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Perceptions about hepatitis C and barriers and enablers to screening and treatment among Egyptian immigrants to Canada: a theory-informed qualitative study

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Abstract

Background Despite availability of effective screening and treatment for Hepatitis C (HCV), the uptake remains suboptimal. Immigrants from HCV endemic countries comprise 35% of cases in Canada. There is an average 10-year diagnosis delay, causing poor health outcomes and high healthcare system costs. Therefore, we aimed to understand immigrants' perceptions and beliefs about HCV, as well as the barriers and enablers to HCV care among immigrants, with a focus on individuals from Egypt, given the country's high endemic rates of HCV infection and the large Egyptian community in Canada.

Methods We established a Community Advisory Group to provide advice at all stages. We used a qualitative-descriptive design guided by the Common-Sense Self-Regulation Model and Theoretical Domains Framework to perform semi-structured interviews with adult immigrants from Egypt (with or without HCV) in Ottawa, Canada. Sampling continued until thematic saturation was achieved. The interviews were double-coded and key findings were identified.

Results We conducted interviews with 18 individuals (eight females, ten males), including 12 who had undergone HCV screening. Among them, seven had tested positive, and all had received treatment. While all participants were aware of HCV, misconceptions and a lack of knowledge regarding its symptoms, modes of transmission, and treatment options were prevalent. Many stated that they would not seek screening in the absence of significant symptoms. Perceived stigma associated with HCV and experiences of ethnocultural discrimination discouraged some individuals from seeking care. Additionally, challenges such as limited access to family doctors and long wait times were frequently cited as barriers. However, those who had received HCV treatment reported positive experiences and remained engaged in follow-up care.

Conclusion There is an urgent need to improve access to care for immigrants from endemic countries to eliminate HCV in Canada. We took a systematic, theory-informed approach to understand lived experiences and views among

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Egyptian immigrants in Canada. We identified key factors contributing to the low uptake of HCV screening and treatment. These findings will inform a theory-based intervention to optimize HCV care in immigrant communities.

Keywords Hepatitis C, Barriers, Qualitative research, Immigrants, Implementation science, Theoretical domains framework, Common-Sense Self-Regulation model

Background

In 2020, the World Health Organization (WHO) estimated that 58 million people worldwide had chronic Hepatitis C (HCV) infection [1]. In Canada, 7,535 cases—acute, chronic, and unspecified—were reported in 2021 [2]. Despite being preventable and curable, HCV remains a major infectious disease burden in Canada [3]. It is primarily transmitted through blood exposure, including shared injection equipment, unscreened blood transfusions, improperly sterilized medical equipment and, through mother-to-child or blood-exposing sexual practices [4]. Although spontaneous clearance of the virus can occur in some individuals, those who develop chronic infection may remain undiagnosed for years. Many remain asymptomatic or have mild symptoms, often unaware of their infection until significant liver damage occurs, increasing the risk of cirrhosis or liver cancer. While no vaccine exists, direct-acting antivirals (DAAs) can cure 95% of cases with eight to twelve weeks of treatment, reducing mortality and improving quality of life [5]. Early detection and treatment are essential to preventing severe liver damage, yet screening and treatment uptake remain suboptimal despite the high cure rates of DAAs since their introduction in 2011 [6, 7].

Canada has adopted the WHO Global Health Sector Strategy (GHSS) targets to eliminate HCV as a public health threat by 2030, underscoring its priority status [8, 9]. Immigrants from HCV-endemic countries account for 35% of cases in Canada and are one of the priority target groups [8, 10]. However, immigrants from countries with higher HCV rates (e.g., countries in East Asia and Pacific region, Latin America, and the Caribbean, and sub-Saharan Africa) are not routinely screened before or after arrival in Canada for HCV infection. Many of these immigrants have been exposed to HCV through transfusion of contaminated blood products or use of unsterilized medical, dental, and surgical equipment in their countries of origin, and lack typical risk factors for HCV infection (e.g. injection drug use) [4]. As most are asymptomatic, they often go undiagnosed, leading to an average 10-year delay, increased risk of hepatocellular carcinoma and liver-related death, and significant healthcare costs [11–14].

While studies have examined HCV perceptions and barriers among priority groups such as people who inject drugs and those with incarceration histories [15–19] research with immigrants remains limited. Moreover, many existing studies with immigrants have combined individuals from diverse geographical, linguistic, and socio-cultural backgrounds, limiting the ability to draw community-specific insights. The most common barriers among immigrant populations have been reported as lack of awareness about the disease and modes of transmission, stigma, language and cultural barriers [20–23].

Objective

This study focused specifically on Egyptian immigrants, given Egypt's historically high prevalence of HCV [24] and the substantial Egyptian population in Canada. Our goal was to explore Egyptian immigrants' perceptions and beliefs regarding HCV and its management, and to identify the barriers and enablers influencing their engagement in screening and treatment.

Methods

We conducted a qualitative descriptive study using semi-structured interviews based on the Common-Sense Self-Regulation Model (CS-SRM) [25] and Theoretical Domains Framework (TDF) [26, 27]. The Consolidated Criteria for Reporting Qualitative Research checklist was applied as a writing and reporting guideline [28].

Theoretical approaches

Theoretical frameworks help systematically identify factors influencing behaviors [29] and explain how interventions are expected to affect behavior change. Additionally, they foster a shared understanding among interest holders, facilitating intervention evaluation and adaptation to other contexts [30]. To guide this study, we applied two theoretical frameworks, CS-SRM and TDF, because they provide different lenses to explore the issue, and together they provide a more comprehensive understanding of the underlying problems. By using these frameworks, we explored both why individuals perceive and react to HCV in certain ways and which factors influence their engagement with healthcare services for screening and treatment.

Common-sense self-regulation model (CS-SRM)

The CS-SRM proposes that when individuals are faced with illness, they develop beliefs and emotions about that illness (illness representations) which can be categorized into two major groups: *cognitive* or *emotional* illness representations [25, 31, 32] (Table 1). Cognitive illness representations include identity, cause, timeline, consequences, curability/controllability, and coherence.

Emotional illness representations are developed in parallel to cognitive illness representations and reflect affective responses to illness [32]. These illness representations shape individuals' behaviors (coping strategies) to manage the illness. Individuals' evaluation of their success in this process, along with the new obtained information (e.g., from media, healthcare providers, friends, family) result in updated illness representations and subsequent new coping strategies. This makes the model dynamic and explains the variety in individuals' decisions and actions with regards to the same illness over time [33]. In this study, we used the CS-SRM to explore Egyptian immigrants' perceptions of HCV, their management strategies, and the information sources shaping their beliefs.

Theoretical domains framework (TDF)

The TDF, derived from 33 behavioral theories, synthesizes known factors that enable and work against engaging in a given behavior, and can be used to identify the factors that affect health-related behaviors. It includes 14 domains: *Knowledge*, *Skills*, *Social/professional role and identity*, *Beliefs about capabilities*, *Optimism*, *Beliefs about consequences*, *Reinforcement*, *Intentions*, *Goals*, *Memory*, *attention and decision processes*, *Environmental context and resources*, *Social influences*, *Emotions*, *and Behavioral regulation* [26, 27]. Each domain may play a role as a barrier or enabler toward changing the target behavior. In this study, we used the TDF to identify and analyze barriers and enablers to HCV screening and treatment from the perspectives immigrants.

Community advisory group

A Community Advisory Group (CAG) comprising three community leaders—a healthcare provider and two religious leaders—was established to ensure the study's cultural relevance and respect for community and cultural values. The CAG was engaged through a mix of in-person and virtual meetings, including regular check-ins at key stages and additional consultations as needed. They provided input, suggestions, and advice on recruitment strategies, assisted with participant recruitment, and contributed to the development of interview guides and interpretation of findings to ensure it reflected the community's perspectives.

Context and setting

Immigrants include individuals who are or have been landed immigrants or permanent residents and includes newly arrived immigrants as well as those who have been in Canada for many years and have obtained Canadian citizenship [34]. The study took place in Ottawa, the capital city of Canada. Canada has one of the highest rates of annual immigration per population in the world, and as of 2024, there were more than eight million immigrants living in Canada - about 23% of the total Canadian population [35]. This is consistent with demographics in Ottawa which similarly has a large immigrant population (26%) with Egyptian immigrants making up approximately 2% of this group [36]. Discussions with our CAG revealed that Egyptian immigrants in Ottawa are dispersed throughout the city rather than being concentrated in a specific neighborhood. Furthermore, Egyptian immigrants in Ottawa do not attend specific healthcare facilities but instead seek care from a diverse range of community primary care providers. While places of worship serve as common gathering spaces for the community, attendance varies, and not all individuals visit a particular place of worship or participate in religious gatherings.

Participants and recruitment

Adult (18+) immigrants from Egypt residing in Ottawa, Canada, regardless of citizenship status, were eligible. Recruitment involved distributing flyers at worship places and through community organizations' social media and email networks. CAG members promoted the study during sermons and khutbahs at churches and mosques, and doctors in our research team and CAG shared flyers with patients. Interested individuals contacted the researcher via email or phone for study details, consent, and interview scheduling. We applied convenient and purposive sampling and aimed to recruit male and female participants with and without confirmed diagnosis of HCV infection, with different lengths of stay in Canada, since there may be differences in their perceptions and the challenges that they face. Recruitment continued until thematic saturation was reached, meaning no new perspectives and concepts emerged from the interviews [37].

Data collection

Semi-structured interviews were conducted virtually or at convenient locations for participants. The interview guide (see Additional file 1), piloted with two individuals, included demographic questions and open-ended inquiries aligned with the CS-SRM and TDF. One of the TDF domains, *Skills*, was not included in the interview guide questions, as it was not applicable to the research question. The guide explored perceptions of HCV and its management (CS-SRM) and barriers and enables to HCV screening and treatment (TDF). The interviewers probed further when answers seemed unclear or short, and the participants were willing to talk more about the issue. The interviews were ended when both the interviewer and the interviewee felt comfortable that all the questions were discussed. Interviews were conducted in English or Arabic by SMH and AA respectively, per participants'

Table 1 Common-Sense Self-Regulation model and sample quotes

Constructs		Definitions	Sample quotes
Cognitive illness representations	Identity	The symptoms and label given to the illness.	*"I only knew by chance, when I went to donate blood, if I didn't go, I wouldn't have known." (P11)* *"About the symptoms, because for me it took some time to realize it, so I think also people should be enlightened about the symptoms for hepatitis C so they can distinguish." (P15)*
	Cause	Beliefs about the causes of the illness such as genetics, infection, diet, environmental pollution, or risky behaviors.	*"I really want to know if it gets passed to babies because I have one child and I'm planning on another. So, I need to understand if I can get pregnant or not. It will affect that decision for sure. I also need to understand how it transmits, how I need to deal with my toddler. Like how this will affect her and what are the things I need to do to make sure it doesn't get to her?" (P3)* *"I thought it was an STD and I'm stressing that because that's probably a common misconception and that would have surprised me if it were an STD because that's not really, I think something that would be as common with Egyptian culture. Yeah, the whole no sex before marriage thing is very, very strongly enforced." (P9)*
	Timeline	The expected duration and time course of the illness or symptoms.	*"It took some time to realize for me that I had hepatitis because sometimes the symptoms do not show up. It took a lot of time for the symptoms to show up, so something like after one year is when I realized that I had hepatitis." (P15)*
	Consequences	Beliefs regarding the impact of the illness on everyday life such as physical and role functioning, work capacity, and personal relationships.	*"It affected me a lot. I had lost so much weight. I was tired of even answering questions because any time I step out, I get a lot of questions: what is the matter with you? What is wrong with you? Why are you like this? It became too much for me. So that affected my activities, my social activities. I started staying more indoors and I wore bigger clothes to avoid a lot of questions." (P18)* *"In Canada, I can say that people are not aware of hepatitis C and stuff… So, I can say in Egypt, some of them may tend to associate with you and try to understand, but in Canada you can face some social stigma and even discrimination sometimes." (P15)*
	Curability/ controllability	Beliefs about whether the illness can be effectively cured or controlled by personal actions such as seeking help or taking medication.	*"There's no cure. I don't know. Of course, I don't wish to have something like that at all." (P14)* *"Back in 2010, there was a couple of injections, and those injections were once weekly and some of them had higher cure rates than the others. Those days, I know that they have more and more medicines that have higher cure rates." (P7)* *"That will be me and my luck. It depends on when it's going to be discovered, if it's going to be after a few weeks, or a few months, or a few years of me getting it. So how much damage it's caused me already. And then again, just to navigate through the slow process in the system." (P2)* *"And I know that the medication or the process they go through is quite horrible sometimes, and if they have to have a liver transplant it's even worse." (P4)*
	Coherence	Perceived clarity in understanding the illness (whether the illness 'makes sense').	*"The problem with hepatitis C [is that] you don't get symptoms. So, that's a challenge. Is there any way to find symptoms that can alert the person to say I'm going to take the test?" (P12)* *"For most diseases like hypertension and diabetes there is no cure, you are controlling. But we're lucky that we have a medication that can cure, that can make you hepatitis C free. This is something exceptional with this specific disease." (P7)* *"We always hear of fighting stigma against AIDS and such. HCV is milder. Like it's not as scary to people as AIDS for sure." (P6)*
Emotional illness representations		Reflections on the emotional responses to the illness.	*"[When my mom tested positive] I was so scared, and it's not very well explained online and with the doctor. He said to use Clorox everywhere. So, we used it until our hands—it's like inflamed—cleaning the dishes, cleaning the food. We were scared and it wasn't a normal thing. It was very bad." (P14)* *"I wasn't feeling myself, so there was no way I was going to feel comfortable around people, because I wasn't even happy with myself, with what was going on around my body. So that means that I lacked the self-confidence." (P18)*
Coping strategies		Approaches used to deal with an illness.	*"Because my uncle, he had it, so I had to be sure if I'm safe.… So, I had to do mine, too. So, I finally went for a test, I went to the doctor." (P17)* *"Actually, to be honest, before they told me that I had Hepatitis C, I wasn't paying attention, I may have had symptoms, but I didn't notice them a lot." (P10)* *"I didn't go directly [for treatment] because it actually shook me, so I had to take some time and process it and accept the situation…My friends and family members, they talked me through it. At first, I didn't see the doctor and get medical services. And at the end, I took their advice, and they helped me." (P15)* *"Until, one day, my doctor said, you know there is new medication for hepatitis C now, maybe you should try it. Because I didn't have any symptoms, I said I don't need that." (P12)*

Table 1 (continued)

Constructs	Definitions	Sample quotes
Sources of information	Lay information stored in memory, insights from perceived significant others or authoritative sources, somatic or symptomatic information based on previous experiences with the illness.	*"There have been tons of campaigns. I think when I got my test, it was around 2018 or 2019, like it was mandatory and there were a lot of campaigns on hep C. So pretty much, I think the nation has more knowledge about the ways that they can get it." (P6)* *"I had friends [with HCV], I had 3, 4, a lot, even one of my cousins died because of it and it was widespread in Egypt at that time." (P11)* *"Most times, I go online to search information about people with hepatitis C, what kind of foods they need to eat and other stuff like that. So, all this information, I get them online." (P16)*

preference. SMH (Female) is a foreign-borne Canadian, medically trained PhD candidate with expertise in TDF and CS-SRM. AA (Male) is a native Arabic speaker immigrant with training on the theoretical frameworks. The interviewers had no prior acquaintance with the interviewees before conducting the interviews. The interviews were audio-recorded, and participants received CAD$50 gift cards for their time and participation.

Data analysis

Interviews were transcribed verbatim, anonymized, and translated (if necessary) by a professional translator. All transcripts were subsequently verified for accuracy by the research team. Two coders (SMH, IT) independently reviewed the interview transcripts and deductively coded them in NVivo [38] using both the CS-SRM and TDF as our coding guides. They initially met after coding the first transcript to compare their coding and develop a uniform codebook based on the construct within CS-SRM and the Domains of the TDF. Any disagreements were discussed and resolved through consensus. For the CS-SRM component of the interview, coders coded data into the CS-SRM constructs. For the TDF parts of the interviews, the data was first coded into TDF domains, and then belief statements (specific statements that summarize key concepts) about barriers or enablers to seeking HCV screening and treatment were developed within each domain. Domains were considered relevant if they contained frequent, conflicting, or strongly held beliefs that influenced the target behavior [39]. Additionally, domains that included only enablers were regarded as less relevant, as intervention design primarily focuses on addressing barriers rather than maintaining existing facilitators. All these factors were considered concurrently when establishing domain relevance.

Results

Sample characteristics

Between April 2023 and January 2024, we interviewed 18 individuals (eight females, ten males) whose age ranged from 19 to 79 (median: 35) years old and had been living in Canada for two to 48 years (median: 7). At the time of interview, most participants were permanent residents (four) or citizens (nine) except for a few who were on temporary visas (student or work permits) (five). The highest level of education achieved was high school for three individuals, college for six individuals and university for nine individuals. The interviews were done in English [15] or Arabic [3], in-person or virtually, and lasted between 19 and 50 min (mean: 36). While interviews ranged in length, all participants answered the full set of questions, and shorter interviews still provided rich detail. The variation in length reflected differences in participants' experiences and how much they chose to share. Most participants [13] in our sample had access to family doctors. Twelve individuals had been screened for HCV (with eight being screened for the first time in Canada), of whom seven had tested positive and all had received treatment. Two participants had received treatment both in Egypt and Canada.

Perceptions and beliefs about HCV infection (Common Sense-Self regulation Model)

Cognitive illness representations regarding HCV infection

Identity: All participants labelled the disease as Hepatitis C. Almost all participants knew at least one symptom related to HCV infection. The most common symptoms mentioned by participants were fever, yellow eyes and skin, nausea, fatigue, weight loss, loss of appetite, abdominal pain, bloody stool, dark urine. Some participants stated that there may be no symptoms before diagnosis.

Before their diagnosis, individuals with a history of HCV either did not experience any symptoms or did not realize their symptoms were related to HCV, often attributing them to other more minor illnesses or conditions.

> *"Yes, before it [diagnosis], I used to feel it, but of course, I didn't think that was a disease, I could consider it anything." (P10).*

Timeline: Generally, participants believed that one may have the disease for years before showing up the symptoms or being diagnosed. Individuals with a history of HCV explained that, at first, their symptoms were infrequent, but over time, they became persistent.

> *"When it started newly, it was like coming and going. It comes and goes. But later when it became serious, it became something that shows itself every day." (P16).*

Because the initial symptoms were often overlooked, participants were uncertain about how long they had been living with the disease before diagnosis. However, once they noticed the symptoms, it took them between six months and two years to seek medical care.

Cause: Participants identified non-sterilized medical procedures, such as unsafe injection practices for vaccination or treating Bilharzia (Schistosomiasis) in the past or surgical procedures in healthcare settings, as the most common cause of HCV infection. Other reported perceived modes included contaminated sharp objects (e.g., at barbershops), shared drug injections, and blood transfusions. Most participants with HCV were unsure how they had contracted it. There was also uncertainty and misconceptions about transmission, with questions about mother-to-child transfer, sexual transmission, and spread through shared items, water, food, mosquitoes, kissing or touching others.

> *"And for me, at the end of my mom's life (positive for HCV), I didn't want to touch her. I didn't want my son to touch her. I'm scared to get the disease." (P14).*

Consequences: Most participants stated that untreated HCV infection could lead to liver cancer and/or early death. Participants explained that the disease can impact one's life, work, and interpersonal relationships and one needs to be mindful not to transfer it to others. A few participants were concerned about not being able to donate blood or do certain religious rituals.

Although some individuals without a history of HCV believed there was no stigma around the disease, those with a diagnosis of HCV had experienced stigma and discrimination, resulting in self-isolation and social distancing from others. One person explained that they face more stigma in Canada compared to Egypt.

> *"But there is no shame in getting sick I guess; it happens to the best of us." (P1).*
> *"When I got tested and I discovered I was positive, I wanted to keep it for myself, but I thought that it wasn't wise. Maybe people who are around me should be aware, and I spoke with one or two of them and some of these people who were very close to me, they started isolating me. Like they started avoiding me." (P16).*

Curability/controllability: While a few were unsure if HCV could be treated, the majority were aware that treatment is available. Some individuals without a history of HCV infection who were aware that treatment exists, believed the process of diagnosis and treatment would be lengthy and difficult.

> *"Based on what I saw, hepatitis C has a good treatment plan, like a solid, effective one. Plenty of physical illnesses don't have that. But for that, I think it would be fairly reliable to believe that it would be positive and end up helping out." (P9).*

Coherence: Generally, all participants had some understanding about HCV; they had experienced the disease themselves, heard about it through national campaigns in Egypt, or had seen someone with the disease among their friends or family members.

There was confusion about recognizing HCV infection with regards to the symptoms. Some participants stated that the similarity between HCV symptoms and those of other illnesses, or the absence of symptoms altogether, made it difficult to determine when to seek medical care.

> *"Again, this is my understanding, the issue with hepatitis C is that the symptom is common, like I am tired. Do I need to adjust my sleeping time? I need to cut off my coffee, like I'm not able to do the same work as I used to before. Well maybe I'm getting a bug or something… So, there are a lot of common symptoms between the person with hepatitis C and other diseases. So, Hepatitis C will not be the first thing to come to mind." (P2).*

A few participants compared HCV with other diseases (e.g. AIDS, diabetes) to make sense of the illness.

Emotional illness representations regarding HCV infection

Fear and worry about HCV were common among all participants. Those without a history of HCV feared contracting the disease due to limited knowledge about its modes of transmission. They were also concerned about the potential consequences if they became infected.

> *"From the Egyptian culture there is a fear factor around hepatitis C, and it is like AIDS. So, it is not something that we would like to talk about or like to advertise. It will be like a big secret." (P2).*

Furthermore, those with a history of HCV recalled shock at their diagnosis and concern about its impact on their life and work, with some noting it affected their confidence and sense of self-worth.

Sources of information

The primary and main source of information for participants was the internet, followed by family, friends, the experiences of individuals with HCV, and national campaigns in Egypt. Healthcare providers were typically consulted for information during HCV screening and treatment.

Coping strategies

In general, individuals without HCV stated they would seek screening only if they experienced major symptoms or had family members with HCV.

> *"We [Egyptians] have a tendency to just tough it out or to just not want to see a doctor." (P9).*
> *"I'm fine. I don't feel anything. Everything is good. So, it is a not a routine check, it is not something that I would go and have it on my to-do list." (P2).*

However, they expressed a strong commitment to pursuing treatment immediately if they tested positive. They explained that they would be cautious around individuals with HCV to avoid contracting the disease.

Individuals with a history of HCV often ignored their initial symptoms or managed them with painkillers, dietary changes, or reduced activity. Even after diagnosis, some delayed treatment due to a lack of severe symptoms, reluctance to undergo interferon therapy, or financial constraints. Others sought information to understand the disease better or turned to family and friends for social support.

Table 1. Common-Sense Self-Regulation Model and sample quotes.

Barriers and enablers to HCV screening and treatment (Theoretical domains Framework)

Our TDF analysis identified eight potentially relevant domains: *Knowledge*, *Social/professional role and identity*, *Social influences*, *Environmental context and resources*, *Memory and decision making*, *Reinforcement*, *Emotion*, *Beliefs about consequences*. Below, we discuss the main findings from these relevant domains (with related relevant domains highlighted in italics in brackets) (Table 2). Following this, we will briefly discuss the domains that were less likely to be relevant.

Most participants were familiar with HCV screening and knew how it can be done. More than half of the participants were aware that there is treatment for HCV infection, however most of them were not sure about its details (duration, process). There were mixed opinions about treatment, with some calling it horrible and expensive, and some describing it as easy and highly effective. A few participants stated that they were not certain whether HCV infection can be fully treated. (TDF domain: *Knowledge*). Participants emphasized the importance of raising awareness about HCV, screening, and treatment. They recommended leveraging social media platforms, public campaigns, and community leaders to disseminate information. Some participants cited national campaigns in Egypt as successful examples of initiatives that enhanced public knowledge and reduced stigma surrounding the disease.

> *"Treatment for it, it depends on the luck of the individual. I heard that there is some kind of treatment but it's very, very expensive." (P2).*
> *"I know from the Egypt advertising that there is a cure and that they're trying to cure people, but if it's true or not what kind of cure, I have no idea." (P4).*

Most participants viewed HCV screening as beneficial, noting that a negative result provides peace of mind, while a positive result leads to access to treatment and improved health outcomes. However, some participants expressed concerns about the stress associated with a positive diagnosis, particularly during the period between diagnosis and the initiation of treatment, due to the uncertainty surrounding their condition (TDF domains: *Beliefs about consequences*, *Emotion*). All participants who had undergone HCV treatment described it as a positive experience, emphasizing that it provided them with peace of mind, along with a sense of regaining control over their lives and the opportunity to live longer.

> *"It [receiving HCV treatment] felt like I'm getting my life back." (P12).*

Conversely, a few participants, particularly those who had not been diagnosed with HCV, expressed concerns about the potential severity of treatment side effects (TDF domains: *Beliefs about consequences*, *Emotion*).

Despite recognizing the benefits of screening and treatment, most participants indicated that they would not seek HCV screening in the absence of significant symptoms. Some further explained that it is not common among Egyptians to visit a doctor for routine check-ups or minor symptoms. A few participants stated that they would only undergo HCV screening if they believed there was a high likelihood of being infected. Furthermore, some participants mentioned that they would go for HCV screening if they had been in contact with someone who had HCV infection (TDF domains: *Social/professional role and identity*, *Memory and decision making*).

Table 2 Theoretical domains framework themes, relevant domains, belief statements and sample quotes

Relevant domains	**Beliefs statements (Frequency)**	**Sample quotes**
Knowledge	There is treatment for HCV. [10]	*"Based on what I saw, hepatitis C has a good treatment plan, like a solid, effective one." (P9)* *"I learned that the treatment was easy and the success percentage was almost over 90%, of course I went directly." (P10)*
	I know how to get screening/treatment for HCV. [7]	*"So, I went back to see my doctor and said okay, I need to test for hepatitis (P2)*
	I am not sure if HCV can be fully treated. [4]	*"But if, again, as far as I know, I might be wrong, but there is no complete something that says yes, you're going to take this needle one time, and you are done." (P2)* *"But I don't know, really how they cope, what they do. Can they get out of it? How long would it take? What types of cures are there? I don't know." (P4)* *"But full recovery, I have never heard of it. I know that there is no cure." (P14)*
	I don't know the process for HCV screening. [3]	*"Interviewer: So, if you want to be tested or if you had a symptom or if you were concerned, do you what the next steps will be? What would you do?* *Interviewee: To be honest, I don't know." (P6)*
Social/professional role and identity	Being an immigrant hasn't affected my access to healthcare system. [5]	*"I don't think hepatitis C is one of the factors that will decide as immigrants or as a refugee would be rejected or refused of getting." (P2)*
	As an immigrant, sometimes I feel discriminated here. [5]	*"When people look at you, you're not from around here and they tend to deal with you differently than they do with other people." (P18)* *"So, I see that there are also some biases in the system. You shouldn't be asking a patient from where he comes from originally, when really the issue is that you need to cure him because he is a resident after all." (P4)*
	It is not common for us (Egyptians) to visit doctors for check ups or in absence of major symptoms. [4]	*"The one thing I know about my culture is that when you feel in pain, just tough it up, be a man. Be this, be that. A lot of people say it's probably nothing and probably that's why a lot of us end up sick anyways. Ah, it's just some pain. I ate something bad and they just tough it up." (P1)*
	Language hasn't been a barrier to care for me. [11]	*"I think I do not have a problem with speaking English, but it might not be as fluent as other people. But English is not really a problem." (P18)* *"Most of the Egyptian community who came to Canada, they have a good grasp on the English language, unless like somebody sponsored his grandfather, grandmother. So, this is where the gaps will be. And in this case, the kids will help them. I don't think language will be a big barrier." (P2)* *"For me, it hasn't been an issue because I'm talking English. I can do that, so it hasn't affected me." (P15)*
	Language can be a barrier to care. [3]	*"Yes, the language could be a barrier. I have seen this with my husband who doesn't have the same proficiency in English, trying to explain his symptoms and what he has been through to the doctor. The doctor was getting stressed and nervous, and he didn't understand and there was lack of communication and it stressed my husband and stressed the doctor." (P4)*

Table 2 (continued)

Relevant domains	Beliefs statements (Frequency)	Sample quotes
Social influences	My family members are/were very encouraging/supportive with regards to screening/treatment for HCV. [5]	*"The family, of course they encouraged me they wanted me to finish [the treatment]." (P10)* *"My family has totally been a very great support. At least I have support from my family, so it doesn't really matter what other people think about it." (P18)*
	My family members supported me financially during screening/treatment. [3]	*"I paid for the drugs, the medications but not like everything. You know, I had support through my family." (P18)*
	My friend encouraged me to get screening/treatment. [6]	*"Yes, my friends. I spoke with them. and they listened to me, and they were interested in my health. So, they also advised me to go for a treatment." (P16)*
	Other people's reactions/opinions do not/did not affect me in seeking HCV care. [9]	*"I'm one of the people who are educated enough to make my own decision and sometimes maybe it doesn't align with the community, but at the end of the day it's my decision." (P3)*
	Healthcare providers encouraged me to do HCV screening/treatment/finish the treatment. [4]	*"I think the conversation, it was something like you're from Egypt right. Hepatitis C is very common over there, so we will do some tests. That's how it went." (P12)*
	My family doctor did not suggest I do a test for HCV. [4]	*"He [family doctor] never suggested doing the virus test." (P2)* *"I haven't been tested for it, but I do have an enlarged liver, and I know it, but I was never cared for since I arrived, even though I stayed with the family doctor for several years, nobody even told me you know there is something to do or what the consequences are if I have a liver issue." (P4)*
Environmental context and resources	Long wait times (to get an appointment, to be seen by a doctor) is a barrier to care. [9]	*"And then again, just to navigate through the slow process in the system. Again, it took me six months just to see my specialist for my fatty liver." (P2)* *"I know family doctors, generally the topic is very challenging for a lot of people here but it's very challenging to get an appointment if basically you're not dying. Like if you don't say it's urgent and again, for me it's like it's urgent it means you need the ER. But it's very hard to get an appointment if it's not urgent." (P3)*
	It is difficult to get a family doctor. [7]	*"But now it has been three years, I haven't had the chance to have a family doctor. I am still on a waiting list; an endless wait list and I cannot even do just general follow ups with blood tests and stuff like that." (P4)* *"I know people who have been here for ages, and they are still struggling to find a family doctor. Makes me think are my chances higher than those people who have been looking for a year, two, three years, just to get a spot. It discourages you from even attempting to…I'll just save up enough money in case you get sick and go to a private clinic. If that doesn't work, then go to an ER. That's how I think about it." (P1)*
	I can just talk about one symptom during my visit to my family doctor. [4]	*"When I go to clinic… for me just one question, one illness should be discussed, but I have so many. Because when I go to hospital or doctor, I really try treatment before myself. If I don't have any solution I go to the doctor. That's when I go to the doctor, I need him to hear me because I have some issues to come to you." (P5)*
	Transport can be a problem, but I will go anywhere if it's needed. [7]	*"I am very committed, to be honest, so the _ is far from us, but for me, in my nature, it doesn't make a difference for me." (P10)* *"You know, sometimes the transportation might be the problem, but somehow you know if it is something that is important to you, you would always find yourself there." (P18)*
	Paying for the medications, doctors' visits and tests can be a barrier to care. [9]	*"Like financially I was unstable, so I was wondering when I'd get enough money for mediation and stuff." (P15)* *"And even though I was covered by insurance, I said I don't need it. So he [doctor] said what do you mean I don't need it, I said I don't need it, because even with the co-pay, I don't want to pay it, he understood my financial situation, and he said let me see if we can get that as part of a clinical trial, which he did and was very nice of them." (P12)*
	It's good that I don't have to pay for HCV screening/treatment. [3]	*"I was very happy, really, I was very, very happy especially because I know about this because my son, one of my sons, he was, he is a pharmacist, and he was working in the blood company which was, was doing you know, so, so and it was so expensive at that time to, to get this." (P10)*

Table 2 (continued)

Relevant domains	Beliefs statements (Frequency)	Sample quotes
Memory and decision making	I will not seek HCV care in the absence of symptoms. [13]	*"I wouldn't just go to do the test out of the blue because again, with my insurance and I don't have a family doctor. There would have to be a reason where I have to do it under the insurance." (P6)*
	If I have been in contact with someone who had HCV. I would do HCV screening. [3]	*"The trigger [for HCV screening] would be to get close to someone who is infected." (P7)* *"Even if I don't have the symptoms, but somebody around me, or a friend, or meeting somebody in a public transport, or sick somebody at work, or meeting new people, if I observe or think that they have the symptoms, I will check myself. It will push me to really go to be tested." (P17)*
	I will seek HCV care only if I believe there is a possibility that I have HCV. [3]	*"I would not navigate the system 'til I know that there is a potential I have." (P2)* *"So, unless there was like significant reason to think that [I have HCV], maybe I'd bring it up. With my doctor, I have enough things to worry about." (P9)*
Beliefs about consequences	A negative HCV test can bring you peace of mind/relief. [5]	*"I had the test, and it was negative, and it was a big relief." (P14)* *"Peace of mind, knowing what it is, what it isn't because even if it comes back negative, are you going to cross that off your list? I honestly think that's the main thing because if you know what it is, that's also a big relief." (P9)*
	By doing HCV screening, I can get treated if I turn positive. [4]	*"The positive consequence is to get access to the treatment and get cured." (P7)*
	It doesn't hurt to do HCV screening. [3]	*"Because knowing what the disease is, at least will tell me if there is a cure, if there isn't a cure, how to deal with it, like how to maybe manage it if there isn't a cure. So, I don't see a negative thing in knowing." (P8)*
	There is/was no negative consequences associated with receiving HCV treatment. [4]	*"I think rather, rather than that you have to commit your of course time to go to, you know, to have your treatment, you know, other than for me, nothing rather than this yeah, yeah." (P10)*
	By taking HCV treatment, you can take your life back and live longer. [3]	*"Yes, I feel like I am this close to getting back my life. I feel like after all, I have gotten back on my feet. You know, even though that it is going to take another week, but then I'll have completed the treatment so there is hope." (P18)*
	Taking HCV treatment brought me peace of mind/relief. [4]	*"I was so worried that when I didn't go for it, I was worried that maybe something else may arise that may be more severe, and it might be more dangerous if I had not gone to the hospital to get tested and know what was wrong with me. So, I was really worried until when I got tested and I started my medication, and I started getting better that I knew that I was safe." (P16)*
	HCV treatment can cause side effects. [3]	*"I know that the medication or the process they go through is quite horrible sometimes, and if they have to have a liver transplant it's even worse." (P4)* *"From what I heard from one of my friends, there is some kind of a cure through injection for it but again, it did not work for him. So, the side effects were extremely severe for him that the doctor asked him to stop." (P2)*
	There is no stigma about HCV screening. [8]	*"But the community is usually—most of them or the people I know—very helpful, not very judgmental, which is great." (P6)* *"When it comes to your physical health, especially a lot of people probably know of someone who died because of hepatitis C, no one would judge you for that." (P1)*
	There is stigma about HCV. [6]	*"There will be stigmatization; I think that would actually happen. A lot of people would want to stay away from you in order not to get infected. So, I think people will treat me differently if they know about it." (P18)* *"But I don't think anybody with hepatitis C will go and say hey guys, I have hepatitis C…So of course, there's going to be some kind of a stigma and some kind of fear from most people around all of it." (P2)*
Reinforcement	My negative experience is waiting long hours/time to receive care. [7]	*"So, the negative experience, again, is the wait time, waiting for my family doctor. And then knowing inside of me that even with that, I need to go and do the blood work. And then after that, I have to go and see him again. And the day after that, I need to go and be scheduled for a specialist and the specialist will not be available for six to eight months." (P8)*
	I had very good experiences with my healthcare providers. [10]	*"Dr _ was very helpful. Whenever we visited it was so understanding, and so assuring. With Dr. _ we were in safe hands." (P13)* *"I was comfortable, Dr. _ is a very good doctor and people in the hospital are helpful, I took the treatment thank God and things were good." (P11)*
	Canada has a good medical system. [4]	*"I think the extensiveness when you get the care. So. when you get the care, I like how—this is actually a very big difference between health care and health care in Egypt." (P6)*

Table 2 (continued)

Relevant domains	Beliefs statements (Frequency)	Sample quotes
Emotion	I was happy to receive treatment. [5]	*"I was waiting and mindful and happy that I am going to this visit because I know that this will get the treatment chance closer." (P10)*
	If my test turns positive, I will be stressed about unknowns while I wait for care. [5]	*"If it turns out to be positive, I will be worried, and I would have to adjust my life and so on. And that might not be easy to live through." (P4)* *"And again, the unknown, what is going to happen. It is the anxiety of if the test is positive or I have something that I need to work on. What should I do now? So, the wait time, of course, will add stress to the individual and of course, getting back his life and back to his family also." (P2)*

> *"For example, right now I don't feel symptoms, so I don't see a need for testing." (P8).*
> *"The one thing I know about my culture is that when you feel in pain, just tough it up, be a man. Be this, be that. A lot of people say it's probably nothing and probably that's why a lot of us end up sick anyways. Ah, it's just some pain. I ate something bad and they just tough it up." (P1).*

Furthermore, when visiting healthcare providers, few participants found it difficult to just talk about one symptom per visit (TDF domain: *Environmental context and resources*, *Social/ professional role and identity*). Although there is no official policy, some doctors ask their patients to focus on only one health issue per visit to better manage time allocated for each patient. Participants discussed this unwritten rule makes them prioritize their major concerns, and screening for a disease for which, they don't have any symptoms, will not be on the top of their list. They explained how it was different in Egypt, as the doctors would examine their whole body as a single entity.

> *"I had the issue that when I go to a doctor, I expect the doctor to deal with me as a human, as a single entity. Not as one disease at a time. I don't feel it's right because I feel my body is one unit. It's all connected. If my liver is suffering, probably other organs are suffering. And the fact that I have to say one thing at a time is annoying and it does not make sense to me. I'm just not able to accept it." (P4).*

One of the other barriers to HCV care was perceptions of stigma and discrimination which were linked to either being an immigrant, having HCV, or both (TDF domains: *Social/professional role and identity*, *Beliefs about consequences*, *Reinforcement*). Participants were divided in their opinions about the presence of stigma in society regarding HCV and its screening. Notably, nearly all participants who believed there was no stigma had no history of HCV themselves.

> *"And in these days, with those multiple diseases that we have all around us, everyone has a different disease, so we all care about each other." (P7).*
> *"From anybody who realizes that you have hepatitis C, they tend to cut you and are judgemental most of the time." (P15).*

Some participants reported experiencing stigma and discrimination as immigrants within the healthcare system. One person explained feeling stigmatized for both having HCV and being an immigrant:

> *"People, some of them say that maybe you brought sicknesses from your own country to our country, and they feel we are trying to bring some problem here in this country. And I've had issues that people have had to discriminate me because I'm not from Canada." (P16).*

Despite concerns about stigma and judgment, some of participants explained that opinions of others do not impact their care seeking behaviour. Participants also shared that their family members and close friends were/will be highly supportive and encouraging of their efforts to seek HCV screening and treatment. Additionally, a few participants mentioned financial support from their families during their HCV treatment (TDF domain: *Social influences*).

Regarding the impact of healthcare providers on individuals' health-seeking behavior, participants shared both positive and negative experiences. Most, especially those who had undergone HCV treatment, described positive interactions with healthcare providers, with some noting that their doctors encouraged them to undergo screening or begin treatment. (TDF domain: *Social influences*, *Reinforcement*).

> *"I think the conversation, it was something like you're from Egypt right. Hepatitis C is very common over there, so we will do some tests. That's how it went." (P12).*

However, a few explained that, despite years of regular visits, their family doctors had never recommended undergoing an HCV screening test (TDF domain: *Social influences*).

Additionally, many participants explained that long wait times—whether to get an appointment with a doctor or to be seen at healthcare centers—as a significant barrier to access care. Some participants also discussed the difficulties they faced in finding a family doctor (TDF domains: *Environmental context and resources*, *Reinforcement*). Participants discussed the need to increase the availability of family doctors and to provide them with training to encourage immigrants to undergo HCV screening. Lastly, some suggested implementing policies to facilitate early HCV screening for immigrants shortly after their arrival in the country.

> *"So, the negative experience, again, is the wait time, waiting for my family doctor. And then knowing inside of me that even with that, I need to go and do the blood work. And then after that, I have to go and see him again. And the day after that, I need to go and be scheduled for a specialist and the specialist will not be available for six to eight months." (P8).*

Other factors mentioned by participants, such as language, screening/treatment costs, and transportation to healthcare facilities, were perceived as barriers by fewer individuals. Regarding transportation to healthcare centers, participants acknowledged that while it could occasionally be challenging, it would not deter them from seeking HCV care (TDF domains: *Environmental context and Resources*). Although some participants expressed gratitude for not having to pay for HCV treatment, some participants noted that the cost of HCV screening and treatment had been, or could potentially be, a barrier to accessing care (TDF domains: *Environmental context and Resources*). Except for a few participants for whom the language was a barrier to care, most participants explained that they were quite comfortable communicating in English (TDF domains: *Social/professional role and identity*, *Environmental context and Resources*).

Domains less likely to be relevant

The domains of *Intention*, *Goals*, *Optimism*, *Beliefs about Capabilities*, and *Behavioural Regulation* were identified as being less relevant to changing the target behaviour. Participants expressed that they intended to undergo screening if they experienced symptoms and were committed to pursuing treatment and attending follow-up appointments if diagnosed with HCV infection (TDF domain: *Intention*). Participants consistently emphasized that their health and well-being were of utmost importance to them. They prioritized taking care of themselves and their families above all else (TDF domain: *Goals*). They were optimistic that, in the event of an HCV infection, visiting healthcare centers and adhering to effective treatment options would help them (TDF domain: *Optimism*). All individuals reported feeling comfortable consulting their healthcare providers and seeking HCV screening and treatment (TDF domain: *Beliefs about Capabilities*). The participants did not report using specific strategies to improve their access to HCV screening and treatment. However, they offered several suggestions and recommendations for improvement which were incorporated into related TDF domains (TDF domain: *Behavioral Regulation*).

Discussion

Main findings and comparison with other studies

This theory-based qualitative study examined Egyptian immigrants' perceptions and beliefs regarding HCV and its management, as well as the factors influencing their decision to seek care. Our findings revealed four overarching themes as main barriers to HCV screening and treatment: knowledge about the disease and treatment options, lack of (major) symptoms, stigma and discrimination, and access to healthcare providers.

Overall, participants in our study were familiar with HCV infection, recognizing its association with liver disease and demonstrating some understanding of its symptoms, causes, and modes of transmission. Previous studies on other immigrant communities, have reported varying levels of knowledge about HCV, generally finding low awareness that varies by country of origin and educational background [20–22, 40–46]. Notably, a study on Egyptian immigrants in Australia similarly found that most participants were aware of the disease and its modes of transmission [47]. In our study, the high level of education among participants may have contributed to their greater awareness of HCV. Additionally, national campaigns in Egypt have likely played a significant role in increasing public awareness over the years. Beginning in 2014 and reinforced in 2018, the nationwide "100 Million Healthy Lives" campaign aimed to eliminate HCV by providing free testing and treatment, accompanied by extensive media messaging [48]. Although most participants were aware of some modes of HCV transmission, misconceptions and uncertainties remained regarding mother-to-child transmission, sexual transmission, and spread through shared items, water, food, mosquitoes, kissing, or physical contact. Similar misconceptions have been reported in other studies on HCV transmission [42, 44, 47]. Raising awareness about all possible transmission routes is essential, particularly because many Egyptians attribute HCV transmission primarily to past unsafe medical procedures related to treatment of Schistosomiasis and may be less aware that the virus can also be transmitted through other means. Most participants were aware of available HCV treatment and the process for screening and care. However, some remained unaware of newer treatments (DAAs) and associated treatment with severe side effects, influenced by past experiences of their friends or family members with interferon-based therapies. Hence, raising awareness about newer treatment options is essential, emphasizing their shorter duration and fewer side effects.

Although some participants were aware that HCV can be asymptomatic, most individuals indicated that they would not seek screening in the absence of symptoms. They also expressed uncertainty about when to seek care, as HCV may not present symptoms, or its symptoms may resemble those of other illnesses. Similar findings have been reported in other studies, where immigrants were often unaware that HCV can be asymptomatic and were unlikely to undergo screening without noticeable symptoms [14, 20, 22, 44]. This is a significant finding, as many individuals with HCV remain asymptomatic for extended periods, leading to delayed screening and treatment, which can result in poorer health outcomes. Raising awareness about the asymptomatic nature of the disease and the importance of early screening is essential.

There were varying perspectives on stigma and discrimination among participants in our study. Stigma was primarily associated with the disease itself, driven by fear of transmission, but in some cases, it was also intertwined with discrimination related to being an immigrant. Findings from other studies align with our results, showing that perceptions of stigma differ significantly both between and within immigrant communities [20, 22, 41, 44]. For example, a study on recent African immigrants in the United States revealed that while some individuals were concerned about HCV-related stigma, others were uncertain whether it was a significant issue in their community [22]. These mixed views suggest that while people with HCV may experience societal stigma, those without the disease may not perceive it or may reject it as morally unacceptable. Supporting this idea, a survey of Egyptian immigrants in Australia found that participants believed individuals with HCV deserve support rather than condemnation and should be treated with respect and fairness [47]. To improve HCV screening and treatment uptake, it is essential to raise awareness about the disease and its modes of transmission.

Many participants in our study cited difficulty in finding family doctors and long wait times as significant barriers to accessing HCV care, a challenge that has also been documented in other studies [20, 44, 49]. The shortage of healthcare providers and prolonged wait times are not unique to HCV care but reflect a broader issue affecting both immigrant and non-immigrant populations in Canada [50–52].

While some studies have identified language as a barrier to HCV care among other immigrant communities [21, 22, 41, 43, 44], most participants in our study were comfortable speaking English and did not perceive language as a significant obstacle. This difference may be attributed to the characteristics of our study sample, as the majority of participants were highly educated and had been living in Canada for several years at the time of the interview.

Participants recognized the benefits of screening and treatment and expressed a strong commitment to completing treatment and attending follow-up visits if diagnosed. Moreover, they emphasized that their health was their top priority, taking precedence over other responsibilities. Quantitative studies have also shown that immigrants have higher rates of treatment initiation and cure rates compared to non-immigrants [53, 54]. This is an encouraging finding, indicating that improving access to care and addressing knowledge gaps could significantly enhance the uptake of HCV screening and treatment.

Finally, using two theoretical frameworks enabled us to examine access to HCV screening and treatment from complementary perspectives. The CS-SRM provided an overall understanding of participants' perceptions of the disease itself, and their coping strategies, while the TDF systematically identified factors influencing a specific coping strategy—seeking screening and treatment. Although some overlap existed, with certain responses fitting both frameworks, distinguishing between beliefs about the disease and those about screening/treatment was sometimes challenging, (e.g. emotions). Despite these complexities, integrating both models provided deeper insights than either framework alone.

Implications for practice and research

Findings from this study highlight key areas for improving HCV screening and treatment among immigrants, with implications for both practice and policy. By applying theoretical frameworks to assess barriers, we identified specific challenges that can be directly mapped to targeted intervention components.

Misconceptions about the disease, lack of awareness about treatment options, and stigma can be partially addressed by community-based education initiatives—delivered through trusted channels such as religious leaders, cultural organizations, and social media. Other studies have also emphasized the importance of partnerships with community-based organizations and engagement with religious and community leaders to promote health education and screening. Furthermore, using these trusted channels for awareness efforts may help reduce stigma and shame associated with the disease within the community [20, 22, 55–57].

Additionally, as healthcare providers play an important role in encouraging individuals to seek screening/treatment, it is important to equip them with the knowledge and communication strategies needed to discuss HCV with their patients and encourage screening among immigrants from HCV-endemic regions [58, 59]. Our findings, along with evidence from other studies, suggest that immigrants highly value medical advice from their doctors and are more likely to pursue screening when recommended by a healthcare professional [40, 44]. It is shown that physician recommendations are a strong predictor of hepatitis screening uptake in immigrant communities, highlighting the critical role of healthcare providers in promoting early detection and treatment [60, 61]. Integrating clear clinical guidelines and culturally responsive communication strategies into primary care could further strengthen these efforts.

To address the barriers to access to healthcare (shortage of doctors, wait long times), simplified HCV service delivery as recommended by the WHO's Guideline can be helpful. The guideline recommends decentralization of HCV screening and treatment to community-based facilities and primary care, integration of those services with existing care services, and task-sharing of HCV care by non-specialist doctors and nurses [62, 63]. Evidence suggests that these approaches not only improve access to care and increase screening and treatment uptake but also achieve comparable high rates of HCV cure [64–66].

Given the heterogeneity of immigrant populations, further research is needed to determine whether perceptions of HCV and barriers to care are consistent across different immigrant communities. This understanding will help assess whether interventions should be tailored to specific communities and to what extent such customization is necessary. Additionally, considering the critical role of healthcare providers in the HCV care continuum, it is essential to explore their perspectives and the challenges they encounter in delivering care to immigrant populations. Gaining these insights will be instrumental in designing effective interventions to enhance HCV screening and treatment among immigrants.

Strengths and limitations

The use of theory offers a structured framework for researchers to interpret and analyze data beyond personal insights. It strengthens the rigor and relevance of the findings while guiding the development of well-designed interventions [67, 68]. Additionally, it facilitates comparisons between this study's findings and those from other HCV studies involving immigrant communities or other priority groups. The use of two distinct theoretical frameworks allowed for the exploration of the issue from multiple perspectives, resulting in a more comprehensive understanding. Additionally, the involvement of a Community Advisory Group and the utilization of diverse recruitment methods within the community facilitated engagement with a broad range of participants.

However, some limitations of this study should be acknowledged. Despite efforts to recruit participants with diverse characteristics, the sample included very few recent immigrants. Furthermore, participation was limited to individuals who actively reached out and expressed interest in the study, which may result in findings that are not fully representative of the views and perceptions of all Egyptian immigrants. In addition, while the frameworks and models employed in this study incorporate aspects of the social and structural determinants of health, we recognize that they may not fully encompass the broader systemic and contextual barriers that influence health behaviours and access to care.

Conclusion

Improving access to care for immigrants from endemic countries is critical to eliminating HCV in Canada. Using a systematic, implementation science-informed approach, we explored the lived experiences of Egyptian immigrants and identified key barriers to HCV screening and treatment. While participants generally understood the disease, screening, and treatment options, major barriers included asymptomatic infection, stigma, limited access to family doctors, and long wait times. These findings will inform a theory-based intervention to enhance HCV care in immigrant communities.

Abbreviations

CAG	Community Advisory Group
CS-SRM	Common Sense-Self Regulation Model
DAA	Direct-Acting Antivirals
HCV	Hepatitis C Virus
TDF	Theoretical Domains Framework
WHO	World Health Organization

Supplementary Information

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Supplementary Material 1

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Author contributions

All authors have contributed to the research and article preparation. SMH and JMG conceived the current study. SMH and AMP developed the interview guide. SMH, AA, CC and SM contributed to recruitment of participants. SMH and AA conducted the interviews. SMH and IMT conducted data analysis, with all the authors reviewing and commenting on the findings. All authors have been involved in development of the proposal, as well as drafting the manuscript and revising it. All authors have given final approval of the submitted article.

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Data availability
Data is provided within the manuscript. Supplementary data that support the findings of this study are available upon reasonable request.

Declarations

Ethics approval and consent to participate
The Ottawa Health Science Network Research Ethics approved the study (20220418–01 H). Informed consent was obtained from all study participants.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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