies were conducted in non-English speaking countries (e.g. Denmark, Finland, Germany, The Netherlands and Portugal), mostly with participants with either African or Middle Eastern backgrounds. These studies reported challenges with accessing or using psychiatric and psychotherapeutic treatments, sexual health and HIV treatments, pregnancy and childbirth services or with obtaining dental check-up appointments ([Dias et al., 2020](#); [Erdsiek et al., 2017](#); [Jayaweera and Quigley, 2010](#); [Knipscheer and Kleber, 2001, 2005](#); [Mattila et al., 2016](#); [McMunn et al., 1998](#); [Nikendei et al., 2019](#); [Toar et al., 2009](#)).

Moreover, participants reported differences in access to or the use of health services based on their ethnic backgrounds ([Gerritsen et al., 2006](#)). In addition, the participants (asylum seekers, refugees and immigrants) mentioned that factors such as migration status, length of residency, educational background and cultural norms and values have a significant influence on their choice and use of health services ([Erdsiek et al., 2017](#); [Hansen et al., 2008](#); [Knipscheer and Kleber, 2001](#)).



Participants in the studies conducted in the United Kingdom and Ireland had different attitudes towards assessing, using or dismissing health communication (e.g., Kang *et al.*, 2019). They also indicated some challenges and difficulties in relation to navigating health communication or negotiating primary care services (Kang *et al.*, 2019, p. 541). Such challenges rooted in the language barriers, inadequate interpretation services, lack of awareness of the structure and function of the national health system, difficulties meeting the costs of dental care, prescriptions, transportation and perceptions of discrimination in terms of race, religion and immigration status (Kang *et al.*, 2019, p. 537). The main reasons for using health services in studies conducted in the United Kingdom were related to psychiatric, musculoskeletal and dermatological treatments (Carruthers and Oakeshott, 2019).

Regarding factors influencing the use of health services, local and transnational social networks, ethnicity, birthplace and length of residency in the host country were found to impact migrants' health decision-making processes (Jayaweera and Quigley, 2010; Thomas, 2010). In a comparative study on self-reported health and healthcare utilisation, Toar *et al.* (2009) found that asylum seekers and refugees living in Western countries need healthcare services related to mental health issues, especially about posttraumatic stress disorder (PTSD). In addition, a strong need for health information related to HIV/AIDS prevention was found in two studies on Sub-Saharan African and African migrant communities (respectively, in Portugal and the UK) (Dias *et al.*, 2020; McMunn *et al.*, 1998). For example, Dias *et al.* (2020) argued that current HIV-prevention interventions, especially HIV testing, are not reaching the target groups, and most likely prevention opportunities are being missed. This result indicated that Sub-Saharan African migrants probably are not aware of available sexual health services, for instance, sexual/reproductive health consultations. Therefore, the rate of using health services among these immigrants in Portugal is very low. Similarly, Mediterranean migrants with lower education in The Netherlands reported a more negative attitude towards consulting mental health services, mostly due to being less familiar with the services (Knipscheer and Kleber, 2005). Finally, a study on migrants from the former Yugoslavia living in the UK disclosed difficulties and challenges in adapting to a new healthcare system. The results highlighted a reflection of cultural appropriateness of mainstream services that led to constrains in service use (Djuretic *et al.*, 2007). Furthermore, a quantitative study with participants with Asian and African ethnic backgrounds suggested that "in order to conduct a study on health and healthcare utilisation among asylum seekers and refugees, it is important to adopt a cross-cultural adaptation of the chosen measurement instruments, translation and back translation only is not sufficient" (Gerritsen *et al.*, 2004, p. 9).

*User: communication medium/process.* Five articles focused on health communication media and processes. On the one hand, from a user point of view, trust is a key to facilitate health communication between healthcare providers and users who are refugees or residents with different ethnic backgrounds (Feldmann *et al.*, 2007; Garnweidner *et al.*, 2013). For instance, midwives were mentioned as trustworthy sources of nutrition-related information during antenatal care of pregnant women with different ethnic backgrounds residing in Norway (Garnweidner *et al.*, 2013). On the other hand, findings from studies on undocumented immigrants and refugees emphasised the significant role of social information networks and transnational health networks as health communication media (Devillanova, 2008; Thomas, 2010). Finally, a study on vulnerable groups of Arabic- and Somali-speaking asylum seekers in Sweden reported that "providing health information in a host country through official channels needs to be based on fact-based information, and patients need to be treated with concern and respect" (Ekblad *et al.*, 2012, p. 21).

*Provider: needs/wants/goals/perception.* Four studies covered issues related to healthcare providers' needs and goals in healthcare settings. The main topics of these studies were related to mental health services. Interviews were the most common form of data collection in studies conducted on immigrants, asylum seekers, refugees and healthcare providers in Sweden and

the UK (Delilovic *et al.*, 2018; Misra *et al.*, 2006b; Palmer, 2007). In addition, healthcare providers in a study conducted on asylum seekers originating in Asia, the Middle East and the Indian subcontinent mentioned their difficulties in decoding languages of distress, and understanding trauma and subjective meanings of suicide, challenges of combining patients and their perspectives and a sense of shared powerlessness (Sundvall *et al.*, 2018). Moreover, healthcare professionals in a study investigating the experiences of professionals who treat asylum seekers and refugees argued that “it is hard to explore health problems such as depression or somatisation as they felt that the interpreter may not be accurately translating the words, or there may not be a word for depression in the language being used” (Misra *et al.*, 2006b).

Still, in a study exploring healthcare provider perspectives on health examinations for asylum seekers in Sweden, healthcare professionals encountered challenges including intercultural competence, guidelines and tools on how to appropriately assess mental health and individuals’ willingness to disclose personal experiences (Delilovic *et al.*, 2018). A study on asylum seekers and refugees living in the UK provides some practical solutions to cover health service providers’ needs while providing services for this vulnerable patient group. Health service providers need to be aware of the cultural, social and political context within which individuals operate and are judged. Furthermore, healthcare providers need to have education and training programmes to incorporate the understandings and allow for considered and sensitive exploration of the belief systems operating in asylum seekers and refugees’ communities (Misra *et al.*, 2006b). Finally, healthcare providers need to develop their treatment programmes for this group of patients as a flexible, preventative approach based on different, complex, individual requirements, allowing for inclusion of traditional and alternative treatment options and longevity of treatment programmes (Misra *et al.*, 2006b).

*Provider: assess/use/dis-/misinformation.* Among the studies selected for the review, we found an interesting comment related to the healthcare provider assessment and dis-/misinformation. In a study conducted on female suicidal asylum seekers living in the UK, mental healthcare providers reported challenges related to understanding unfamiliar expressions; particularly, cultural idioms of distress (Sundvall *et al.*, 2018).

*Provider: communication medium/process.* On the providers’ side, the communication medium and process were pointed out by five articles covering topics including mental health, perinatal health, pregnancy and childbirth. Two studies mentioned that healthcare providers and patients’ problems were grounded in the communication (including linguistic difficulties), cultural traditions and religious beliefs (Degni *et al.*, 2012; Reynolds and White, 2010). In another study, healthcare providers were recommended to implement an approach that considered asylum seekers’ cultural beliefs and traditional health practices in order for their patients to adhere to treatment recommendations (Koehn, 2006). Moreover, in a qualitative study conducted in Sweden focusing on the communication challenges between healthcare providers and patients, Sundvall *et al.* (2018) revealed that such communication is often affected by, e.g. the unbearable realities of the women, difficulties for clinicians in decoding languages of distress and understanding trauma and subjective meanings of suicide, as well as challenges with combining patients’ and clinicians’ perspectives, and a sense of shared powerlessness. In accordance with this result, asylum seekers in another Swedish study argued that due to poor communication, inadequate information and lack of clarity regarding the aim of health examinations, they felt that they received insufficient information both ahead of and during the health examination (Delilovic *et al.*, 2018).

*Health or information seeking activity/feelings/thoughts.* This section covers studies on healthcare seeking and activities, and feelings or thoughts during this process, rather than health information-seeking which was rarely mentioned in the findings. The findings can, however, reveal possible activities, feelings or thoughts related to the information-seeking behaviour of the studied groups. The activity of seeking health services and expressing feelings and thoughts about the health services were discussed in 15 studies. First, in terms of

activities and thoughts, the importance of cultural values and religion within health seeking were highlighted in ten studies on mostly African migrants, whereas one study focused on immigrants with multi-ethnic backgrounds (Garnweidner *et al.*, 2013; Gilgen *et al.*, 2005; Hjelm and Apelqvist, 2016; Jensen *et al.*, 2014; Knipscheer and Kleber, 2001; Onyigbuo *et al.*, 2016; Onyigbuo *et al.*, 2018; Palmer, 2007; Straiton *et al.*, 2018; Teunissen *et al.*, 2014). For instance, religion was pointed out to have impact on health-related lifestyle behaviour of first-generation Polish immigrants living in Germany (Morawa and Erim, 2018). Second, feelings and thoughts related to health seeking were found to be influenced by the education and the awareness of treatment opportunities, and by whether general medical care was perceived to be designed to meet patients' needs and expectations (Dorn *et al.*, 2011; Garnweidner *et al.*, 2013; Gilgen *et al.*, 2005; Hjelm and Apelqvist, 2016; Onyigbuo *et al.*, 2016; Straiton *et al.*, 2018). Participants pointed out mental health services as the most sought-for health services, especially among immigrants from Africa, Asia, the Indian subcontinent and the Middle East (Teunissen *et al.*, 2014; Leavey *et al.*, 2007; Palmer, 2007; Straiton *et al.*, 2018). Finally, acculturation, coping style, beliefs about healthcare and illness and their impact on self-care and care-seeking, recognition of symptoms, as well as cultural care were mentioned as factors influencing health seeking behaviour (Hedemalm *et al.*, 2008; Hjelm and Apelqvist, 2016; Onyigbuo *et al.*, 2016, 2018).

*Source selection: credibility/utility.* Five studies pointed out some factors affecting selection and utility of healthcare services. On the one hand, studies on female asylum seekers revealed significant influence of behavioural factors, language and culture on accessing perinatal services, resources and information (Barkensjö *et al.*, 2018; Reynolds and White, 2010). For instance, a study on perinatal health services found that when healthcare providers express empathic concern and have a listening behavioural approach towards their patients, patients feel empowered, acknowledged and encouraged, leading them to trust clinicians and diminishing fear relating to seeking healthcare services (Barkensjö *et al.*, 2018). Another study conducted in the UK showed that the working environment of healthcare staff affects the services that they could provide to asylum-seeking women who were pregnant or had young babies (Reynolds and White, 2010). On the other hand, a study on Ethiopian refugees showed that the state of being a refugee has had impact on their health beliefs and practices (Papadopoulos *et al.*, 2003). Furthermore, a study on undocumented migrants in Germany revealed that migration status has significant impact on the ignoring of health problems until they reach an acute and potentially life-threatening stage (Huschke, 2014).

Finally, a study about providing online information in primary care services for refugees and asylum-seekers showed that even though the majority of local statutory organisations, which are responsible for improving public health provide good information regarding coordination of services and evidence of a thorough health needs assessment; there is, however, a need for considerable work if the requirements for access to high quality information about services of the public and government are to be met (Kralj and Barriball, 2004).

*Outcomes: actions/decisions/knowledge.* This section covers five studies exploring factors influencing health outcomes. First, health literacy and educational level were reported to be the most important factors influencing health information-seeking outcomes for asylum seekers, refugees and immigrants (Lecerof *et al.*, 2011; Wångdahl *et al.*, 2018). Health literacy refers to accessing, understanding, appraising and using health information (Sorensen *et al.*, 2012). Wångdahl *et al.* (2018) argued that "the outcome of healthcare-seeking is associated with comprehensive health literacy (CHL) and found that a considerable proportion of the refugees in Sweden have limited CHL, and report less than good health and impaired well-being, or that they have refrained from seeking healthcare" (p. 410). Lecerof *et al.* (2011) and Wångdahl *et al.* (2018) argued that the asylum seekers, refugees and immigrants' health literacy level have impact on their health outcomes. Moreover, educational background and lack of health information were reported to have significant effects on the studied groups'

health decision-making processes (Lecerof *et al.*, 2011). Second, factors including untreated mental conditions and patients' ethnocultural background were mentioned in studies on health outcomes among asylum seekers in Finland and Germany (Bozorgmehr *et al.*, 2018; Koehn, 2006). In addition, access to medical attention for routine check-ups, lack of awareness of primary medical care's surgery hours, perception of symptoms of illness, the role of nurses in asylum seekers' healthcare seeking, language translation services in primary care and the role of specialists' help in medical settings were all mentioned as more general factors influencing health outcomes of asylum seekers living in the UK (O'Donnell *et al.*, 2007).

*Future information seeking.* Future information seeking was not mentioned in the selected studies in this systematic review; however, findings from a study on undocumented immigrants living in Denmark showed that future health-seeking strategies included self-medication, contacting doctors in the home countries and borrowing health insurance cards from Danish citizens (Biswas *et al.*, 2011). The main reason behind seeking alternative health services has rooted in having restricted access to healthcare; in particular, limited medical services rights, healthcare professionals' arbitrary attitudes, fear of being reported to the police, poor language skills, lack of local social networks, lack of knowledge about the healthcare system and lack of knowledge about informal networks of healthcare professionals, were the most important ones (Biswas *et al.*, 2011).

#### *Answering the research questions*

Two main broad research questions were formulated in this study. The first question asks, "from the perspective of immigrants, asylum seekers, and refugees residing in Europe, what are their health information and healthcare service needs, what type of health information and healthcare services are sought and used, and how do they evaluate such services?" Many asylum seekers and refugees expressed a strong need for mental health services as a consequence of the stress entailed by immigration and asylum-seeking processes (Bartolomei *et al.*, 2016; Djuretic *et al.*, 2007; Gondek and Kirkbride, 2018; Kleinert *et al.*, 2019; Knipscheer and Kleber, 2001, 2005; Laban *et al.*, 2008; Leavey *et al.*, 2007; Maier and Straub, 2011; Misra *et al.*, 2006a; Nikendei *et al.*, 2019; Palmer, 2007; Papadopoulos *et al.*, 2003; Straiton *et al.*, 2018; Teunissen *et al.*, 2014; Toar *et al.*, 2009). Asylum seekers and refugees in other studies expressed they need health service related to respiratory problems, infections, muscular and skeletal issues, and injuries (Goodman *et al.*, 2018).

The majority of studies highlighted the influence of culture and religion on the health-seeking behaviour of asylum seekers, refugees and immigrants in Europe (Hjelm and Apelqvist, 2016; Morawa and Erim, 2018; Onyigbuo *et al.*, 2016; Onyigbuo *et al.*, 2018; Papadopoulos *et al.*, 2003; Straiton *et al.*, Teunissen *et al.*, 2014). For example, undocumented immigrants in The Netherlands reported that they seek healthcare advice first through their friends, religious leaders and religious communities, and lastly, through physicians (Teunissen *et al.*, 2014). Moreover, Nigerian clergy and healthcare professionals living in the United Kingdom also mentioned using religious and cultural care along with formal healthcare methods in their health information-seeking processes (Onyigbuo *et al.*, 2016).

Even though our findings are not directly describing what health-related information is needed, used, our sought by immigrants, asylum seekers and refugees residing in Europe, the findings of this review study highlight the importance of providing health-related information about mental health, sexual health and HIV, pregnancy and child birth for them (e.g., Barkensjö *et al.*, 2018; Dias *et al.*, 2020; Kleinert *et al.*, 2019; Straiton *et al.*, 2018). Also, health information should be fact-based, easy to understand and raise awareness about healthcare structures and health services which are available for this vulnerable group of residents in Europe (e.g. Ekblad *et al.*, 2012; Hjelm and Apelqvist, 2016; Kang *et al.*, 2019; Onyigbuo *et al.*, 2016; Straiton *et al.*, 2018).

The second research question asks, “from the healthcare providers’ perspective, what type of health information and healthcare services are used, and how do they evaluate the health-seeking behaviour of immigrants, asylum seekers, and refugees residing in Europe?” Not surprisingly, healthcare providers mentioned challenges related to communication with the patients while they are providing health services related to mental health, perinatal health, pregnancy and childbirth (Delilovic *et al.*, 2018; Degni *et al.*, 2012; Koehn, 2006; Reynolds and White, 2010; Sundvall *et al.*, 2018). Apart from difficulties related to assessing the patients’ health, linguistic barriers and religious or cultural differences, many healthcare providers experience difficulties in decoding language of distress and unfamiliar expressions, as well as cultural idioms of distress (Degni *et al.*, 2012; Delilovic *et al.*, 2018; Reynolds and White, 2010; Sundvall *et al.*, 2018). In addition, physicians added that there is a lack of appropriate training programmes, which could help them to deal with asylum seekers and refugees in need of mental health services (Misra *et al.*, 2006a). Healthcare providers reported that their evaluation of the health seeking of immigrants, asylum seekers and refugees residing in Europe depends on factors such as quality of communication and communication style between patients and healthcare providers, quality of interpreting services, whether the perspectives of patients and physicians are combined in healthcare services and a mutual understanding of cultural similarities and differences between healthcare professionals and users (Degni *et al.*, 2012; Koehn, 2006; Sundvall *et al.*, 2018). These findings, from an information point of view, can shed light on topics such as the importance of providing guidelines, tools and information related to providing special health-related services for the patients (Delilovic *et al.*, 2018).

### Discussion and conclusion

The results of this systematic review study show the health-seeking behaviours of immigrants, asylum seekers, and refugees in Europe have been analysed in a number of disciplines, ranging from medical science to health communication science. Findings from a systematic review of 57 articles revealed that this subject has been studied using qualitative, quantitative and mixed methods approaches. The articles included in the review looked at both the viewpoints of healthcare providers and patients, but the majority of them concentrated on only one.

We reinterpreted the information seeking and communication model (ISCM) to categorise, label and interpret the findings. Using the ISCM helped us to track health-seeking behaviour and health information sharing and communication between users (our target population) and healthcare providers. The advantage of the ISCM is that it allows to observe information sharing between patients and healthcare providers from the starting point to the evaluation of the acquired health information (Robson and Robinson, 2015). Applying this method also helped us to capture and interpret health-seeking behaviours of asylum seekers, refugees and immigrants while considering contextual and environmental influential factors.

The findings of the reviewed articles emphasise the significant role played by religion, beliefs and cultural norms in the healthcare-seeking behaviour of the studied groups (e.g. Hjelm and Apelqvist, 2016; Morawa and Erim, 2018; Onyigbuo *et al.*, 2016; Onyigbuo *et al.*, 2018; Papadopoulos *et al.*, 2003; Straiton *et al.*, 2018; Teunissen *et al.*, 2014). The findings show that there are limited number of studies on information-seeking behaviours of the studied groups, and the majority of studies have focused on healthcare services provision, limitations, and facilitators. Therefore, this systematic review cannot provide clear answers to all questions related to health information needs, uses and the efficiency of the processes for both healthcare providers and users. However, the results showed the importance of providing health-related information on topics related to mental health, sexual health and HIV and pregnancy and childbirth for immigrants, asylum seekers and refugees living in Europe



(e.g. Barkensjö *et al.*, 2018; Dias *et al.*, 2020; Kleinert *et al.*, 2019; Straiton *et al.*, 2018). Moreover, the results highlight the role of friendship and individual networks, and religious communities as first-hand health information sources for the studied populations (Devillanova, 2008; Ekblad *et al.*, 2012; Thomas, 2010).

Common barriers in using and assessing health information or services are the difficulties to navigate or negotiate health related issues, to get an appointment for treatment, to assess the quality of the received treatment, to access the required healthcare services and to know one's medical services rights (Erdsiek *et al.*, 2017; Kang *et al.*, 2019; Mattila *et al.*, 2016; Nikendei *et al.*, 2019). The findings also show alternative health-seeking strategies such as using transnational health networks to cope with the aforementioned barriers (Thomas, 2010). Researchers also report that health literacy and educational level play a significant role in adapting to health-seeking approaches and strategies (Lecerof *et al.*, 2011; Wängdahl *et al.*, 2018).

The studies highlighted the importance of adopting a cross-cultural approach in providing health services and health information, specifically regarding the adaptation of measurement tools in terms of translation, cultural norms and values (Gerritsen *et al.*, 2004). For example, mental health problems are a taboo topic in the African and Asian cultures. Lack of knowledge or lack of trust in physicians as well as general barriers to accessing healthcare services are also considered important factors influencing the health-seeking behaviour of immigrants living in Europe (Teunissen *et al.*, 2014).

This research adds to the body of knowledge by revealing new details about the health (information) seeking behaviours of asylum seekers, refugees and immigrants in Europe, as well as new insights into this phenomenon from the perspective of healthcare providers. Findings of the reviewed studies were arranged into nine broad themes (see Table 2). Half of the studies included in the review covered particular health issues; however, mental health and parental health were the most common among the studied subjects. Furthermore, almost half of the articles did not focus on any particular health issue and mainly discussed the health-seeking behaviour of this particular population on a more general level. Among the studies focusing on a specific health issue, the majority investigated topics related to mental health, possibly due to the prevalence of stress experienced during the process of becoming an immigrant, an asylum seeker or a refugee. Therefore, it can be argued that the provision of information related to psychological health is highly needed by ethnic minorities living in Europe. More attention should be paid to healthcare providers and users' search, use and assessment of healthcare information and services. One major result of this review study was not only revealing the overall lack of studies focusing the health information behaviour of the studied population but also showing the lack of findings related to information in the studies we reviewed. In contrast to similar studies in the USA (e.g. Chen *et al.*, 2010; Galeshi *et al.*, 2018; Lee, 2018; Shin and Maupome, 2017; Yoon and Huang, 2017; Woodall *et al.*, 2009), this topic is surprisingly neglected and our review points to an urgent need for additional studies in the European context.

### *Implications*

Immigrants, asylum seekers and refugees experience numerous health service needs. This systematic review highlighted the importance of addressing these issues. The results of this study have some implications for healthcare providers, health policymakers and relevant authorities. First, the review results identified health services commonly sought by the studied population, including those related to mental health, perinatal health, pregnancy and childbirth, oral health, diabetes, diet health, cardiovascular health and sexual health and HIV. Our findings identified an area of concern related to mental health services and relevant health information for these groups. As such, it is suggested that healthcare providers pay more attention to these

concerns. Second, this review identified the role of healthcare providers' attitudes and of users' trust in them in relation to health services selection. These behavioural factors must be taken into consideration when providing health services for these groups. The results also highlighted the need for culturally specific and accurate health information targeted towards immigrants, asylum seekers and refugees in Europe. Health services providers and health professionals should develop services and information materials that are culturally specific for these population groups. The health services and health information should be pilot tested in these groups to ensure that they meet the occurring health (information) needs. The results also shed light on the need for cultural competence among healthcare providers, so that they can better address the needs of these users. Finally, the findings underline the importance of developing a patient-provider communication approach aiming at the improvement of encounters and communication between healthcare providers and immigrants in Europe. Additional studies should be conducted to explore how culturally specific health information can be delivered to this population.

### *Limitations*

The search strategy of this review initially focused on the health information-seeking behaviours of immigrants, asylum seekers and refugees in Europe. However, we decided to broaden the search from health information-seeking behaviours to health-seeking behaviours, in order to include more relevant studies. We are aware that there may be relevant references concerning other minorities in Europe. However, we focused on the healthcare needs of asylum seekers, refugees and immigrants, without including those of other local minorities. We also acknowledge that this systematic review may not represent all relevant fields, as the scientific databases used in this review did not necessarily contain references to all the key publications. However, we are confident that the articles examined and evaluated in this review provide an overall overview of the body of academic publications within this multidisciplinary area of research.

### **Notes**

1. A software package for retrieving and analyzing academic citations from different scientific and open access databases.
2. See <https://rayyan.qcri.org/>

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ID	Source	Country	Sample size	Sample study group	Category
1	<a href="#">Nikendei et al. (2019)</a>	Germany	228	Asian, African, European, Middle East	User assess/use/ignore
2	<a href="#">Kleinert et al. (2019)</a>	Germany	2252	African, Middle East	User need/wants/goals/perception
3	<a href="#">Kang et al. (2019)</a>	UK	18	African, Middle East	User assess/use/ignore
4	<a href="#">Carruthers and Oakeshott (2019)</a>	UK	35	African	User assess/use/ignore
5	<a href="#">Morawa and Erim (2018)</a>	Germany	257	European	Seek Information: activity/feeling/thought
6	<a href="#">Delilovic et al. (2018)</a>	Sweden	41	N/A	Provider needs/wants/goals/perspectives   Provider communication medium/process
7	<a href="#">Barkensjö et al. (2018)</a>	Sweden	13	African, European, Middle East	Choosing source: credibility/utility
8	<a href="#">Straiton et al. (2018)</a>	Norway	14	Asian	Seek Information: activity/feeling/thought
9	<a href="#">Wängdahl et al. (2018)</a>	Sweden	513	African, Middle East	Outcome actions/decisions/knowledge
10	<a href="#">Onyigbuo et al. (2018)</a>	UK	297	African	Seek Information: activity/feeling/thought
11	<a href="#">Degni et al. (2012)</a>	Finland	25	N/A	Provider communication medium/process
12	<a href="#">Erdsiek et al. (2017)</a>	Germany	22.050	N/A	User assess/use/ignore
13	<a href="#">Mattila et al. (2016)</a>	Finland	38	African, European, Middle East	User assess/use/ignore
14	<a href="#">Hjelm and Apelqvist (2016)</a>	Sweden	26	Southern American, European, Middle East	Seek Information: activity/feeling/thought
15	<a href="#">Lecerof et al. (2011)</a>	Sweden	587	Middle East	Outcome actions/decisions/knowledge
16	<a href="#">Thomas (2010)</a>	UK	39	African	User assess/use/ignore   User communication medium/process
17	<a href="#">Hansen et al. (2008)</a>	Denmark	10.037	Asian, African, European, Middle East, Indian Subcontinent	User assess/use/ignore   Seek Information: activity/feeling/thought
18	<a href="#">Hedemalm et al. (2008)</a>	Sweden	42	European and non-European	Seek Information: activity/feeling/thought
19	<a href="#">O'Donnell et al. (2007)</a>	UK	52	Asian, African, European, Middle East, Indian Subcontinent	Outcome actions/decisions/knowledge
20	<a href="#">Gerritsen et al. (2006)</a>	The Netherlands	410	African, Middle East	User assess/use/ignore
21	<a href="#">Knipscheer and Kleber (2005)</a>	The Netherlands	292	African, Middle East	User assess/use/ignore

**Table A1.** Records and categories in the systematic reviews

(continued)

ID	Source	Country	Sample size	Sample study group	Category
22	<a href="#">Gilgen <i>et al.</i> (2005)</a>	Switzerland	235	European, Middle East	Seek Information: activity/feeling/thought
23	<a href="#">Kralj and Barriball (2004)</a>	UK	N/A	N/A	Choosing source: credibility/utility
24	<a href="#">Teunissen <i>et al.</i> (2014)</a>	The Netherlands	15	Asian, African, Indian Subcontinent	Seek Information: activity/feeling/thought
25	<a href="#">Papadopoulos <i>et al.</i> (2003)</a>	UK	106	African	Choosing source: credibility/utility   User need/wants/goals/perception
26	<a href="#">Knipscheer and Kleber (2001)</a>	The Netherlands	185	Southern American	User assess/use/ignore   Seek Information: activity/feeling/thought
27	<a href="#">Ekblad <i>et al.</i> (2012)</a>	Sweden	626	African, Middle East	User communication medium/process
28	<a href="#">McMunn <i>et al.</i>, 1998</a>	UK	118	African	User assess/use/ignore
29	<a href="#">Onyigbuo <i>et al.</i> (2016)</a>	UK	6	African	Seek Information: activity/feeling/thought
30	<a href="#">Gerritsen <i>et al.</i> (2004)</a>	The Netherlands	600	African, Middle East	User assess/use/ignore
31	<a href="#">Goodman <i>et al.</i> (2018)</a>	Germany	2.232	African, European, Middle East	User (need/wants/goals/perception)
32	<a href="#">Dorn <i>et al.</i> (2011)</a>	The Netherlands	224	Asian, African, European, Middle East, Southern American	Seek Information (activity/feeling/thought)
33	<a href="#">Toar <i>et al.</i> (2009)</a>	Ireland	60	Asian, African, European, Middle East	User (assess/use/ignore)
34	<a href="#">Misra <i>et al.</i> (2006b)</a>	UK	14	N/A	Provider (needs/wants/goals/perspectives)
35	<a href="#">Biswas <i>et al.</i> (2011)</a>	Denmark	10	Indian subcontinent	Future Information Seeking
36	<a href="#">Jayaweera and Quigley (2010)</a>	UK	N/A	African, European, Middle-American, Indian Subcontinent	User (assess/use/ignore)
37	<a href="#">Devillanova (2008)</a>	Italy	10.254	Asian, African, European, Middle and Southern American	User (communication medium/process)
38	<a href="#">Sundvall <i>et al.</i> (2018)</a>	Sweden	18	African, Middle East, Indian subcontinent	Provider (needs/wants/goals/perspectives)   Provider (assess, use or dismiss information)   Provider (communication medium or process)
39	<a href="#">Koehn (2006)</a>	Finland	35	Asian, African, European, Middle East	Provider (communication medium or process)   Outcome (actions/decisions/knowledge)
40	<a href="#">Huschke (2014)</a>	Germany	35	Southern American, Middle American	Choosing source (credibility/utility)
41	<a href="#">Gondek and Kirkbride (2018)</a>	UK	536	European	User (need/wants/goals/perception)

(continued)

Table A1.

ID	Source	Country	Sample size	Sample study group	Category
42	<a href="#">Misra et al. (2006a)</a>	UK	10	African, European, Middle East	User (need/wants/goals/perception)
43	<a href="#">Blackwell et al. (2002)</a>	UK	397	Asian, African, European, Middle East	User (need/wants/goals/perception)
44	<a href="#">Djuretic et al. (2007)</a>	UK	19	European	User (need/wants/goals/perception)   User (assess/use/ignore)
45	<a href="#">Feldmann et al. (2007)</a>	The Netherlands	24	Middle East	User communication medium/process
46	<a href="#">Jensen et al. (2014)</a>	Denmark	15	African, European, Middle East, Indian subcontinent	Seek Information (activity/feeling/thought)
47	<a href="#">Leavey et al. (2007)</a>	UK	9	Middle East	Seek Information (activity/feeling/thought)
48	<a href="#">Maier and Straub (2011)</a>	Switzerland	13	African, European, Middle East	User (need/wants/goals/perception)
49	<a href="#">Palmer (2007)</a>	UK	10	African	User (need/wants/goals/perception)   Seek Information (activity/feeling/thought)   Provider (needs/wants/goals/perspectives)
50	<a href="#">Bozorgmehr et al. (2018)</a>	Germany	19.864	N/A	Outcome actions/decisions/knowledge
51	<a href="#">Reynolds and White (2010)</a>	UK	11	N/A	Selecting source (credibility and utility)   Provider (communication medium or process)
52	<a href="#">Gewalt et al. (2018)</a>	Germany	21	Asian, African, European, Middle East	User (need/wants/goals/perception)
53	<a href="#">Laban et al. (2008)</a>	The Netherlands	294	Middle East	User (need/wants/goals/perception)
54	<a href="#">Bartolomei et al. (2016)</a>	Switzerland	135	N/A	User (need/wants/goals/perception)
55	<a href="#">Emtell Iwarsson et al. (2019)</a>	Sweden	637	Asian, African, European, Middle East, Southern American	User (need/wants/goals/perception)
56	<a href="#">Dias et al. (2020)</a>	Portugal	790	African	User (assess/use/ignore)
57	<a href="#">Garnweidner et al. (2013)</a>	Norway	15	N/A	User (need/wants/goals/perception)   User (communication medium/process)   Seek Information (activity/feeling/thought)

Table A1.

Appendix 2

Means of data gathering	N = 57	%	ID
Administrative data of hospital	1	1.75	50
Chart review	1	1.75	2
Consulting with professionals	1	1.75	51
Focus group discussions	2	3.51	16, 27
Focus group discussions and interviews	4	7.02	11, 19, 40, 44
Interview and Questionnaire	1	1.75	1
Interviews	11	19.30	13, 20, 34, 39, 45, 46, 47, 49, 56, 6, 7
Open data source	5	8.77	17, 31, 36, 37, 38
Questionnaire	9	15.79	10, 15, 30, 33, 43, 5, 55, 57, 9
Questionnaire and open-ended interviews	1	1.75	26
Semi-structured interview and Semi-structured questionnaire	1	1.75	25
Semi-structured interviews	10	17.54	14, 18, 21, 22, 29, 3, 42, 48, 52, 8
Semi-structured interviews and observations	1	1.75	35
Semi-structured interviews and thematic analysis	1	1.75	24
Semi-structured questionnaire	1	1.75	28
Structured interview	1	1.75	53
Structured interviews and open data source	1	1.75	32
Survey	3	5.26	23, 4, 41
Telephone survey	1	1.75	12
<i>Place of recruitment</i>			
Hospital/medical clinic and health centre	19	33.33	1, 11, 14, 18, 2, 21, 22, 29, 31, 4, 40, 46, 48, 50, 51, 55, 56, 58, 6
Informal social network	2	3.51	24, 41
Integration program, language school, university or educational centres	2	3.51	9, 13
Migration authorities and related organizations	3	5.26	6, 27, 34
NGO, charity and other associations	4	7.02	35, 40, 57, 7
Online, social-media, telephone, or postal survey	4	7.02	12, 15, 23, 41
Refugee camp or refugee reception	10	17.54	13, 20, 30, 32, 33, 39, 44, 45, 52, 53
Voluntary community, cultural community or multicultural community	16	28.07	10, 16, 19, 21, 24, 25, 26, 28, 29, 3, 35, 37, 42, 49, 5, 8
Other	6	10.53	17, 36, 38, 43, 47, 54

**Table A2.**  
Description of included  
studies (general  
characteristic of  
the study)

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