A Review of Health Beliefs and Their Influence on Asylum Seekers and Refugees' Health-Seeking Behavior

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Abstract. This article reviews health beliefs, and attitudes of asylum seekers and refugees, using an adapted framework of the Health Belief Model. The systematic review included 15 peer-reviewed records retrieved from CINAHL, Medline, PubMed, PsycINFO, and PsycArticles. Findings of this review show culture, tradition, fate or destiny, psychological factors, family, friends, and community were crucial influential factors in shaping asylum seekers, and refugees' perceived barriers, fear, severity, and susceptibility in their health-seeking activities. In addition, knowledge and awareness related to the benefits of using modern healthcare services were motivators for different ethnic groups to take care of their personal health. Healthcare providers, educational programs, and support from family, friends, and community had noteworthy influence on triggering the health-related decision-making process among asylum seekers and refugees. This study offers practical implications for healthcare providers and public health community to devise culturally relevant strategies that will effectively target asylum seekers and refugees with diverse cultural, traditional and attitudinal beliefs about healthcare and health seeking activities. This is one of the descriptive review studies on asylum seekers and refugees' health beliefs and their health-seeking behavior based on ethnicity grounds.

Keywords: Asylum seekers · Health beliefs · Health-seeking behavior · Refugees · Review

1 Introduction

In the recent decades, healthcare providers have investigated the health needs of refugees[1] and asylum seekers[2]. Still, since healthcare providers deal with vulnerable people, it is important to consider providing health services that are culturally adopted for minorities

[1] A refugee is an individual who have fled war, violence, conflict, or persecution and have crossed an international border to find safety in another country [1].

[2] An asylum-seeker is an individual who has left their country and is seeking protection from persecution and serious human rights violations in another country; However, an asylum-seeker hasn't yet been legally recognized as a refugee and is waiting to receive a decision on their asylum claim [2].

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with diverse ethnic backgrounds [3]. Studies on resettled asylum seekers and refugees in a new country indicated different issues related to the healthcare, such as insufficient healthcare attention because of organizational barriers, cultural differences, language barrier, and access to social or healthcare services [3–6].

Moreover, refugees and asylum seekers may find it difficult to adapt to new environments and lifestyle, resulting in emotional and psychological issues [7–9]. Even though, it is expected migration influences value changes during adaptation, asylum seekers and refugees might continue with their own cultural practices to maintain their health and well-being, as health beliefs[3] typically do not change after migration [11–16].

Health beliefs are shaping people's perception of their health, cause of their health issues, and the ways through which they can overcome an illness [10]. There are many studies related to immigrants 'health beliefs and the influence of their beliefs on their health-seeking behavior[4]; however, there are only a few that cover the impact of health beliefs on asylum seekers and refugees' health-seeking behavior [18–22].

This review is designed based on the Health Belief Model (HBM) which has guided studies on health-seeking behavior; especially, health seeking behavior among minorities from different ethnic backgrounds [7, 23, 24]. Since early 1950s, HBM has been widely used as a conceptual framework in health behavior studies. The model was developed according to a well-established body of psychological and behavioral theory, focusing mainly on two variables, including the value placed by an individual on a particular goal, and an individual's estimated possibility of achieving that goal by a given action [25, 26]. When these variables were conceptualized in the context of health seeking behavior, the correspondences were: (1) wishing to avoid illness or recover from illness; and (2) the belief that a specific health information or action will prevent illness [26].

This paper aims to perform a descriptive review to provide a holistic picture of studies related to health beliefs, and attitudes of asylum seekers and refugees and their health-seeking behavior. The research objectives guiding this study are:

1. To explore asylum seekers and refugees' health beliefs and their health-seeking behavior.
2. To investigate influential factors on asylum seekers and refugees' health-seeking behavior according to their health beliefs and cultures.

2 Research Methods

This review started with a literature search conducted in January 2022, using the preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines [27]. To be included in the review, studies had to (a) be published in English or English, along with another language, (b) focus on human health beliefs issues, (c) focus on asylum seekers, and/or refugees, and (d) be original studies, not a brief review of an original study published in a conference paper or editorial note. All kinds of quantitative and

[3] Health beliefs are what individuals believe about their health, what they think constitutes their health, what they consider the cause of their illness, and ways to overcome an illness it [10].

[4] Health seeking behavior is any activity undertaken by people who perceived themselves to have a health issue or to be sick aiming at finding an appropriate treatment [17].

qualitative study designs were considered, including focus group discussions, structured or semi structured interviews, observations, secondary data analyses, and surveys.

The main focus of the included studies was on investigating health belief of asylum seekers and refugees rather than describing healthcare providers' interpretations of their beliefs. The studies were excluded if their main focus was on indigenous ethnic minorities, subcultures, immigrants, or seasonal workers. Moreover, the studies were excluded when they did not provide original research findings, such as systematic reviews, literature reviews, editorial notes, or conference posters. Furthermore, all studies which investigate the research topic from different angles rather than health belief were excluded (i.e., human rights, health law, ambulatory care, safety science, mediators, health information systems, and health policy).

2.1 Research Adapted Framework

This review uses an adapted framework based on HBM to provide a comprehensive overview of literature findings related to asylum seekers and refugees' health seeking behavior and their health beliefs and cultures. The HBM has several primary concepts that predict why individuals will take a particular action to prevent, to screen for, or to control health conditions [28].

According to HBM, the three components influencing health-seeking behavior of asylum seekers and refugees include modifying factors, individual beliefs, and individual action (see Fig. 1).

- Modifying factors are described in the original model as demographic attributes of individuals, such as age, gender, ethnicity, socioeconomics, and knowledge [23]. The model proposed in this research includes modifying factors, such as gender, country of origin, county of residence, and residency ground.

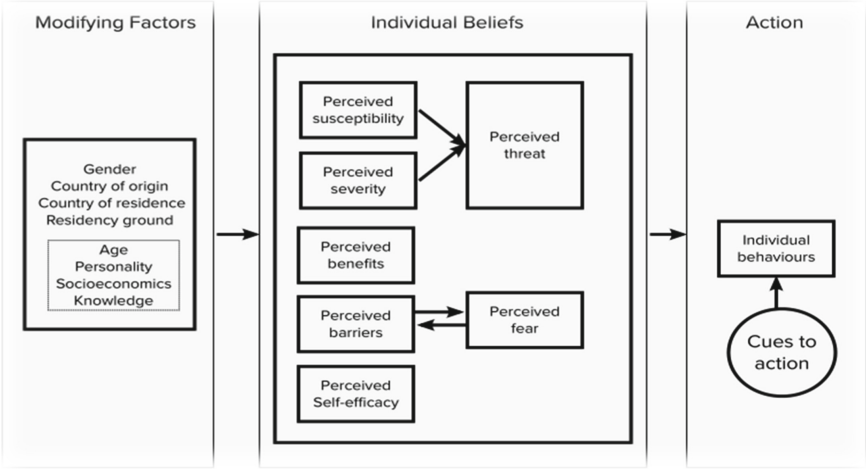

Fig. 1. Adapted framework based on health belief model components and linkages [25]

- Individual beliefs are described in the original model as perception about an illness, perceived benefits, perceived barriers, and perceived self-efficacy [23]. The proposed model for this review found perceived fear that may influence or be under influence from perceived barrier.
- Individual actions are described in the original model as individual behaviors and strategies to activate outcomes of the health seeking behavior [7, 25].

The concept in this study applied to providing a better understanding of individual beliefs and attitudes of this target group regarding their health and their health seeking behavior.

2.2 Information Sources and Search Strategy

Reviewer searched scientific databases through Web of Science (WoS), Scopus, and EBSCO for peer-reviewed journal articles, conference papers, books, and book chapters. Six databases (CINAHL (29 records), Medline (28 records), PubMed (35 records), PsycINFO (23 records), and PsycArticles (3 records)) were searched for the records on the association between asylum seekers, refugees and their beliefs and attitudes to health and illness.

This review started by searching for relevant studies through a medical subject heading (MeSH), truncation (*), and subject keywords adopted from Shahin et al. [28]. In addition, the terms "asylum seeker", and "refugee" 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 belief* OR attitude to health OR attitude to illness OR self-care OR self-management AND refuge* OR asylum seek*".

2.3 Data Extraction and Complete Search Strategy

A total of 120 studies were retrieved from six databases (118 records) and through backwards reference searching (2 records). Studies were selected based on the research model in three phases: reviewing titles, abstracts, keywords, and full-text records. All databases were searched simultaneously. In the review phase, the author screened all records and excluded those that did not fit into any of the categories created based on the original HBM; different strategies were used to select records with asylum seekers and/or refugees as the main subject of studies. In the second phase, abstracts of the selected studies were double-checked. Finally, full texts were screened for relevance and doubled checked for accuracy. The final selected records were imported into NVivo 1.6 for qualitative data analysis and visualization. Figure 2 presents a complete overview of the whole screening and selection process.

2.4 General Characteristic of Included Studies

The final list includes fifteen studies, covering a wide variety of themes, participants' genders, different sample size, various methods, and varied means of data gathering.

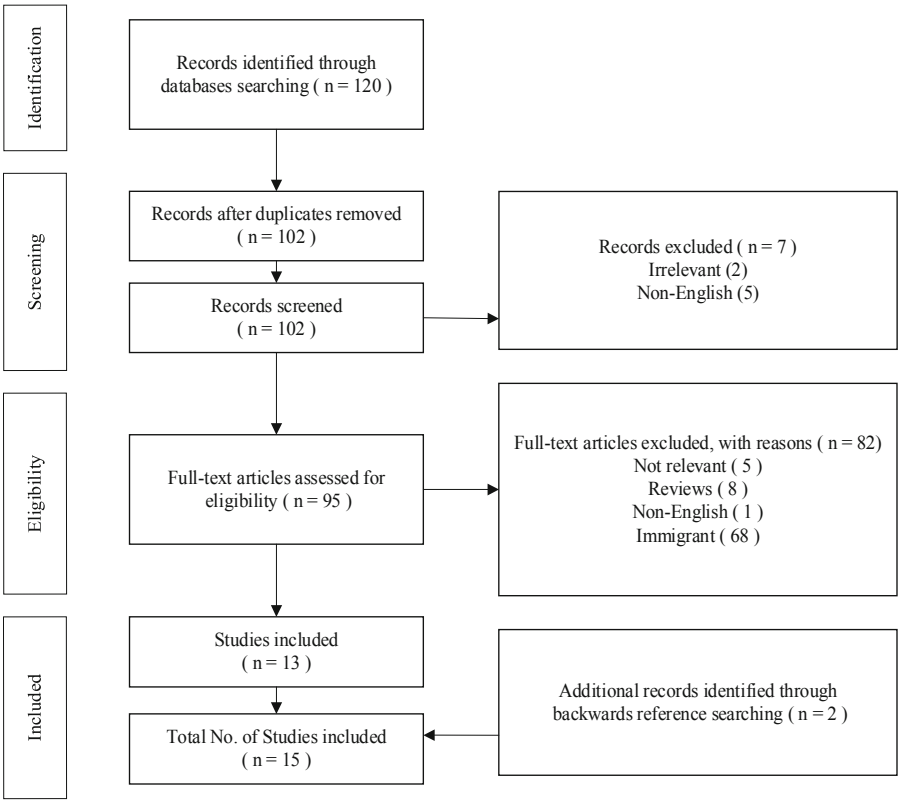

Fig. 2. PRISMA flow chart.

Majority of the included studies (8/15) were conducted in North America covering issues, including changing health beliefs and behaviors, cardiovascular disease, health beliefs and lifestyle, health beliefs and practices, health beliefs and women's health, and sexual health attitudes and beliefs (See Table 1).

This review includes studied with sample size ranging from eleven to approximately three hundred individuals, adopted both qualitative and quantitative methods, and utilized different means of data gathering, such as focus group, interviews, and observations. Table 2 and Appendix 1 provide additional information, such as vulnerable group categories, ethnic groups, current residency, and country of origin of the participants.

Table 1. Theme and methodological information of included studies in this review

ID	Theme	Gender	Size	Methodology	Data gathering
1	Health beliefs & women's health	Women	57	Qualitative	Semi-structured interview
2	Health beliefs & practices	Mixed	15	Qualitative	Focus group
3	Changing health beliefs & behaviors	Mixed	20	Qualitative	Semi-structured interview
4	Mental health beliefs & processes	Mixed	25	Qualitative	Semi-structured interview
5	Sexual health attitudes & beliefs	Mixed	11	Qualitative	Semi-structured interview
6	Sexual health attitudes & beliefs	Women	14	Qualitative	Semi-structured interview
7	Health beliefs & practices	Mixed	106	Qualitative	Semi-structured interview
8	Cardiovascular disease–related health beliefs & lifestyle	Mixed	195	Quantitative	Survey
9	Health beliefs & women's health	Mixed	45	Qualitative	Focus group
10	HIV & self-management skills	Mixed	19	Qualitative	Interviews & observations
11	Health beliefs & women's health	Men	38	Qualitative	Focus group & in-depth interviews
12	Diabetes & self-management skills	Mixed	292	Qualitative	Structured interviews
13	Health beliefs & practices	N/A	N/A	N A	N A
14	Health beliefs & practices	N/A	N/A	N A	N A
15	Health beliefs & practices	Mixed	119	Qualitative	Semi-structured interview

3 Results

An adapted framework based the HBM was used to examine attitudes and cultural beliefs concerning health-seeking behavior of asylum seekers and refugees in the world. We have identified three main categories, including modifying factors, individual beliefs, and individual action (See Fig. 1). The following subsections provide findings.

Table 2. General information related to included studies in this review

ID	Source	Target group	Residency	Origin
1	Saadi et al. 2015	Refugee	USA	Bosnian, Iraqi, and Somalin
2	Simmelink et al. 2013	Refugee	USA	Somalian, Ethiopian, and Eritrean
3	Brainard and Zaharlick 1989	Refugee	USA	Laotian
4	Savic et al. 2015	Refugee	Australia	Sudanese
5	Dean et al. 2016	Refugee	Australia	Sudanese
6	Dhar et al. 2017	Refugee	USA	Bhutanese
7	Papadopoulos et al. 2003	Refugee	UK	Ethiopian
8	Kamimura et al. 2017	Refugee	USA	Myanmarese
9	Ruzibiza 2021	Refugee	Rwanda	Burundian
10	Kennedy and Rogers 2009	Asylum seeker	UK	Sub-Saharan African
11	Piran 2004	Refugee	Iran	Afghan
12	Elliott et al. 2018	Refugee	Lebanon	Syrian
13	Kemp 1985	Refugee	USA	Cambodian
14	Rocereto 1981	Refugee	USA	Vietnamese
15	Gilman et al. 1992	Refugee	USA	Laotian

3.1 Perceived Susceptibility[5]

Table 3 provides common beliefs held across different ethnic groups within seven domains of the adapted HBM. First, common beliefs related to perceived susceptibility across all studied ethnic groups included lack of knowledge about health issues and its risk factors [13, 14, 16, 29–32], and Illnesses is caused by supernatural causes (God, Satan, or Evil spirits, magic, the evil eye) [15, 16, 29, 33–37]. These studies were in context of women's health, changing health beliefs and behaviors, mental health beliefs and processes, sexual health attitudes and beliefs, HIV and Diabetes and self-management skills. Second, perceived susceptibility and unique beliefs distinct to each ethnic group were: Sudanese key informants emphasized depression is white man's sickness [33], and Karen refugees resettled in the United States from the Thai-Myanmar (Burma) border [12] underscored lack of knowledge of the association between tobacco smoking and Cardiovascular disease.

[5] Perceived susceptibility "refers to beliefs about the likelihood of getting a disease or condition" [25].

Table 3. Common beliefs held across different ethnic groups

Adopted health belief model	Common beliefs	Ethnic groups
Barriers	Adhered to traditional normative beliefs	African, Asian, Middle-eastern
	Embarrassment	African, Asian, Balkan, Middle Eastern
	Fatalism	African, Asian, Balkan, Middle Eastern
	Inattentiveness to personal health	African, Asian, Balkan, Middle Eastern
	Poor patient provider communication skills	African, Asian, Balkan, Middle Eastern
	Presence of male providers	African, Asian, Balkan, Middle Eastern
	Psychosocial barriers	African, Asian, Balkan, Middle Eastern
Fear	Fear one's partner or family judgment	African, Middle Eastern
	Fear awareness of their community about preventive health issues	African, Balkan, Middle Eastern
	Fear of pain or diagnoses with breast cancer	African, Balkan, Middle Eastern
Benefits	Perceive the action as potentially beneficial by reducing the threat	African, Asian, Balkan, Middle Eastern
Severity	Belief about how serious a condition and its sequelae are	African, Asian
	Perceived susceptibility to and severity of illness or its sequelae	African, Asian, Balkan, Middle Eastern
Susceptibility	A lack of knowledge about health issues and its risk factors	African, Asian, Balkan, Middle Eastern
	Illnesses is caused by supernatural causes (God, Satan, or Evil spirits, magic, the evil eye)	African, Asian, Balkan, Middle Eastern
Self-efficacy	Confidence in one's ability to complete steps needed face with health issue	African, Balkan, Middle Eastern

(*continued*)

Table 3. (*continued*)

Adopted health belief model	Common beliefs	Ethnic groups
	Intentions to keep doctor's appointments	African, Balkan, Middle Eastern
Cues to action	A physician's recommendation	African, Asian, Balkan, Middle Eastern
	Flexibility in scheduling	African, Balkan, Middle Eastern
	Group educational program	African, Middle Eastern
	Help from physicians and other healthcare providers	African, Balkan, Middle Eastern
	Support from family friends	African, Asian, Middle Eastern

3.2 Perceived Severity[6]

Perceived susceptibility and perceived severity were two factors shaping perceived threat to health issues [25]. On the one hand, common health beliefs related to perceived severity included perceived susceptibility to and severity of illness or its sequelae with Bosnian, Somalian, Iraqi, Laotian, and Karen refugees in contexts of preventive health and breast cancer screening, changing health beliefs, traditional and modern health services, and cardiovascular disease respectively [12, 15, 29, 37]. On the other hand, belief about how serious a condition and its sequelae were common health beliefs among Ethiopian and Laotian in studies related to health beliefs and practices, and changing health beliefs and behaviors [15, 34]. Finally, unique beliefs distinct to African ethnic group related to perceived severity included beliefs that having HIV status would make life difficult and had considerable social problems, this was highlighted in a study with sub-Saharan asylum seekers with HIV [35].

3.3 Perceived Benefits[7]

Perceive the action as potentially beneficial by reducing the threat was noted among perceived benefits by African, Asian, Balkan, and Middle Eastern groups [12, 15, 29]. For instance, Iraqi and Bosnian woman mentioned, "*As long as the pain is for my own good in the end, I endure it," and "Is not this for my own good? It is not for anyone else but me.*" [29]. Furthermore, several women from resettled Laotian refugees reported that "*they would have opted for a hospital birth because a hospital birth is safer if anything goes wrong, even had a traditional midwife been available.*" [15]. One particular perceived

[6] Perceived severity is "individual's beliefs related to the effects of a given health issue and the difficulties related to the health condition, such as pain, loss of work time, financial issues, and issues related to personal and family relationships" [38].

[7] Perceived benefits refers to "beliefs about the positive outcomes associated with a behavior in response to a real or perceived threat" [39].

Table 4. Unique beliefs distinct to each ethnic group

Adopted health belief model	Unique Beliefs	Ethnic groups
Barriers	Lack of family or community support	African
	Perceptions of racism	
	Silence (taboo)	
	Abrupt or hostile behavior of health care personnel	Asian
	Administrative barriers to care	
	Difficulty in finding interpreters	
	Distrust of the health care system	
	Preference for a physician from the same cultural background	
Fear	Fear awareness of their community about their mental health issues	African
	Fear of being considered sexually immoral	
	Fear of consequences associated with an unplanned pregnancy influenced condom use rather than fear of STIs or HIV	
	Fear of cultural shame	
	Fear of deportation	
	Fear that such conversations would encourage young people to do 'bad' things	
	Fear of western medicine	
	Fear of having blood drawn during medical examination	Asian
	Fear that IUDs will destroy the uterus	
Self-efficacy	Ability to recognize the threat to their health	African
	Adopting health-promoting behaviors through exercise or relaxation techniques to reduce stress	
	Confidence in one's knowledge & ability to explain the health results to others	
	Intentions to follow diet for health benefit	Asian
Cues to action	Support from community	African

(*continued*)

Table 4. (*continued*)

Adopted health belief model	Unique Beliefs	Ethnic groups
	Consulting with traditional healing specialists	Asian
	Consulting with local pharmacists	
	Access to gynaecological information	Middle Eastern
	Community health worker	

benefits form Laotian refugees study was perceiving "*western biomedicine stronger and more effective than traditional Laotian herbal remedies*" [15].

3.4 Perceived Barriers[8]

Perceived barriers were identified within four categories, including cultural and traditional factors, healthcare related barriers, health communication issues, and personal barriers.

3.4.1 Cultural and Traditional Factors

Embarrassment, fatalism, and presence of male providers were common perceived barriers in studies related to women's health, changing health beliefs, mental health, sexual health, and cardiovascular disease by African, Asian, Balkan, and Middle Eastern groups [12, 15, 29, 31, 33, 34, 40]. Different forms of expressions related to adhered to traditional normative beliefs was common perceived barriers by African, Asian, and Middle Eastern groups [13, 14, 16, 32, 35–37]. For example, both Cambodian and Vietnamese refugees in studies related to their health beliefs and practices mentioned "they do not like their head or shoulder touched" and "touching from shoulder up can be anxiety and soul may leave the body and cause health problems" [16, 37].

Lack of family or community support and silence (taboo) were specified as perceived barriers in studies on health beliefs and practices among Burundian, Eritrean, Ethiopian, and Somalian refugees [30, 34, 40]. As an example, silence was highlighted as a major barrier to effective implementation of adolescent sexual and reproductive health and rights program by Rwandan government [40]. A preference for a physician from the same cultural background was a perceived barrier mentioned in a study on cardiovascular disease–related health beliefs and lifestyle issues among Karen refugees [12].

[8] Perceived barriers are "the potential negative aspects of a particular health action and may act as impediments to undertaking recommended behaviors" [25].

3.4.2 Healthcare Related Barriers

Abrupt or hostile behavior of health care personnel, administrative barriers to care, and distrust of the healthcare system were mentioned as perceived barriers among Cambodian and Laotian refugees [16, 37]. Cambodian refugees mentioned issues related to language and cultural barriers, crowded waiting rooms, multiple interviews, and mysterious procedures as their perceived barriers to healthcare [16].

3.4.3 Health Communication Issues

Poor patient and healthcare provider communication skills were common perceived barriers in studies related to women health, changing health beliefs and practices by African, Asian, Balkan, and Middle Eastern groups [15, 29, 34, 36, 37]. Difficulty in finding interpreters was described as "limited availability of language interpreters and scheduled basis" as another perceived barrier related to health communication among Laotian refugees [37].

3.4.4 Personal Barriers

Inattentiveness to personal health and psychological barriers were commonly mentioned personal perceived barriers by African, Asian, Balkan, and Middle Eastern groups [12, 16, 29, 33]. For example, approximately two-thirds of women in a comparative qualitative study of refugee health beliefs on preventive health and breast cancer screening across Bosnian, Iraqi, and Somalian populations identified psychosocial barriers as barriers to uptake of preventive breast cancer screening [29]. Perceptions of racism was highlighted as Ethiopian refugees' individual perceived barriers [34].

3.5 Perceived Fear[9]

Fear awareness of their community about preventive health issues, and fear of pain or diagnosis with breast cancer were two common perceived fears in a study with Bosnian, Iraqi and Middle Eastern female women on preventive health and breast cancer screening [29]. Fear one's partner or family judgment was a common predictor of behavioral changes among sub-Saharan African and Afghan refugees in studies on asylum seekers with HIV, Afghan refugees and reproductive health attitudes [14, 35].

In terms of unique fear across African groups, different aspect of cultural, religious, community issues were mentioned by Burundian, Eastern African, Sundaneses, sub-Saharan African refugees in studies on mental health, sexual health, HIV and health beliefs, pregnancy and perinatal care, and health beliefs and practices (See Table 4) [13, 30, 33, 35, 40]. Cambodians' female refugees mentioned two perceiving or recognizing barriers to care as fear of having blood drawn during medical examination, and fear that IUDs will destroy the uterus [16].

[9] Perceived fear refers to an important predictor of behavioral changes and health-securing behaviors in response to perceiving or recognizing barriers to care [41].

3.6 Perceived Self-efficacy[10]

Confidence in one's ability to complete steps needed to face health issue, and intentions to keep doctor's appointments were the common expectations of self-efficacy among Bosnian, Iraqi, and Somali women in a study on refugee preventive health and Breast Cancer Screening [29].

Furthermore, positive elements of self-efficacy were identified among studies with African individuals, including ability to recognize the threat to their health, confidence in one's knowledge and ability to explain the health results to others, and adopting health-promoting behaviors through exercise or relaxation techniques to reduce stress in contexts of health practice and health beliefs, mental health, and HIV and self-management skills [30, 33–35]. Laotian refugees showed capabilities to organize and execute the courses of action required to manage their health through intentions to follow diet for their health benefit [37].

3.7 Cues to Action[11]

Commonly cited cues to action across African, Asian, Balkan, Middle Eastern populations included physician's recommendation [29, 37], flexibility in scheduling [29], group educational program [32, 35], help from physicians and other healthcare providers [29], and support from family and friends [30, 32, 34, 37] (see Table 4). There were also particular cues to action among different ethnic groups represented in this review. Consulting with traditional healing specialists, and consulting with local pharmacists were unique cues to action among Cambodian, Laotian, and Vietnamese refugees in different studies [15, 16, 36, 37]. Afghan and Syrian refugees mentioned access to gynecological information, and community health worker in studies on women's health and diabetes as their cues to action [14, 32]. Finally, support from community was an important motivator to seeking care by Somalian, Ethiopian, Eritrean, and Sudanese [30, 33].

4 Discussion and Conclusion

This review shed light on cultural beliefs and attitudes shaping asylum seekers and refugees' health beliefs, and their health-seeking behavior. The culture, tradition, fate or destiny, psychological factors, family, friends, and community were mentioned as the crucial influential factors in shaping how asylum seekers, and refugees perceived barriers, fear, severity, and susceptibility in their health seeking activities by African, Asian, Balkan, and Middle Eastern groups [13–16, 29, 32, 33, 36, 37].

More specifically, different forms of supernatural causes, fatalism, traditions and issues related to communications with healthcare providers were the common influential factors in health seeking activities by Asian and Middle Eastern asylum seekers and refugees [12, 14–16, 29, 32, 36, 37]. However, cultural shame, racism, and community

[10] Perceived self-efficacy refers to "beliefs in individual's capabilities to organize and execute the courses of action required to manage prospective situations" [42].

[11] Cues to action refers to "stimulus needed to trigger the decision-making process to accept a recommended health action" [43].

were mentioned as most influential factors in African refugees and asylum seekers health seeking behavior [30, 34, 40]. The increasing number of refugees and asylum seekers in the world leads to call upon healthcare providers and public health community to devise culturally relevant strategies that will effectively target different asylum seekers and refugees' groups with diverse cultural, traditional beliefs and attitudes about healthcare and health seeking activities.

Knowledge and awareness related to benefits of using modern healthcare services was highlighted as motivator for different ethnic groups to take care of their personal health [12, 15, 29]. More specifically, when the asylum seekers or refugees had enough information related to individual health, expectations of self-efficacy were found through different forms, including increasing confidence, intention, recognition, and adopting healthy lifestyle among refugees and asylum seekers [29, 30, 33, 34].

Adopting strategies, including providing health educational programs aiming at increasing asylum seekers and refugees' health literacy, knowledge, and awareness about health benefits of using modern healthcare services were highly recommended to the medical and public health community who are dealing with individuals with diverse ethnic backgrounds.

Physicians and healthcare providers, educational programs, and support from family, friends, and community had noteworthy influence on triggering the health-related decision-making process among asylum seekers and refugees [14, 16, 29, 30, 32–34, 36, 37]. This review shows the importance of engaging family and community support networks in health educational programs to eliminate or reduce the social stigma and cultural shame in using healthcare services as well as to bridge an understanding of cultural notions of health and disease among different ethnic groups of asylum seekers and refugees within the framework of modern healthcare structure.

This study proposed an adapted framework based on HBM and explored extensively health-seeking behavior of asylum seekers and refugees from cultural, psychological, religious, and traditional perspectives. However, there are limitations in applying adapted frameworks in terms of influential contextual factors in health seeking activities of the vulnerable groups, such as healthcare system and structure of different countries, which may have key role in shaping health beliefs and practices of these people but are not reflected in the model. Moreover, different studies related to the investigation of health beliefs of the vulnerable population have applied different methods (qualitative, quantitative, and mixed methods) in different contexts (i.e., women's health, mental health, cardiovascular disease, or diabetes) to examining health-seeking behavior that imposes significant limitations in the generalization of the findings.

The model proposed in this paper has different components influencing health-seeking behavior of asylum seekers and refugees in relation to modifying factors, individual beliefs, and individual action. However, included studies in the review did not consistently reflect information related to their studied groups in terms of age, gender, knowledge, and socioeconomic factors. Nonetheless, exploring health beliefs of vulnerable groups through adapted HBM provides significant information and understanding on cultural beliefs and attitudes that shape asylum seekers and refugees' health-seeking

behavior. The outcome of applying such model is expected to provide practical guidelines for developing culturally appropriate health interventional programs to enhance compliance.

There were a few limitations in conducting this descriptive review. One of the primary limitations was the number of studies investigating health beliefs and behavior of asylum seekers and refugees. There was also inconsistency in providing information about studies of vulnerable group and their attitudes and behavior from the components of HBM perspectives. In addition, we also acknowledge that this 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 studies examined and evaluated in the review provide an overall overview of the body of academic publications within this multidisciplinary area of research.

5 Future Research Recommendation

The first recommendation for future studies calls upon healthcare providers, immigration authorities, policy makers, researchers, and surveyors to gather more comprehensive details on demographic, socio-cultural and migration-related information of refugees and asylum seekers. This information will facilitate recognizing asylum seekers and refugees' health beliefs, and their impact on their health-seeking behavior. Another recommendation is to conduct more studies related to asylum seekers and refugees' health beliefs to gain a better understanding of their needs for health services and health-related information and to develop health educational programs for their caregivers so that they are better able to meet these needs. The last recommendation is to shift away from solely investigating health service provision to adopting a cross-cultural and religious approach to provision of health services and health-related information for these people to meet the highest rate of satisfaction among these healthcare consumers.

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Appendix 1

Ethnic group and sub-ethnic groups of included studies in the review.

Ethnic group	Sub-ethnic group
African	Burundian, Ethiopian, Eritrean, Somalin, sub-Saharan African, Sudanese
Asian	Bhutanese, Cambodian, Laotian, Myanmarese, Vietnamese
Balkan	Bosnian
Middle Eastern	Afghan, Iraqi, Syrian

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