

Stigma Indicators: Hepatitis B-related Knowledge, Attitudes, and Health-Seeking Behaviour among sub-Saharan African and Middle East & North African General Communities

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Acknowledgement of country

We value the cultures, knowledge and practices of Aboriginal and Torres Strait Islander Peoples and how this contributes to quality research. We are committed to not perpetuating harms that have been caused by research on and about Indigenous Peoples. We embrace and honour Indigenous knowledges and continue to learn from Indigenous Peoples where we work.

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1. Project Background

Hepatitis B virus (HBV) infection remains a significant public health concern in Australia, disproportionately affecting people who have migrated from high-prevalence regions (Jin et al., 2022b). This project aimed to examine the knowledge, attitudes, and health-seeking behaviour related to the hepatitis B virus among people who have migrated to Australia, from either countries within the sub-Saharan Africa (SSA) or the Middle East & North Africa (MENA) regions, both of which carry a substantially high burden of HBV infection.

As of 2024, an estimated 227,571 people were living with chronic hepatitis in Australia, representing a prevalence of 0.83% of the total population (McLachlan et al., 2026). Notably, 5.0% of all people living with chronic hepatitis B in Australia were born in SSA, and 3.4% were born in North Africa and the Middle East (McLachlan et al., 2026). The Australian Government has identified people from SSA and MENA as key priority populations in its Fourth National Hepatitis B Strategy (2025-2030), highlighting the urgent need for targeted research to better understand testing and care engagement among these communities (Australian Government Department of Health, 2026a). Stigma is a recognised barrier across the hepatitis B care cascade: it can deter people from testing, discourage disclosure to family and providers, reduce engagement with and retention in treatment, and erode trust in health services (Brener et al., 2024; Jin et al., 2022a; Tu, 2022; Vu et al., 2024; Zhang et al., 2026). Importantly, addressing and reducing hepatitis B-related stigma is a core objective of the Fourth National Hepatitis B Strategy (2025-2030), underscoring the need to understand attitudes towards hepatitis B within these communities.

The report forms part of a broader national research project designed to measure and monitor stigma among priority groups impacted by blood-borne viruses and sexually transmissible infections (Broady et al., 2018). The broader study has developed a suite of measures to monitor stigma among priority populations in Australia, as identified in the five Australian national strategies focusing on HIV, viral hepatitis, and sexually transmissible infections (Australian Government Department of Health, 2019, 2024, 2025, 2026a, 2026b). Findings from this study will contribute to this national monitoring effort and help inform the development of culturally responsive hepatitis B programs for SSA and MENA communities in Australia.

Despite the high burden of HBV among SSA and MENA communities, little is known about their

knowledge, attitudes, stigma experiences, and engagement with health-seeking behaviours in Australia. The present study represents the first survey to focus on hepatitis B among SSA and MENA migrant communities as part of this national stigma monitoring program. By examining knowledge, attitudes, health-seeking behaviours, trust in Western health systems, and racial discrimination in the healthcare settings within these populations, this study aims to identify factors that can strengthen the connection between hepatitis B prevention, testing, and treatment programs and the communities most in need.

2. Method

This study comprised a cross-sectional survey of people from SSA and MENA communities. Migrants from SSA and MENA communities who were living in Australia at the time of recruitment and aged 18 or older were eligible to participate in the study. The survey was offered in English, French, Arabic, and Swahili.

Participants were recruited through community and not-for-profit organisations that provide advocacy, support, or services to people from culturally and linguistically diverse (CALD) backgrounds, including organisations working in viral hepatitis and multicultural health. These organisations distributed study recruitment and advertising materials via their online platforms and at in-person meetings.

Data were collected using both online and paper-based (hard copy) surveys. However, the online mode yielded a substantial number of fraudulent responses (e.g., suspected bots and duplicate submissions), which were excluded from the dataset. The study primarily relied on in-person, hard-copy data collection conducted in New South Wales (NSW), which generated a strong representation of people living in NSW.

The survey took about 15-20 minutes to complete, and participants received an AUD\$20 voucher as compensation for their time. Ethical approval for the study was obtained from the UNSW Sydney Human Research Ethics Committee (approval number: iRECS6681).

2.1 Survey Items

The survey included questions to assess knowledge of hepatitis B, testing and vaccination for

hepatitis B, attitudes towards people living with hepatitis B, trust in Western healthcare, experience of racial discrimination in healthcare, testing, vaccination, and health-seeking behaviours. Participants were also asked about their demographic characteristics and their connection to their community.

Hepatitis B awareness and knowledge

Participants were asked whether they had ever heard of hepatitis B and where they had obtained information about it (e.g., family, friends, doctors, internet). Knowledge of hepatitis B was measured using 13 items derived from previous research (Cama et al., 2024; Jin et al., 2022b). For example, “Hepatitis B is curable” and “There is a vaccination that can prevent hepatitis B infection”. Participants could respond “true” or “false” to each item.

Testing and vaccination for hepatitis B

The survey included items asking participants whether they had ever been tested for hepatitis B and whether they had ever had the hepatitis B vaccine. The response options for these questions were “yes”, “no”, or “not sure.” Participants were also asked about their reasons for getting tested for hepatitis B, such as being part of a routine health check-up or at the advice of a doctor. Those who had never been tested for hepatitis B were asked for their reasons for not getting tested, such as fear, religious beliefs, or a doctor indicating that they do not need to be tested. For vaccination, participants were asked whether they had received the full course of vaccination and where they had received the vaccination.

Attitudes towards people living with hepatitis B

The survey included an item that asked participants whether they would behave negatively towards other people who have hepatitis B. The response options for this question were on a 5-point scale ranging from “never” (1) to “always” (5).

Two items were also included to assess experiences of stigma or discrimination in relation to hepatitis B. Participants who reported that they were living with hepatitis B responded to an indicator of stigma in relation to their hepatitis B (Broady et al., 2018): “In the last 12 months, to what extent have you experienced any stigma or discrimination (e.g., avoidance, pity, blame, shame, rejection, verbal abuse, bullying) in relation to your hepatitis B?”. Participants who stated

that they were not living with hepatitis B answered a hypothetical version of the stigma indicator, i.e., “If you had hepatitis B, do you think you would experience stigma or discrimination (e.g., avoidance, pity, blame, shame, rejection, verbal abuse, bullying) in relation to your hepatitis B?” The response options for these questions were on a 5-point scale ranging from “never” (1) to “always” (5), with an additional option for “not applicable to me”.

Eight items, derived from prior research (Baek et al., 2025; Brener et al., 2024; Horwitz et al., 2025; Jin et al., 2022a, 2022b), were included that measured participants' attitudes towards people living with hepatitis B, for example, “People who have hepatitis B should minimise their participation in public activities” or “People who have hepatitis B deserve it as punishment for their risky lifestyles”. The response options for these questions were on a 5-point scale ranging from “strongly disagree” (1) to “strongly agree” (5).

Trust in Western healthcare

Five items relating to participants' trust in Western healthcare were included in the survey. Items included, “I am suspicious of information about hepatitis B from Western-trained doctors and healthcare workers,” derived from prior research (Brener et al., 2025). Responses were given on a five-point scale from “strongly disagree” (1) to “strongly agree” (5).

Racial discrimination in healthcare setting

A 9-item scale, adapted from Peek et al. (2011), was used to assess participants' perceptions and experiences of racial discrimination in healthcare settings. Items included, “people from SSA or MENA are treated with less respect” and “people from SSA or MENA feel they will not get good health care”. Responses were given on a five-point scale from “never” (1) to “all the time” (5).

Connection to community

The survey included two items assessing connection with and feelings towards the SSA or MENA community: “How much do you interact with the SSA or MENA community?” and “How much do you feel you have in common with the SSA or MENA community?” The response options for these questions were provided on a 4-point scale ranging from “not much” (1) to “quite a lot” (4).

Demographic characteristics

Participants were asked a range of demographic questions, including age, gender, sexuality, education, employment, immigration status, duration of residence in Australia, and state of residence. They were also asked about the language spoken at home and their self-rated English language proficiency.

2.2 Data Analysis

Quantitative analyses were conducted using Stata version 17.0 (StataCorp, College Station, TX, USA). Descriptive statistics summarised socio-demographic characteristics, hepatitis B knowledge, hepatitis B testing, hepatitis B vaccination, trust in Western healthcare, racial discrimination in healthcare, and attitudes towards hepatitis B. Variables were reported as frequencies and percentages. Valid percentages are reported for all data, as some participants chose to skip some questions.

3. Results for the sub-Saharan African community

3.1 Demographic characteristics

The sub-Saharan African sample included 305 adults, with a mean age of 34.8 years (SD=9.1). There were 161 (53.0%) men and 142 (46.7%) women. Of the total sample, 93.1% (n=281) identified as heterosexual.

Regarding education, the sample was highly educated, with 42.8% (n=130) having a postgraduate degree, followed by 29.9% (n=91) with an undergraduate degree, and 13.8% (n=42) possessing a diploma. The majority of the sample (n=291, 97.0%) stated they speak English “very well” or “well.”

The sample was diverse in terms of immigration status, with over one-third being Australian citizens (n=105, 34.7%), followed by permanent residents (n=82, 27.2%) and student visa holders (n=73, 24.2%). Regarding employment status, 44.3% of respondents (n=147) reported working full-time, while 27.1% (n=90) reported working on a casual or part-time basis. Additionally, 22.0% were full-time students (n=67). The majority (n=255, 60.6%) of the sample reported speaking English at home. See Table 1 for more socio-demographic information.

Table 1: Socio-demographic Characteristics of the sample (n=305)

Demographic	Frequency (n=305)	Percentage (%)
Age (Mean (SD) Range)	34.8 (9.1) 18-70	
Current gender identity		
Man/male	161	53.0
Woman/female	142	46.7
Non-binary	1	0.3
Sexuality		
Heterosexual/straight	281	93.1
Lesbian/gay or homosexual	7	2.3
Bisexual or pansexual	4	1.3
Queer	1	0.3
Prefer not to answer	9	3.0
Educational level		
No formal education	9	3.0
Year 1-6 (primary school)	5	1.6
Year 7-10 (junior secondary)	7	2.3

Year 11-12 (senior secondary)	20	6.6
Diploma	42	13.8
Undergraduate degree	91	29.9
Postgraduate (Master's/PhD)	130	42.8
English Proficiency		
Very well	239	79.7
Well	52	17.3
Not well	6	2.0
Can't say/Prefer not to answer	3	1.0
Immigration Status		
Australian citizen	105	34.7
Permanent resident	82	27.2
Temporary working	26	8.6
Student visa	73	24.2
Family or partner visa	10	3.3
Refugee & humanitarian	1	0.3
Other	1	0.3
Prefer not to answer	4	1.3
Employment Status*		
Full-time	147	44.3
Part-time/casual	90	27.1
Government benefits	10	3.0
Financially dependent on others	10	3.0
A student	67	20.2
Other	8	2.4
Language spoken at home*		
English	255	60.6
Swahili	26	6.2
Arabic	11	2.6
French	6	1.4
Yoruba	33	7.8
Igbo	21	5.0
Fula	2	0.5
Somali	1	0.2
Other	69	16.3
Duration of residence in Australia		
Less than 2 years	57	19.0
2-5 years	87	29.0
6-10 years	74	24.7
More than 10 years	76	25.3
I was born in Australia	6	2.0

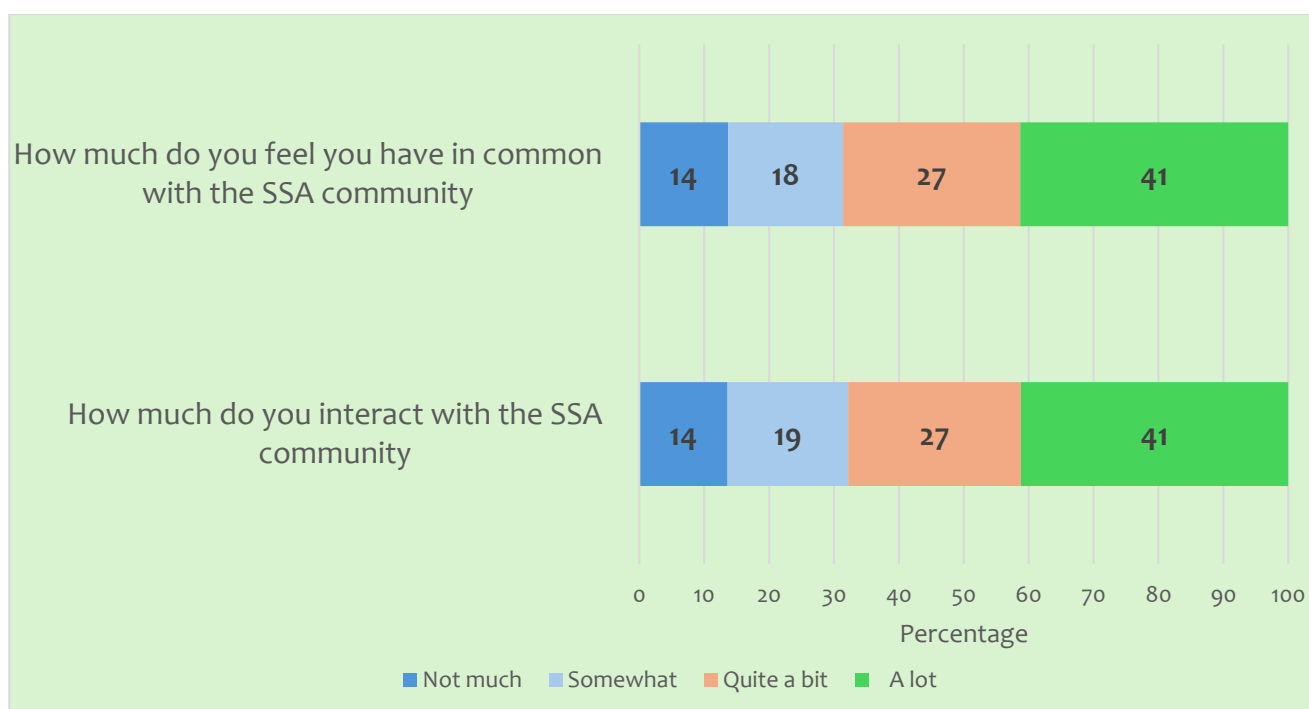
Where do you live? (State of residence)		
Australian Capital Territory	25	8.3
New South Wales	200	66.2
Queensland	22	7.3
South Australia	7	2.3
Tasmania	15	5.0
Victoria	25	8.3
Western Australia	8	2.7
Where do you live? (Place of residence)		
Rural Area	31	10.4
City	238	79.6
Regional Town	30	10.0

*Items were not mutually exclusive

3.2 Community connection

This section presents findings on participants' connection to the SSA community, focusing on two core indicators: (1) shared identity (measured by how much you feel you have in common) with others in the SSA community and (2) interaction with the SSA community. Most participants (n=206, 68.6%) reported having “a lot” and “quite a bit” of shared identity with the SSA community. Similarly, 68.1% of the participants (n=205) reported having “a lot” and “quite a bit” of interaction with the SSA community. See Figure 1 for more details on community connection.

Figure 1: Connection with the SSA community (N=305)



3.3 Awareness and information about hepatitis B

The results showed that the majority of the sample (n=280, 92.5%) reported having heard of hepatitis B, while 7.5% (n=23) had not heard of hepatitis B. Further examination of information sources revealed that the most frequently reported sources were the Internet (n=167, 54.8%), followed by friends (n=135, 44.3%), general practitioners (GPs)/doctors (n=127, 41.6%), and social media (n=121, 39.7%). Most participants (n=283, 92.5%) preferred to receive hepatitis B information in English. However, some participants did report Swahili (n=18, 5.9%), Igbo (n=16, 5.2%), Arabic (n=12, 3.9%), Yoruba (n=11, 3.6%), and French (n=4, 1.6%) as their preferred languages for information on hepatitis B.

Table 2: Awareness about hepatitis B, sources of information, and preferred languages

Item(s)	Frequency (n=305)	Percentage (%)
Heard about hepatitis B		
Yes	280	92.5
No	23	7.5
Sources of hepatitis B information*		
Family	99	32.5
Friends	135	44.3
General practitioners (GPs)/Doctors	127	41.6

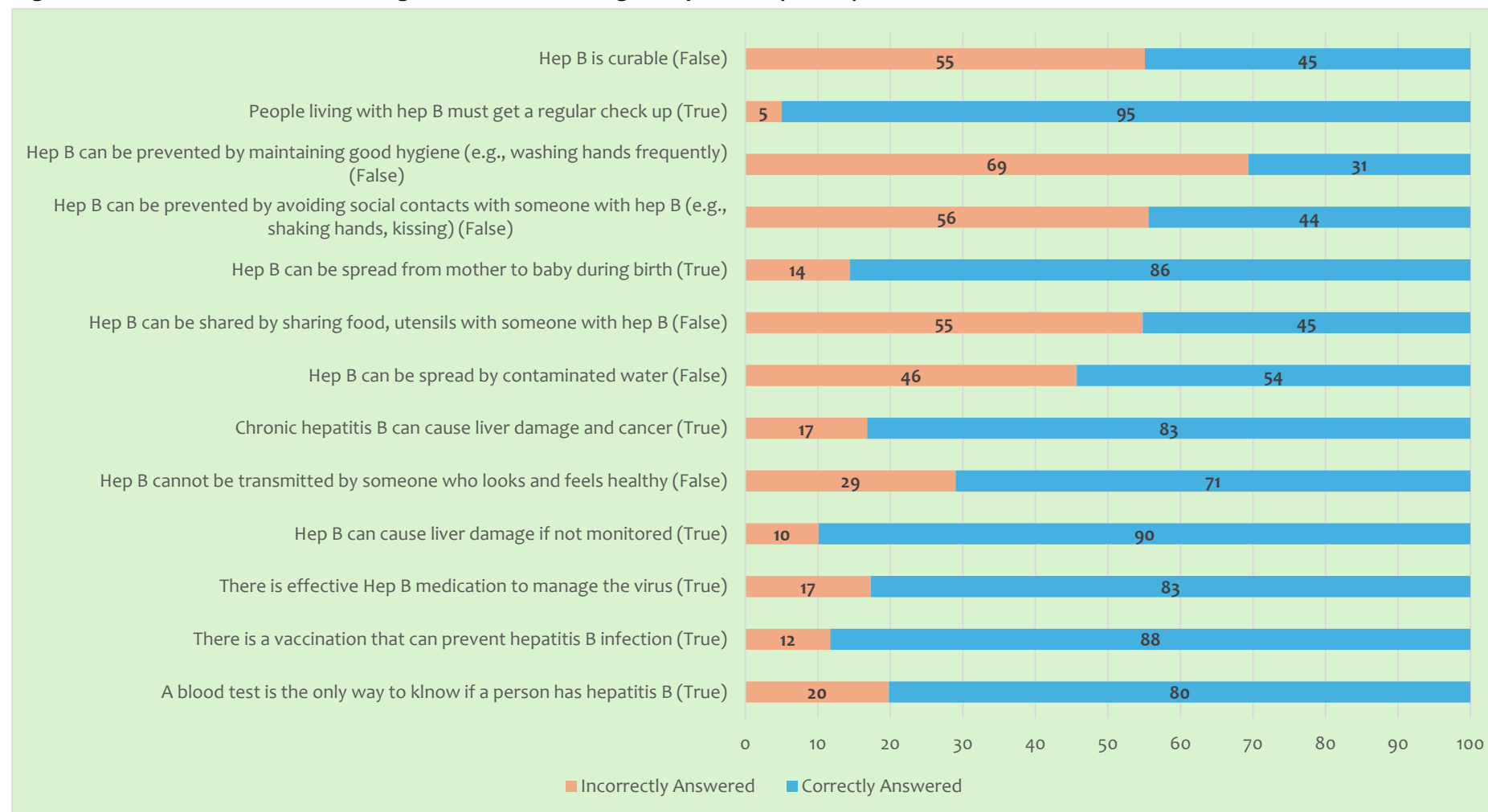
Pharmacists	33	10.8
Traditional/herbal practitioner	8	2.6
Hepatitis Information line	28	9.2
Internet	167	54.8
Social media	121	39.7
Community organisations	64	21.0
Other	22	7.2
Never received information	22	7.2
Preferred language for hepatitis B info. *		
English	282	92.5
Swahili	18	5.9
Arabic	12	3.9
French	5	1.6
Yoruba	11	3.6
Igbo	16	5.2
Fula	3	1.0
Somali	3	1.0
Other	19	6.2

*Items were not mutually exclusive

3.4 Knowledge and understanding of hepatitis B

Participants were presented with 13 statements to assess their understanding and knowledge of hepatitis B. The majority of the sample (n=264, 88.3%) knew that a vaccination can protect people from getting hepatitis B, and that hepatitis B can only be identified by a blood test (n=239, 80.2%). However, more than half (n=162, 55.1%) held the belief that hepatitis B is curable. More than half (n=160, 54.8%) also held the belief that hepatitis B can be transmitted by sharing food, drinks, and utensils with someone infected. See Figure 2 for more details.

Figure 2: Statements about knowledge and understanding of hepatitis B (N=305)



3.5 Testing for hepatitis B

Half (n=148, 50.5%) of the sample reported having ever been tested for hepatitis B at some point. Among those who had been tested, the most common reasons cited were part of a routine health check (n=77, 52.0%), travel or immigration purposes (n=56, 37.8%), and institutional requirements such as work, school, or university (n=44, 29.7%). Of the 106 participants (36.2%) of total sample who reported never having been tested for hepatitis B, the main reasons given were "I am not sexually active, or I am not having sex with people who are not my wife/husband/girlfriend/boyfriend/partner" (n=40, 37.7%), "I am not injecting drugs" (n=38, 35.8%), and "I don't know much about hepatitis B testing" (n=30, 28.3%). Participants also reported that they were not tested because their religious beliefs do not support them receiving testing (n=29, 27.4%). See Table 3 for more information on hepatitis B testing.

Table 3: Testing for hepatitis B

Item(s)	Frequency (n=305)	Percentage (%)
Do you recall having ever tested for hepatitis B		
Yes	148	50.5
No	106	36.2
Not sure	39	13.3
Reasons for testing for hepatitis B *		
My doctor told me I should	34	23.0
Part of a regular health check	77	52.0
My work/school/university required that I have the test	44	29.7
A family member or friend told me to get tested	9	6.1
I know someone who has hepatitis B	10	6.8
I learnt about hepatitis B	21	14.2
For travel or immigration purposes	56	37.8
Part of pregnancy screening	20	13.5
Blood donation	19	12.8
Part of sexually transmissible infections test	13	8.8
I was worried I was exposed to hepatitis B	6	4.1
I had some hepatitis B symptoms	1	0.7
I was tested without my knowledge/consent	1	0.7
Other reasons	6	4.1
Not sure	2	1.4

Prefer not to answer	4	2.7
Reasons for not having been tested for hepatitis B *		
Doctor says I don't need to be tested	6	5.7
I don't know much about hepatitis B testing	30	28.3
I am not sexually active, or I am not having sex with people who are not my wife/husband/girlfriend/boyfriend/partner	40	37.7
I am not injecting drugs	38	35.8
My religious beliefs do not support me testing for a disease like hepatitis B	29	27.4
My cultural beliefs do not encourage me to test for hepatitis B	13	12.3
I am feeling quite well	2	1.9
I don't trust the test	2	1.9
I am afraid of having a test	20	18.9
I think the test is too expensive	19	17.9
The test takes too long	2	1.9
Other	8	7.5
Prefer not to answer	10	9.4

*Items were not mutually exclusive

3.6 Hepatitis B vaccination

Almost half (n=144, 49.3%) reported being vaccinated against hepatitis B; however, more than one-third (34.3%) reported never being vaccinated. Among the 144 respondents who reported initiating vaccination, 76.4% (n=110) reported completing the full course. Of the 110 respondents who completed the vaccination, 51.8% of the participants (n=57) received the vaccination in SSA and 48.2% of the participants (n=53) received the vaccination in Australia. Among participants who reported not completing the full course vaccination, the main reason was that they were unaware of how many doses they should receive for a successful vaccination (n=9, 40.9%). See Table 4 for more information on vaccinations.

Table 4: Hepatitis B vaccination

Item (s)	Frequency (n=305)	Percentage (%)
Have you ever had hepatitis B vaccination?		
Yes	144	49.3
No	100	34.3

Not sure	48	16.4
Did you complete the full course of vaccination?		
Yes	110	76.4
No	22	15.3
Not sure	25	17.4
Prefer not to answer	2	1.4
Where did you receive your hepatitis B vaccines?*		
Australia	53	48.2
SSA	57	51.8
Other	8	7.3
Reasons for not completing the full course of vaccination		
I was unaware of how many doses I should receive	9	40.9
I forgot to have one or more of the doses	4	18.2
I didn't have time for it	4	18.2
I didn't think it is important	5	22.7
Not sure	4	18.2
Prefer not to answer	2	9.1
My parents did not know how many doses are required or how many I have had	1	4.5

*Items were not mutually exclusive

3.7 Health-seeking behaviours for Hepatitis B

A total of 71 participants (23.6%) reported knowing someone with hepatitis B. Only 1.7% of the total sample (n=5) reported living with hepatitis B. The majority (n=277, 94.5%) of participants stated they do not have the infection, while 3.8% of participants (n=11) were unsure. Of the participants who reported living with hepatitis B, when asked about their health-seeking behaviour, all 5 participants who reported living with hepatitis B indicated that they do not currently see their GP for a hepatitis B check-up but plan to do so in the future. Participants reported that their regular doctor spoke only English (n=4, 57.1%). Three participants had been advised to take medication for hepatitis B by their doctor; only one participant was currently taking medication. See Table 5 for more details.

Table 5: Health-seeking behaviours

Item(s)	Frequency (n=305)	Percentage (%)
Knowing someone with hepatitis B		
Yes	71	23.6
No	192	63.8

Not sure	33	11.0
Prefer not to answer	5	1.7
Do you have hepatitis B		
Yes	5	1.7
No	277	94.5
Not sure	11	3.8
How often do you see your GP for a hepatitis B check-up?		
Yes, every 1-6 months	3	27.3
Yes, every 7-12 months	1	9.1
No, but I plan to in the future	5	45.5
No, and I do not intend to	2	18.2
Language spoken by the doctor		
My local language and English	3	42.9
Only English	4	57.1
Did your doctor advise you to take medication for hepatitis B		
Yes	3	33.3
No	6	66.7
Ever taken or currently taking Hep B treatment tablets prescribed by a doctor		
Yes, I am currently on treatment	1	16.7
No, I have never been treated for hepatitis B	5	83.3

3.8 Disclosure of Hepatitis B

Participants living with hepatitis B (n=5) were further asked about disclosing their status. Among the individuals living with hepatitis B, three had informed their doctor or specialist. The primary concern, reported by three participants, about revealing or not revealing their hepatitis B status was worry about being a burden to family or an employer.

The rest of the sample who reported not having hepatitis B (n=288) were asked to imagine that there was an immigrant from SSA, who has hepatitis B and is living in Australia. Participants were asked what this person would likely be worried about when deciding to disclose their status or not. The primary concern that participants believed this person would face was being isolated by friends (n=198, 68.5%), followed by being rejected by my community (n=135, 46.9%) and being blamed for getting hepatitis B (n=135, 46.9%). See Tables 6 and 7 for more details.

Table 6: Disclosure of hepatitis B

If you have Hep B, who have you told about your hepatitis B*		
Wife/husband/intimate partner	1	14.3
Immediate family	1	14.3
Friends	1	14.3
Doctor/specialists	3	42.9
Social workers	1	14.3
If you decided to tell someone that you had hepatitis B or keep it to yourself, what would you be worried about*		
Being isolated from friends	1	10.0
Being a burden to family or an employer	3	30.0
Being rejected by my intimate partner/wife/husband	2	20.0
Being rejected by my community	1	10.0
Prefer not to answer	1	10.0
I am not worried to tell anyone	2	20.0

*Items were not mutually exclusive

Table 7: Concerns around disclosure for those not living with hepatitis B

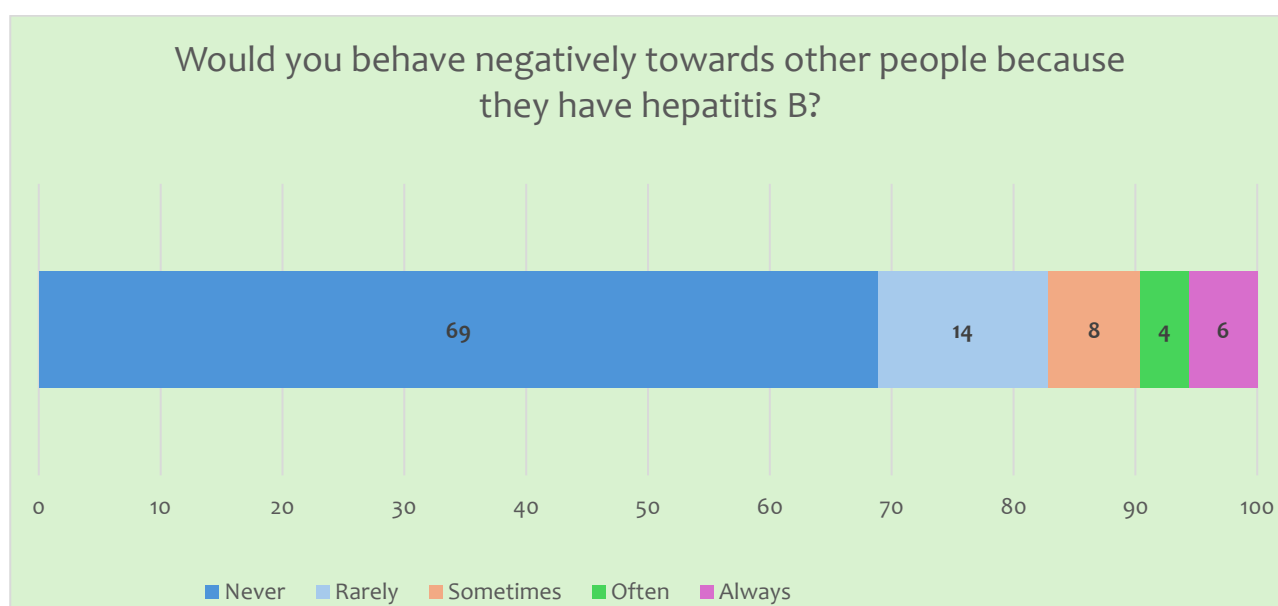
Imagine that there was an immigrant from your community with hepatitis B living in Australia. When this person decided to tell someone or keep it to him/herself, what would he/she be worried about*		
Being isolated by friends	198	68.5
Being blamed for getting hepatitis B	135	46.8
Being a burden to the family	127	44.1
Being rejected by my wife/husband/intimate partner	123	42.7
Being rejected by my community	135	46.9
Being rejected by my religious group	94	32.6
Losing a job or a study	106	36.8
Having your visa rejected	98	34.0
Other	6	2.1
Prefer not to answer	16	5.6
I am not worried about telling anyone	20	6.9

*Items were not mutually exclusive

3.9 Attitudes towards Hepatitis B

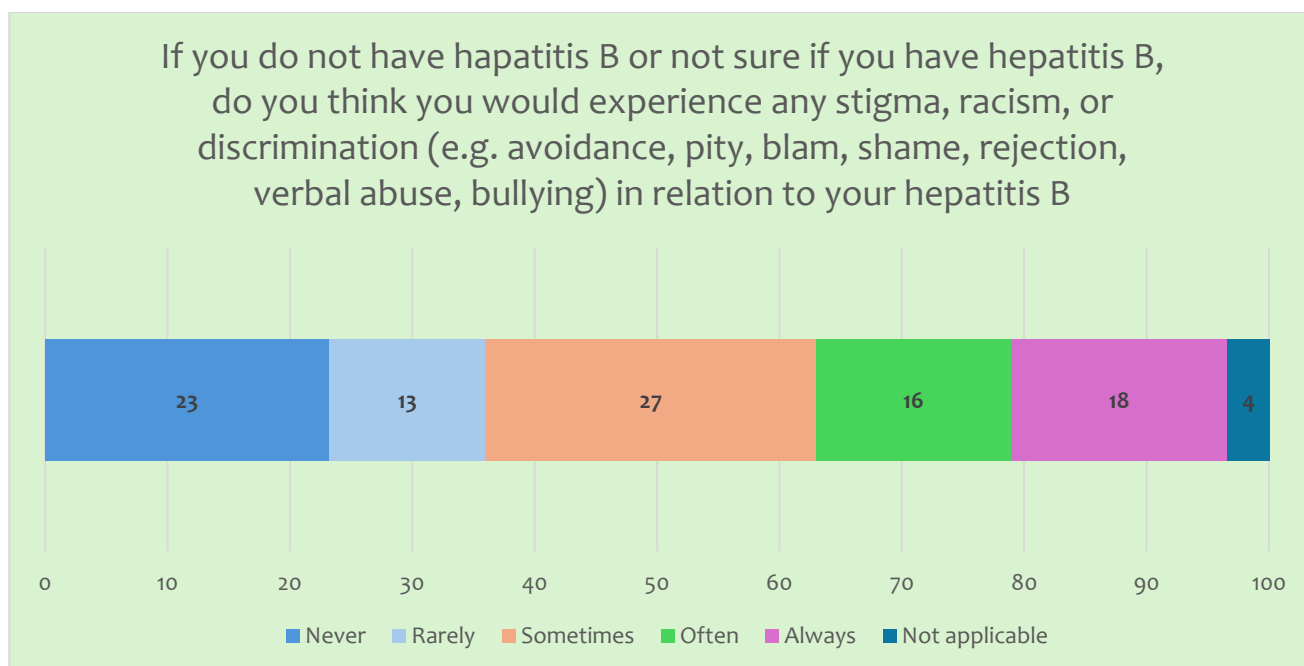
Participants were asked a single-item measure that addressed whether they would behave negatively towards people living with hepatitis B. A total of 208 participants (68.9%) reported that they would never exhibit negative behaviour towards others on the basis of their hepatitis B status. Conversely, a total of 94 participants (31.1%) indicated that they would behave negatively towards other people because they have hepatitis B (see Figure 3).

Figure 3: Behaving negatively towards people with hepatitis B



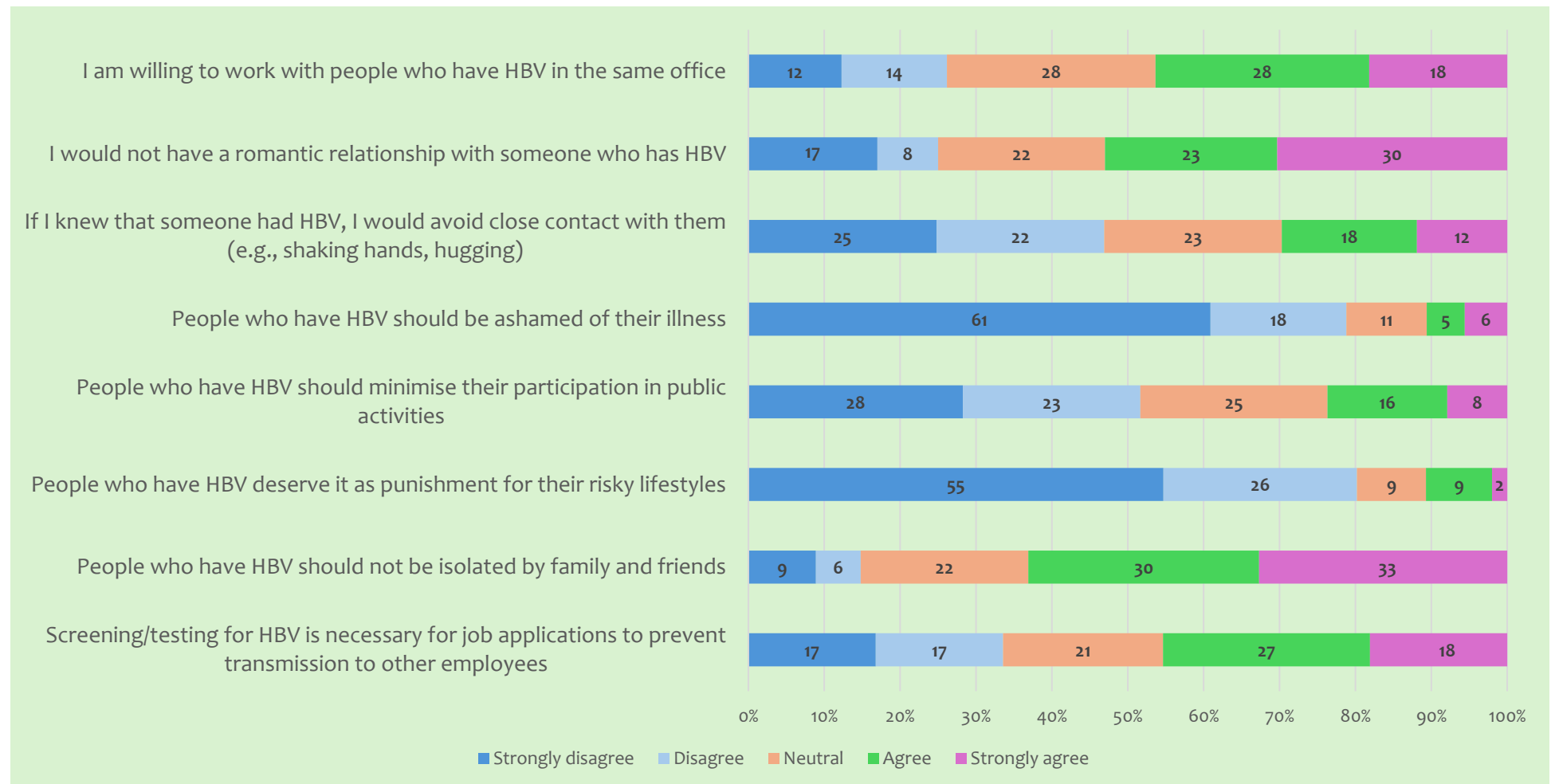
For those who did not or were not sure if they have hepatitis B, a total of 289 participants responded to this statement: “If you had hepatitis B, do you think you would experience stigma or discrimination (e.g., avoidance, pity, blame, shame, rejection, verbal abuse, bullying) in relation to your hepatitis B?” More than three-quarters of the sample (77.0%) believed that they would experience stigma and discrimination if they were living with hepatitis B, and only 23.2% reported that they believed they would never experience stigma or discrimination (see Figure 4).

Figure 4: Perceived hepatitis B-related stigma and discrimination



Participants were also asked eight items measuring attitudes towards people living with hepatitis B. A substantial proportion of respondents ($n=191$, 63.1%) agreed or strongly agreed that individuals diagnosed with hepatitis B should **not** be isolated by their family and friends. However, 90 participants (29.7%) indicated that they would avoid close physical contact, such as shaking hands or hugging someone known to have hepatitis B. Nearly half of the sample ($n=138$, 45.4%) agreed or strongly agreed that screening or testing for hepatitis B should be a mandatory requirement for job applications to prevent potential transmission to other employees. Furthermore, 159 participants (53.0%) reported that they would not have a romantic relationship with someone who has hepatitis B (see Figure 5).

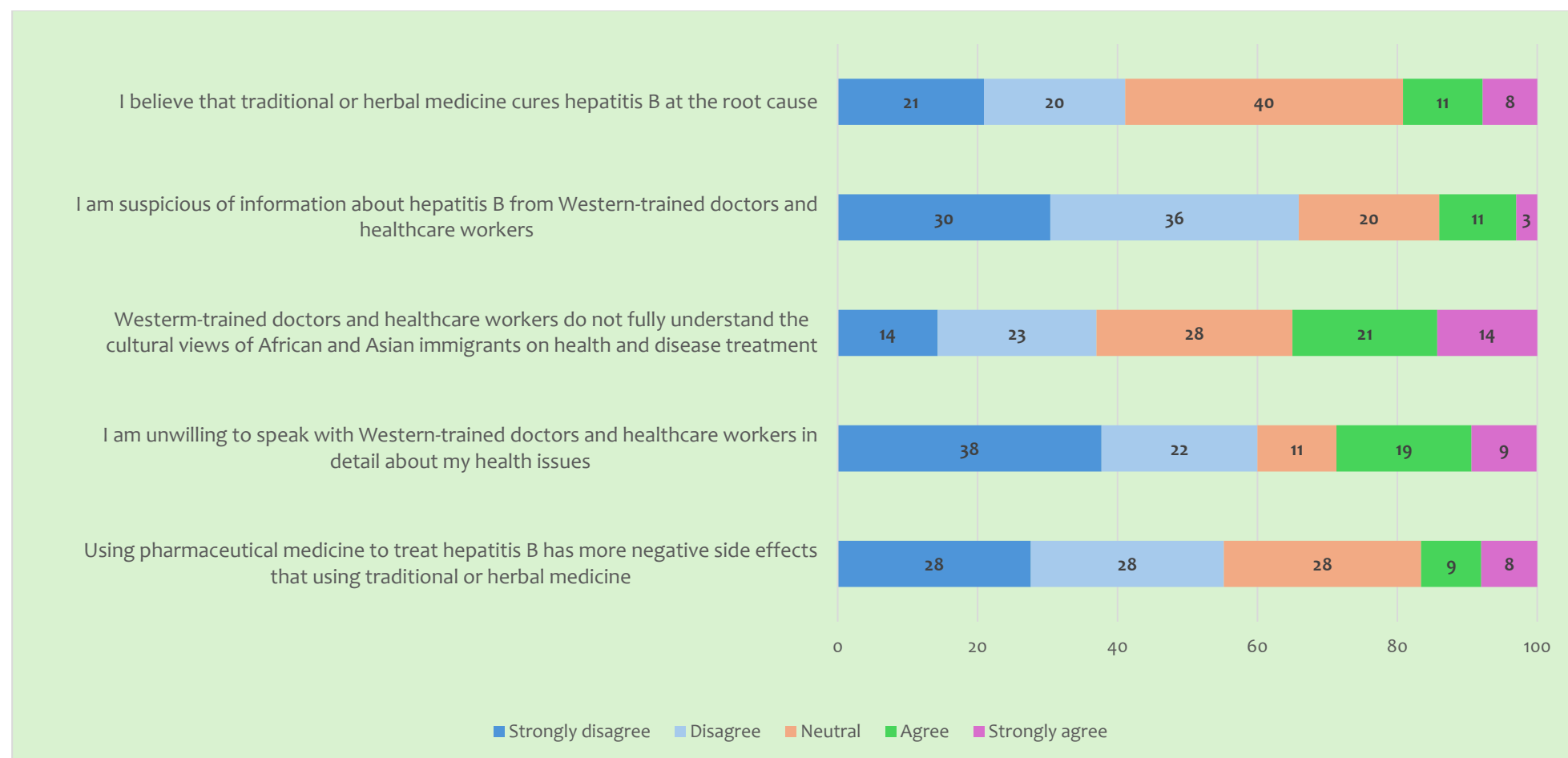
Figure 5: Attitudes towards Hepatitis B (N=305)



3.10 Trust in Western healthcare

A total of 305 participants responded to a series of statements assessing their trust in Western health care. Generally, participants reported moderate levels of trust in Western health care. A total of 42 participants (14.0%) indicated some level of suspicion toward information about hepatitis B provided by Western-trained doctors and/or healthcare workers. Additionally, 50 participants (16.6%) agreed or strongly agreed that pharmaceutical medicine to treat hepatitis B produces more negative side effects compared to traditional or herbal medicine. Furthermore, 54 participants (19.2%) agreed or strongly agreed that traditional or herbal medicine cures hepatitis B at the root cause. Notably, 86 participants (28.6%) reported being unwilling to discuss their health issues with Western-trained doctors and healthcare workers (see Figure 6).

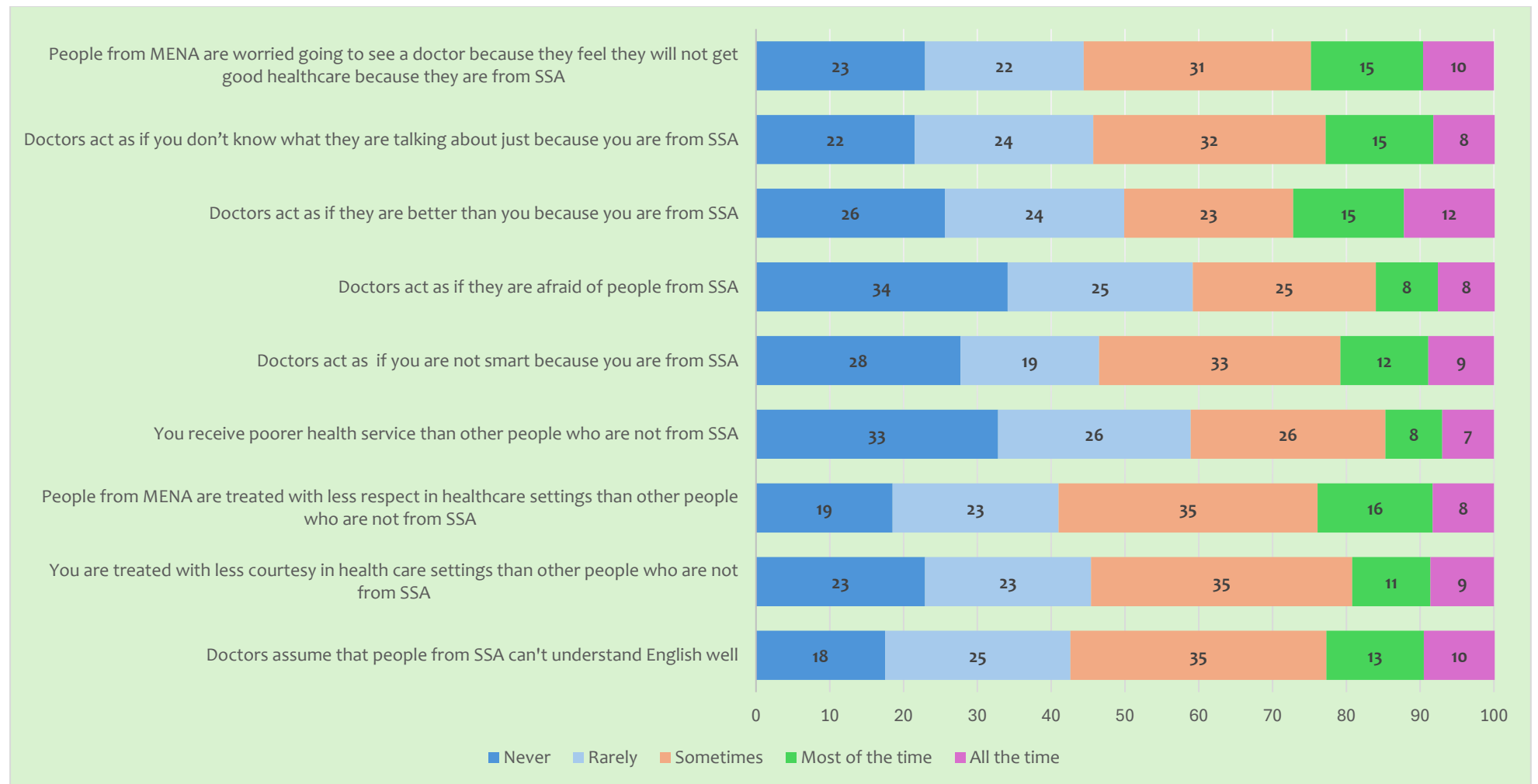
Figure 6: Trust in Western healthcare (n=305)



3.11 Racial Discrimination in the Healthcare Setting

A total of 305 participants responded to statements about perceived and experienced racial discrimination in healthcare settings. A total of 69 participants (22.8%) reported that doctors or healthcare workers assume they cannot understand English well ‘all the time’ or ‘most of the time’. Additionally, 43 participants (14.7%) reported receiving poorer health services ‘all the time’ or ‘most of the time’ compared to others who are not from SSA. Furthermore, 48 participants (16.1%) said that doctors or healthcare workers act as if they are afraid of people from SSA ‘all the time’ or ‘most of the time.’ Notably, 75 participants (24.8%) consistently reported that people from SSA worry about visiting a doctor ‘all the time’ or ‘most of the time’ as they fear they will not receive good healthcare because of their SSA background (see Figure 7).

Figure 7: Racial discrimination in healthcare setting (n=305)



3.12 Summary of findings: sub-Saharan Africa (SSA) community

- Participants had an average age of 34.8 years, and the majority identified as heterosexual (n=281, 93.1%) and residing in New South Wales (n=200, 66.2%). The sample was well-educated, with 42.8% holding postgraduate degrees (n=130), and more than half (n=255, 60.6%) speaking English as their main language at home.
- Despite a high level of awareness of hepatitis B among the sample, substantial misconceptions about transmission and prevention were evident. More than half of participants (n=162, 55.1%) believed that hepatitis B is curable, can be prevented by avoiding casual social contact (e.g., shaking hands, hugging, or kissing), and can be transmitted through sharing food, drinks, or utensils (n=160, 54.8%).
- The internet (n=167, 54.8%) was the most frequently cited source of hepatitis B-related information, and English (n=282, 92.5%) was the preferred language for receiving such information.
- Testing uptake for hepatitis B was low, with half of the participants (n=148, 50.5%) reporting ever having been tested. Among those who had been tested, testing most commonly occurred during routine health checks (n=77, 52.0%) or for travel and immigration purposes (n=56, 37.8%). Of participants who had never been tested, the most frequently cited reason was perceived low personal risk, particularly related to sexual inactivity or having sex exclusively within a committed relationship (n=40, 37.7%).
- Vaccination coverage was also suboptimal, with fewer than half of participants (n=144, 49.3%) reporting being vaccinated against hepatitis B. Among those vaccinated, 69.2% (n=110) reported completing the full vaccination course, and more than half (n=57, 51.8%) received their vaccination in sub-Saharan Africa.
- Only 1.7% (n=5) of participants reported living with hepatitis B, and none of these participants was currently attending check-ups for their hepatitis B, though they intended to in future. Among these individuals, 3 participants had disclosed their

status to a doctor or specialist. Concerns about disclosure were primarily related to fears of being a burden to family members or employers.

- Attitudes towards people living with hepatitis B were mixed. While more than 60% of participants (n=208) reported that they would not engage in negative behaviours towards others based on hepatitis B status, and almost 80% disagreeing that people with HBV should be ashamed of their status, stigmatising beliefs remained prevalent. Notably, nearly half believed that people living with hepatitis B deserve it as punishment for risky lifestyles, and over 60% believed that individuals diagnosed with hepatitis B should be isolated by family and friends.
- Generally, participants expressed moderate levels of trust in Western healthcare. However, 14.0% (n=42) reported suspicion of information provided by Western-trained healthcare professionals, and 19.2% (n=54) agreed or strongly agreed that traditional or herbal medicine can cure hepatitis B at its root cause.
- Many participants perceived and had experienced racial discrimination when accessing health care. A total of 201 participants (67.2%) reported receiving poorer health services than other people who are not from SSA. Furthermore, 77.1% (n=233) reported that people from SSA are worried about going to see a doctor, as they feel they will not receive good healthcare because of their SSA background.
- The findings highlight critical gaps in hepatitis B awareness, accurate knowledge, and racial discrimination in healthcare settings, underscoring the need for culturally responsive and evidence-based public health interventions within sub-Saharan African communities.
- Implications point to the importance of targeted health education that directly addresses misconceptions about hepatitis B transmission, prevention, and treatment. Educational interventions should emphasise biomedical transmission pathways, the role of vaccination, and the chronic (but manageable) nature of hepatitis B. Given the reliance on the internet for health information, digital health campaigns in plain English that incorporate culturally relevant messaging may be particularly effective.

4. Results for the Middle East and North African community

4.1 Demographic characteristics

The Middle East and North African sample included 348 adults, with a mean age of 47.5 years (SD = 15.3). There were 105 (31.4%) males and 228 (68.3%) females. Of the total sample, 69.3% (n=223) identified as heterosexual and a quarter (24.5%) preferred not to answer.

Regarding education, 21.7% (n=73) had an undergraduate degree, followed by 20.5% (n=69) with a diploma degree, and 20.2% (n=68) completed senior high school. The majority of the participants, 61.5% (n=211), stated they speak English “very well” or “well.”

The sample was diverse in terms of immigration status, with over half being Australian citizens (n=196, 58.9%), followed by permanent residents (n=89, 26.7%), and refugee and humanitarian visa holders (n=20, 6.0%). Regarding employment status, 44.7% of respondents (n=163) reported receiving government benefits, while 21.1% (n=77) reported working full-time and 14.5% (n=53) reported working on a casual or part-time basis. Additionally, 10.1% were full-time students (n=35). The majority of the participants (n=220, 49.4%) reported speaking Arabic at home. See Table 8 for more socio-demographic information.

Table 8: Socio-demographic characteristics of the sample (N=348)

Demographic	Frequency (n=348)	Percentage (%)
Age (Mean (SD) Range)	47.5 (15.3) 18-84	
Current gender identity		
Man/male	105	31.4
Woman/female	228	68.3
Prefer not to answer	1	0.3
Sexuality		
Heterosexual/straight	223	69.3
Lesbian/gay or homosexual	8	2.5
Bisexual or pansexual	7	2.2
Different term (specify)	5	1.6
Prefer not to answer	79	24.5

Educational level		
No formal education	11	3.3
Year 1-6 (primary school)	30	8.9
Year 7-10 (junior secondary)	46	13.7
Year 11-12 (senior secondary)	68	20.2
Diploma	69	20.5
Undergraduate degree	73	21.7
Postgraduate (Master's/PhD)	39	11.6
English Proficiency		
Very well	79	23.0
Well	132	38.5
Not well	82	23.9
Not well at all	31	9.0
Can't say	7	2.0
Prefer not to answer	12	3.5
Immigration Status		
Australian citizen	196	58.9
Permanent resident	89	26.7
Temporary working	12	3.6
Student visa	13	3.9
Family or partner visa	2	0.6
Refugee & humanitarian	20	6.0
Prefer not to answer	1	0.3
Employment Status*		
Full-time	77	21.1
Part-time/casual	53	14.5
Government benefits	163	44.7
Financially dependent on others	4	1.1
A student	35	9.6
Other	33	9.0
Language spoken at home*		
English	96	21.6
Swahili	14	3.2
Arabic	220	49.4
French	7	1.6
Somali	1	0.2
Other	107	24.0
Duration of residence in Australia		
Less than 2 years	27	7.8
2-5 years	82	23.8
6-10 years	106	30.7

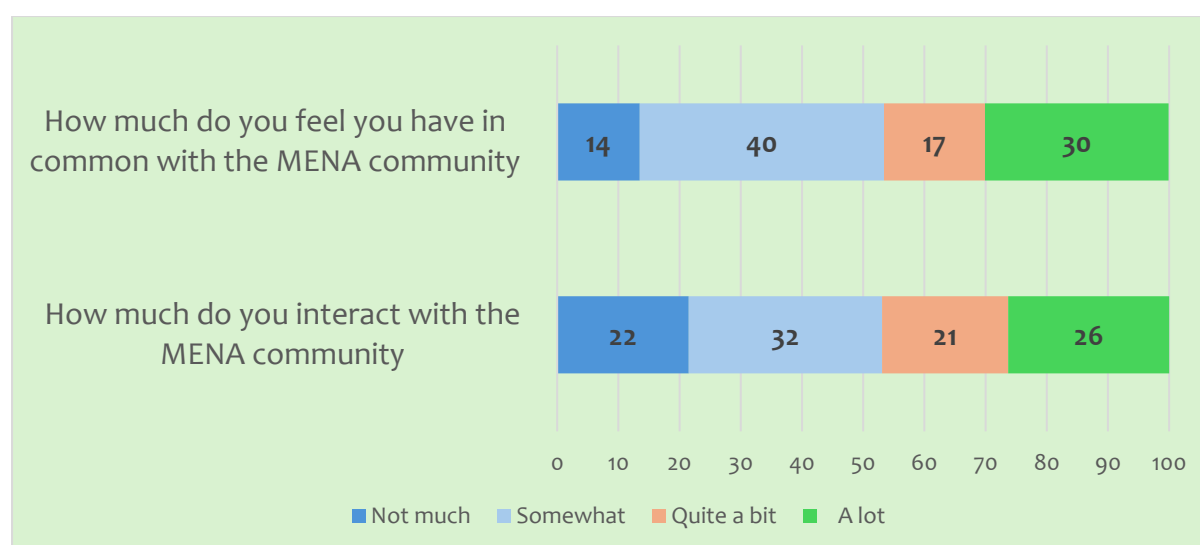
More than 10 years	123	35.7
I was born in Australia	7	2.0
Where do you live? (State of residence)		
Australian Capital Territory	5	1.5
New South Wales	270	78.7
Queensland	4	1.2
South Australia	2	0.6
Tasmania	16	4.7
Victoria	28	8.2
Western Australia	18	5.3
Where do you live? (Place of residence)		
Rural Area	21	6.4
City	279	84.8
Regional Town	29	8.8

*Items were not mutually exclusive

4.2 Community connection

This section presents findings on participants' connection to the MENA community, focusing on two core indicators: (1) shared identity (measured by how much they feel they have in common) with others in the MENA community and (2) interaction with the MENA community. Almost half of the participants (n=155, 46.5%) reported having “a lot” and “quite a bit” shared identity with the MENA community. A comparable proportion, 46.5% of the participants (n=157), reported having “a lot” and “quite a bit” of interaction with the MENA community. See Figure 8 for more details on community connection.

Figure 8: Connection with the MENA community (n=348)



4.3 Awareness about hepatitis B and information about hepatitis B

The results showed that 306 participants (88.4%) reported having heard of hepatitis B, while 11.6% had not heard of hepatitis B. Further examination of information sources revealed that the most frequently reported sources were the internet (n=155, 20.6%), followed by social media (n=137, 18.2%), friends (n=124, 16.5%), and general practitioners (GPs)/doctors (n=114, 15.1%). Most participants (n=256, 61.4%) preferred to receive hepatitis B information in Arabic, followed by English (n=133, 31.9%) (see Table 9).

Table 9: Awareness about hepatitis B, sources of information, and preferred languages

Item(s)	Frequency (n=348)	Percentage (%)
Heard about hepatitis B		
Yes	306	88.4
No	40	11.6
Sources of hepatitis B information*		
Family	82	23.6
Friends	124	35.6
General Practitioners (GPs)/Doctors	114	32.8
Pharmacists	13	3.7
Traditional/herbal practitioner	13	3.7
Hepatitis information line	20	5.7
Internet	155	44.5
Social media	137	39.4

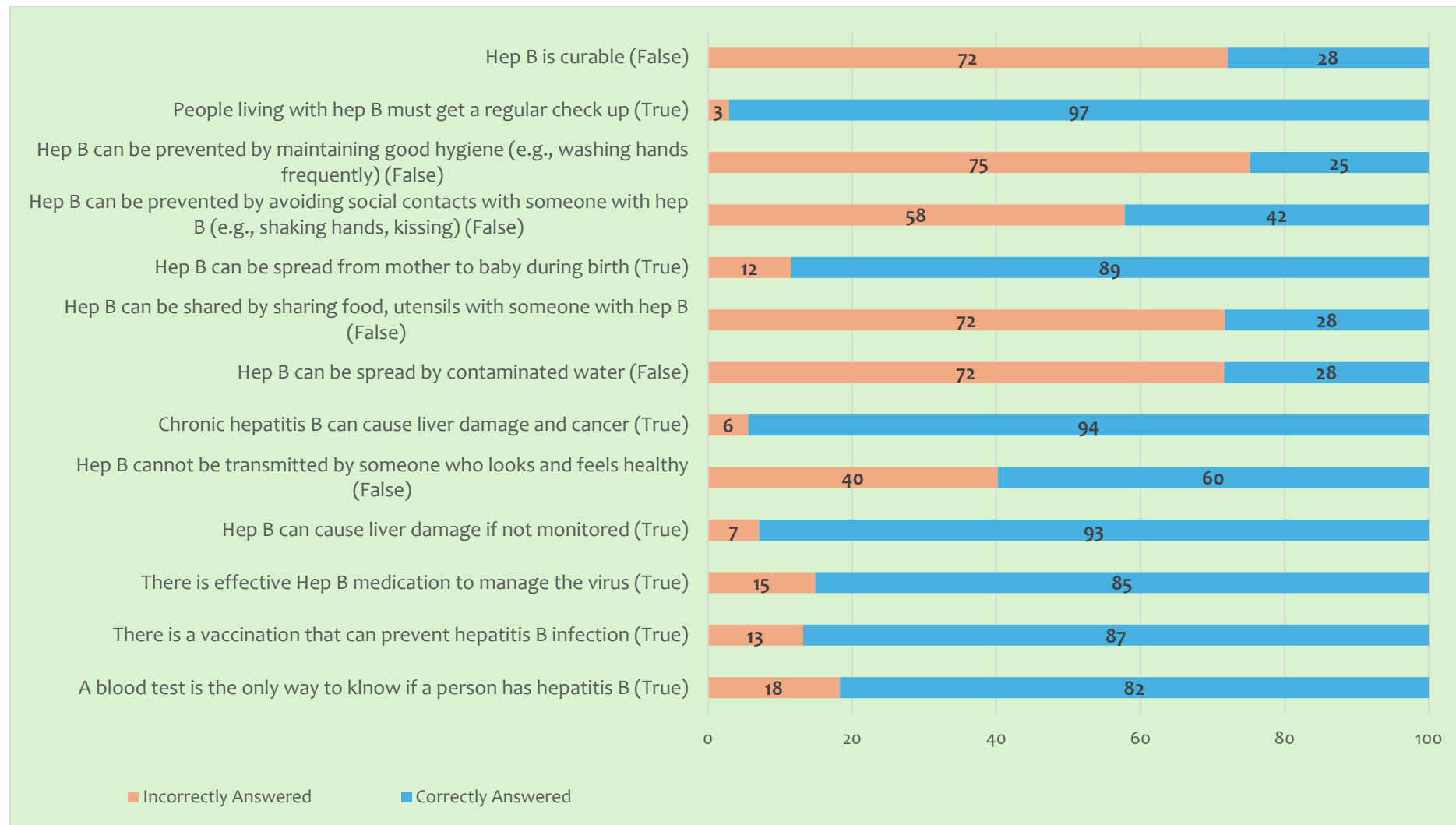
Community organisations	55	15.8
Other	14	4.0
Never received information	26	7.5
Preferred language for hepatitis B information*		
English	133	38.2
Swahili	7	2.0
Arabic	256	73.6
French	4	1.1
Other	16	4.6
Not sure	1	0.3

*Items were not mutually exclusive

4.4 Knowledge and understanding of hepatitis B

Participants were presented with 13 statements to assess their understanding and knowledge of hepatitis B. The majority of the sample (n=289, 86.8%) knew that a vaccination can protect people from getting hepatitis B, and 272 participants (81.7%) correctly answered that hepatitis B can only be identified by a blood test. However, 72.1% (n=243) held the belief that hepatitis B is curable and 71.7% of the participants (n=241) held the belief that hepatitis B can be transmitted by sharing food, drinks, and utensils with someone who has hepatitis B. See Figure 9 for more details.

Figure 9: Statements about knowledge and understanding of hepatitis B (n=348)



4.5 Testing for hepatitis B

Approximately, 29.8% (n=101) of the sample reported having been tested for hepatitis B at some point. Among the 101 participants who had been tested, the most common reasons cited were travel or immigration purposes (n=46, 45.5%), doctors advised them to be tested (n=32, 31.7%), and as part of a routine health check (n=28, 13.8%). Of the 146 participants (43.1%) who reported never having been tested for hepatitis B, the main reason given was "I don't know much about hepatitis B testing" (n=67, 45.9%). See Table 10 for more information on hepatitis B testing.

Table 10: Testing for hepatitis B

Item(s)	Frequency (n=348)	Percentage (%)
Do you recall having ever tested for hepatitis B		
Yes	101	29.8
No	146	43.1
Not sure	92	27.1
Reasons for testing hepatitis B*		
My doctor told me I should	32	31.7
Part of a regular health check	28	27.7
My work/school/university required that I have the test	23	22.8
A family member or friend told me to get tested	2	2.0
I know someone who has hepatitis B	11	10.9
I learnt about hepatitis B	8	7.9
For travel or immigration purposes	46	45.5
Part of pregnancy screening	14	13.9
Blood donation	13	12.9
Part of sexually transmissible infections test	8	7.9
I was worried I was exposed to hepatitis B	9	8.9
I had some hepatitis B symptoms	1	1.0
I was tested without my knowledge/consent	1	1.0
Other reason	5	5.0
Prefer not to answer	2	2.0
Reasons for not having been tested for hepatitis B*		
Doctor says I don't need to be tested	37	25.3
I don't know much about hepatitis B testing	67	45.9
I am not sexually active, or I am not having	46	31.5

sex with people who are not my wife/husband/girlfriend/boyfriend/partner		
I do not share sharp objects with others	43	29.5
I am not injecting drugs	56	38.4
My religious beliefs do not support me testing for a disease like hepatitis B	9	6.2
My cultural beliefs do not encourage me to test for hepatitis B	4	2.7
I don't trust the test	8	5.5
I am afraid of having a test	14	9.6
I think the test is too expensive	17	11.6
The test takes too long	7	4.8
Other	14	9.6
Prefer not to answer	12	8.2

*Items were not mutually exclusive

4.6 Hepatitis B vaccination

Approximately one-third of participants (n=111, 33.3%) reported being vaccinated against hepatitis B; however, a similar proportion (n=113, 33.9%) reported never having been vaccinated. Among the 111 respondents who reported initiating vaccination, 76.6% said they completed the full course. Among respondents who completed the full course of vaccination, more than half (n=52, 52.0%) received their vaccinations in the Middle East and North Africa. Among those who reported not completing the full course of vaccination, their main reasons were being unsure about completing the full course (25.0%) and unaware of how many doses they should receive to complete the vaccination (16.7%). See Table 11 for more information on vaccinations.

Table 11: Hepatitis B vaccination

Item (s)	Frequency (n=348)	Percentage (%)
Have you ever had hepatitis B vaccination?		
Yes	111	33.3
No	113	33.9
Not sure	109	32.7
Did you complete the full course of vaccination?		
Yes	85	76.6
No	12	10.8

Not sure	20	18.0
Prefer not to answer	1	0.9
Where did you receive your hepatitis B vaccines?*		
Australia	39	39.0
SSA	1	1.0
Middle East	50	50.0
North Africa	2	2.0
Other	8	8.0
Reasons for not completing the full course of vaccination		
I was unaware of how many doses I should receive	2	16.7
I forgot to have one or more of the doses	1	8.3
I didn't have time for it	1	8.3
It was too expensive	1	8.3
Not sure	3	25.0
Prefer not to answer	4	33.3
My parents did not know how many doses are required or how many I have had	1	8.3

*Items were not mutually exclusive

4.7 Health-seeking behaviours for Hepatitis B

A small proportion of participants (n=48, 14.1%) reported knowing someone with hepatitis B. Only 0.9% of the total sample (n=3) reported living with hepatitis B. The majority of the participants (n=297, 90.0%) stated they do not have the infection, while 8.8% (n=29) were unsure. See Table 12 for more details.

Table 12: Health-seeking behaviours

Item(s)	Frequency (n=348)	Percentage (%)
Knowing someone with hepatitis B		
Yes	48	14.1
No	248	72.9
Not sure	38	11.2
Prefer not to answer	6	1.8
Do you have hepatitis B		
Yes	3	0.9
No	297	90.0
Not sure	29	8.8
Prefer not to answer	1	0.3

4.8 Disclosure of hepatitis B

Among the sample who reported not having hepatitis B, they were asked a hypothetical question about the disclosure of their hepatitis B status. They were asked to imagine that there was an immigrant from MENA who had hepatitis B and was living in Australia. Participants were asked what this person would likely be worried about when deciding whether to disclose their status or not. The primary concern participants believed that a person would face being isolated by friends (n=163, 19.1%), followed by being rejected by their community (n=95, 11.1%) and by their wife/husband/intimate partner (n=92, 10.8%) (see Table 13).

Table 13: Concerns around disclosure for those not living with hepatitis B

Imagine that there was an immigrant from your community with hepatitis B living in Australia. When this person decided to tell someone or keep it to him/herself, what would he/she be worried about*		
Being isolated by friends	163	19.1
Being blamed for getting hepatitis B	79	9.2
Being a burden to the family	86	10.1
Being rejected by my wife/husband/intimate partner	92	10.8
Being rejected by my community	95	11.1
Being rejected by my religious group	52	6.1
Losing a job or a study	78	9.1
Having your visa rejected	62	7.3
Other	14	1.6
Prefer not to answer	75	8.8
I am not worried about telling anyone	59	6.9

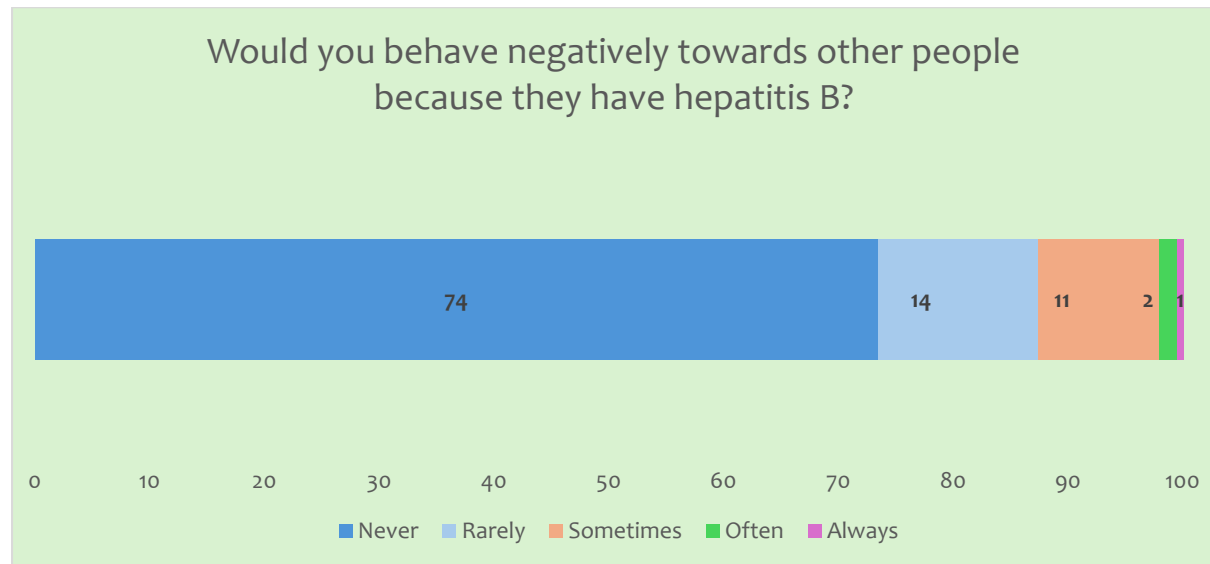
*Items were not mutually exclusive

4.9 Attitudes towards hepatitis B

Participants were asked a single-item measure that addressed whether they would behave negatively towards people living with hepatitis B. A total of 249 participants (73.5%) reported that they would never exhibit negative behaviour towards others on the basis of their hepatitis B status. Conversely, just over one-quarter of participants (n=90, 26.6%)

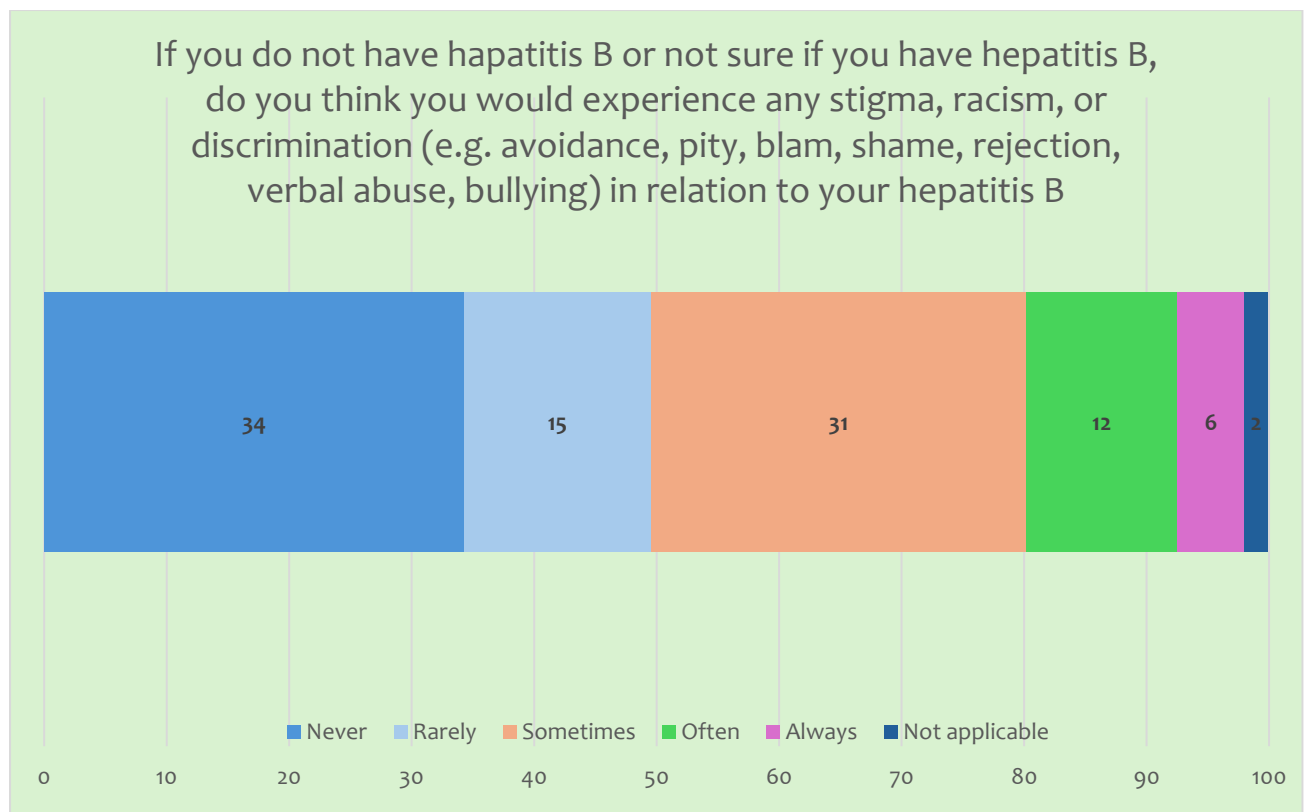
reported that they would behave negatively towards other people because they have hepatitis B (see Figure 10).

Figure 10: Behaving negatively towards people with hepatitis B



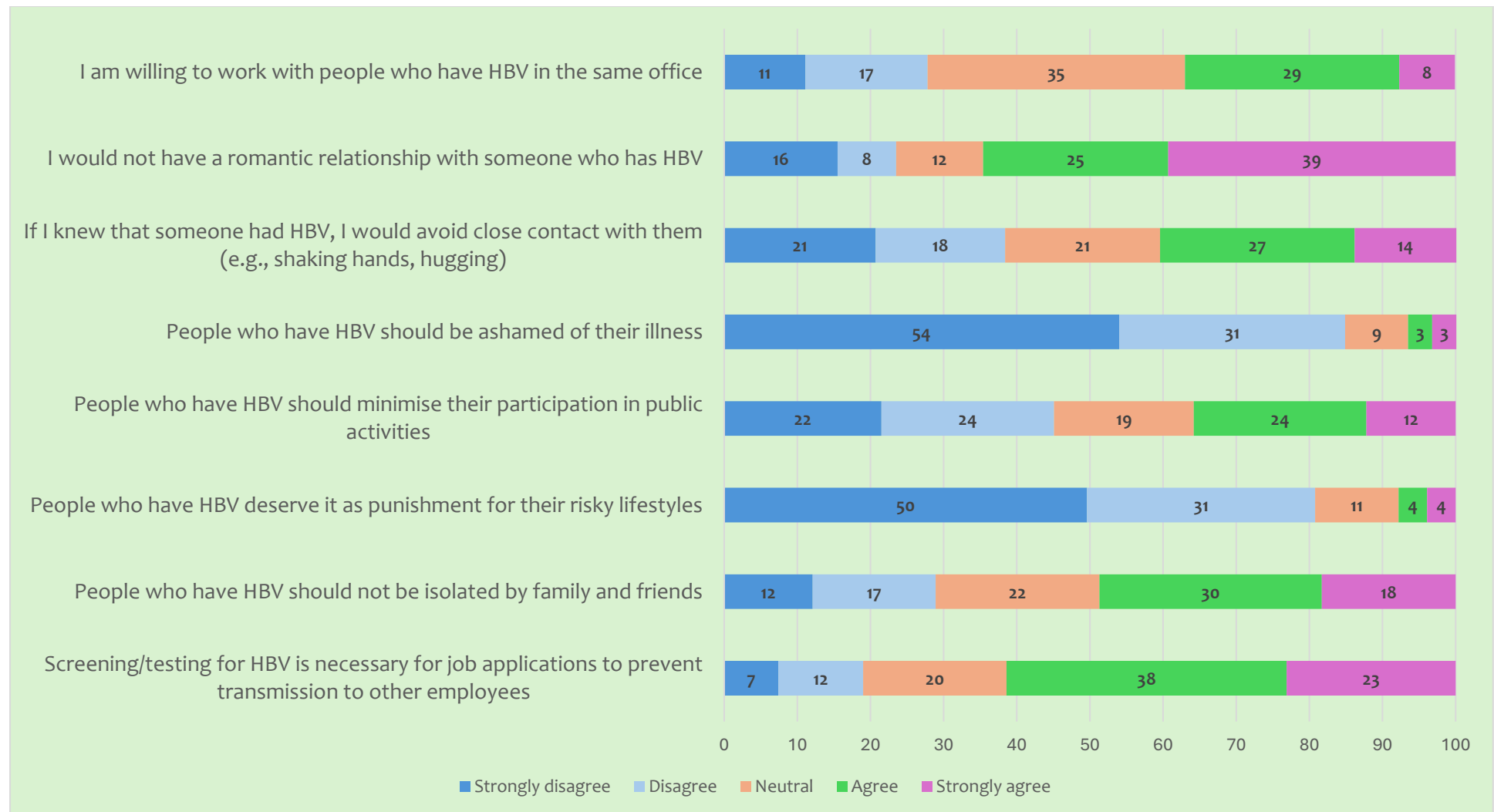
For those who did not have or were not sure if they had hepatitis B, a total of 309 participants responded to this statement: “If you had hepatitis B, do you think you would experience stigma or discrimination (e.g., avoidance, pity, blame, shame, rejection, verbal abuse, bullying) in relation to your hepatitis B?” A total of 106 participants (34.3%) reported believing that they would never experience stigma or discrimination. However, 63.8% of participants (n=197) reported believing they would experience stigma or discrimination (see Figure 11).

Figure 11: Perceived hepatitis B-related stigma and discrimination



Participants were also asked eight items measuring attitudes towards people living with hepatitis B. A substantial proportion of respondents (n=165, 48.7%) believed that individuals diagnosed with hepatitis B should not be isolated by their family and friends. Additionally, 137 participants (40.5%) indicated that they would avoid close physical contact, such as shaking hands or hugging someone known to have hepatitis B. 207 participants (61.5%) agreed or strongly agreed that screening or testing for hepatitis B should be a mandatory requirement for job applications to prevent potential transmission to other employees. Furthermore, 217 participants (64.6%) reported that they would not have a romantic relationship with someone who has hepatitis B (see Figure 12).

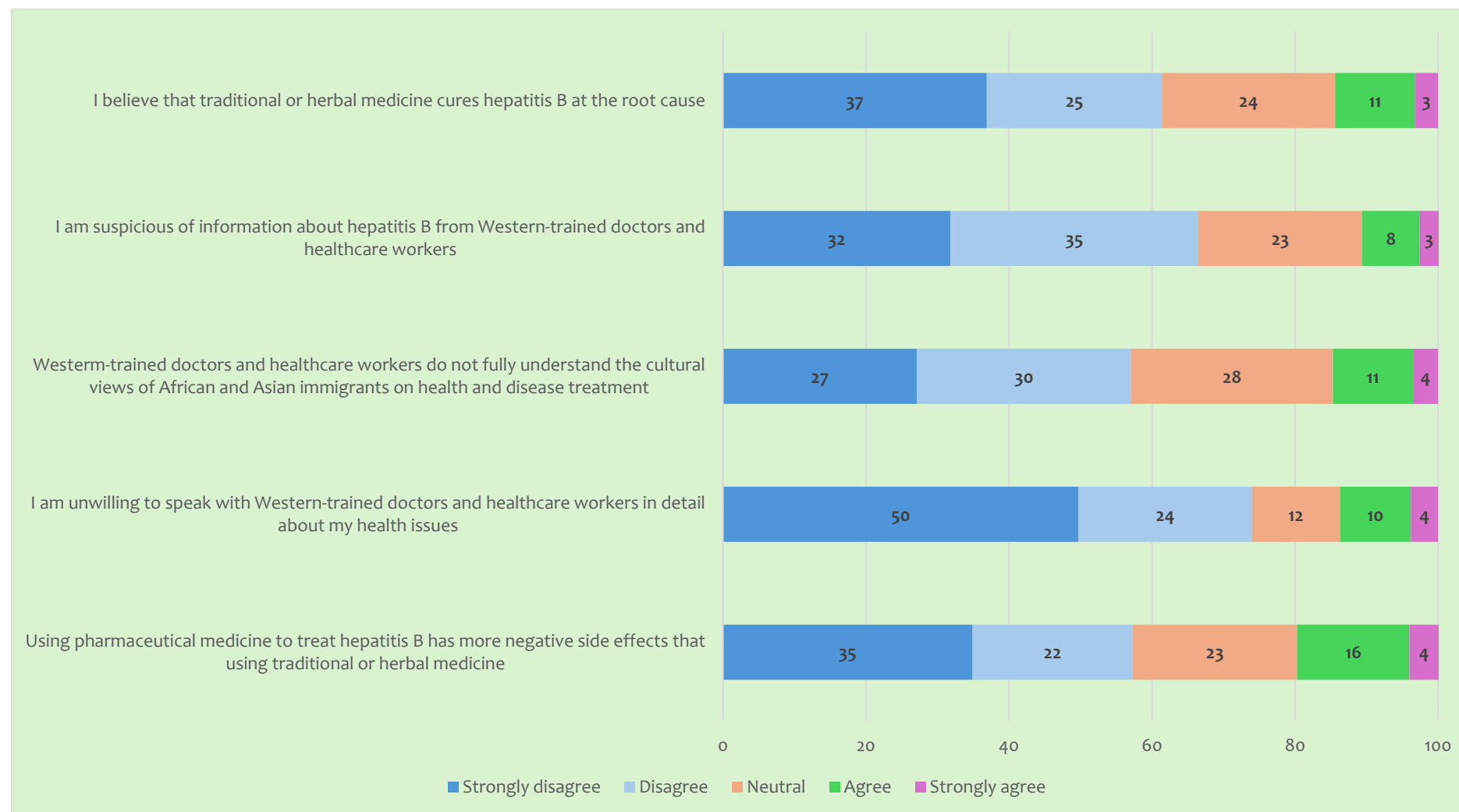
Figure 12: Attitudes towards hepatitis B (n=348)



4.10 Trust in Western healthcare

A total of 348 participants responded to a series of statements assessing their trust in Western healthcare. Generally, participants reported moderate levels of trust in Western health care. A total of 36 participants (10.7%) indicated suspicion toward information about hepatitis B provided by Western-trained doctors and/or healthcare workers. Additionally, 68 participants (19.8%) agreed or strongly agreed that pharmaceutical medicine to treat hepatitis B produces more negative side effects compared to traditional or herbal medicine. Furthermore, 49 participants (14.4%) agreed or strongly agreed that traditional or herbal medicine cures hepatitis B at the root cause. Notably, 47 participants (13.7%) reported being unwilling to discuss their health issues with Western-trained doctors and healthcare workers (see Figure 13).

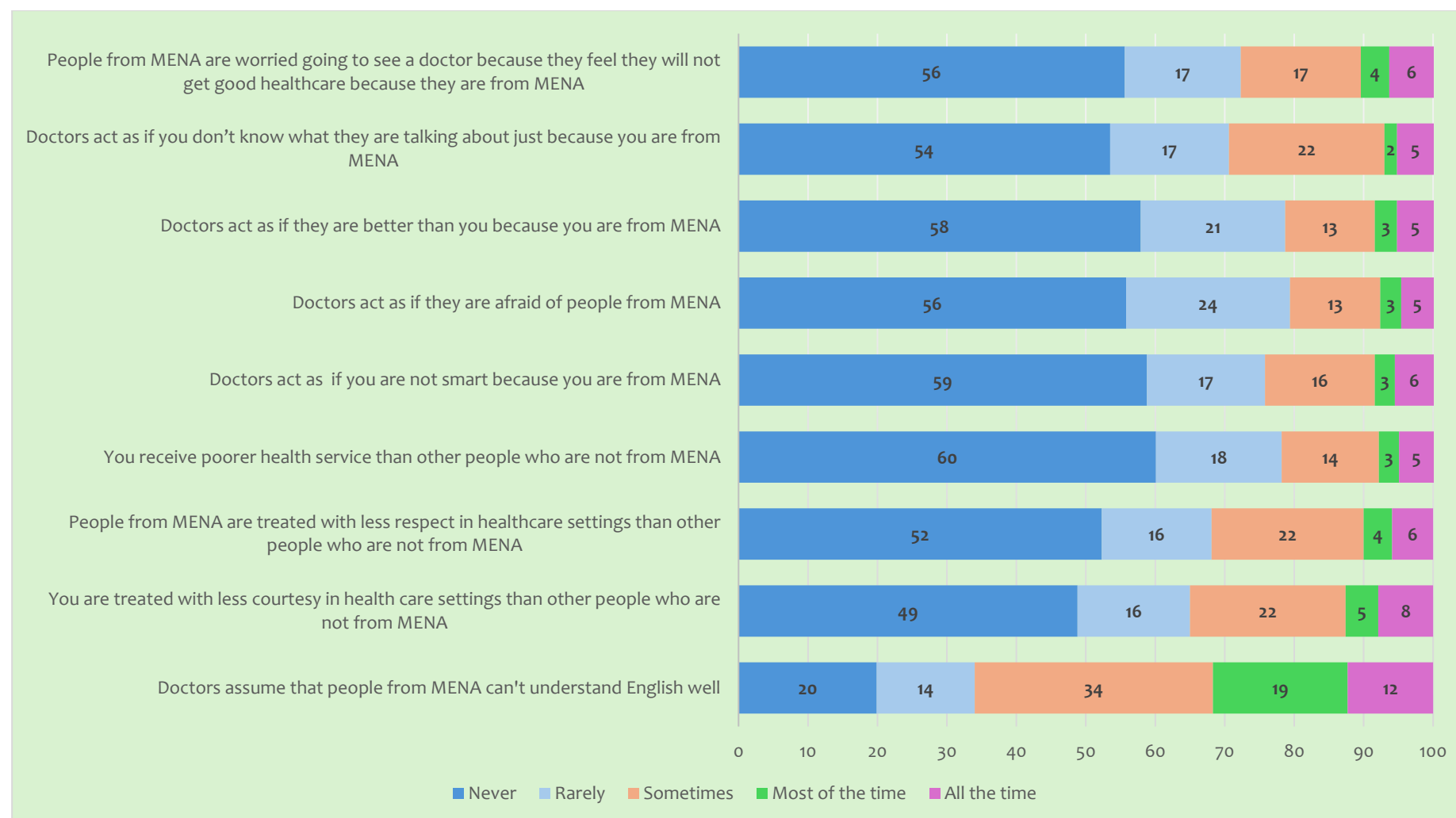
Figure 13: Trust in Western healthcare (n=348)



4.11 Racial Discrimination in the Healthcare Setting

A total of 348 participants responded to statements about perceived and experienced racial discrimination in healthcare settings. A total of 273 participants (80.1%) reported that doctors or healthcare workers assume they cannot understand English well. Additionally, 174 participants (51.2%) reported that they are treated with less courtesy in health care settings than other people who are not from MENA. Furthermore, 163 participants (47.7%) said that people from MENA are treated with less respect in health care settings than other people who are not from MENA background (see Figure 14).

Figure 14: Racial discrimination in the healthcare setting (n=348)



4.12 Summary of findings: Middle East and Northern Africa (MENA) community.

- Participants had an average age of 47.5 years, with most identifying as heterosexual (n=223, 69.3%) and residing in New South Wales (n=270, 78.7%). Approximately one-fifth of the sample (n=73, 21.7%) held an undergraduate degree, and most of them (n=220, 49.4%) reported speaking Arabic at home.
- Despite a high level of awareness of hepatitis B among the sample, substantial misconceptions were evident. Over 70% of participants believed that hepatitis B is curable, can be prevented through good hygiene practices (e.g. frequent handwashing), and can be transmitted through sharing food, drinks, or utensils.
- The internet (n=155, 44.5%) was the most commonly cited source of hepatitis B information, and Arabic (n=256, 73.6%) was identified as the preferred language for receiving health-related information.
- Less than one-third of participants (n=101, 29.8%) reported ever having been tested for hepatitis B. Among those who had undergone testing, the most frequently cited reasons were travel or immigration purposes (n=46, 45.5%) and recommendations from a doctor (n=32, 31.7%). Of the 146 participants (43.1%) who reported never having been tested, the most common reason given was limited knowledge about hepatitis B testing (n=67, 45.9%).
- Vaccination uptake was low, with only 33.3% of participants (n=111) reporting having been vaccinated against hepatitis B. Among those vaccinated, 76.6% (n=85) completed the full vaccination course, and more than half (n=52, 52.0%) received their vaccinations in the Middle East and North Africa region.
- A very small proportion of participants (n=3, 0.9%) reported living with hepatitis B, and 29 participants (8.8%) were unsure of their status.
- More than 80% of the overall sample (n=249) reported that they would not exhibit negative behaviour towards people living with hepatitis B, and more than 80% disagreed that people with HBV should be ashamed of their illness. However, over half of the participants (n=207, 61.5%) agreed or strongly agreed that hepatitis B screening should be mandatory for job applications to prevent transmission to other employees, and 64.6%

(n=217) said that they would not have a romantic relationship with a person living with hepatitis B.

- Generally, participants expressed moderate levels of trust in Western health care. However, 10.7% of participants (n=36) reported suspicion toward information about hepatitis B provided by Western-trained doctors or healthcare workers, while 14.4% (n=49) agreed or strongly agreed that traditional or herbal medicine could cure hepatitis B at its root cause.
- Many participants perceived and had experienced racial discrimination when accessing health care. A total of 273 participants (80.1%) reported that doctors or healthcare workers assume they cannot understand English well. Additionally, 174 participants (51.2%) reported that they are treated with less courtesy in health care settings than other people who are not from MENA communities.
- The coexistence of high awareness, substantial misinformation, and racial discrimination in healthcare settings highlights the need for culturally appropriate hepatitis B education that goes beyond basic awareness. Public health campaigns should prioritise Arabic-language resources, address specific misconceptions about transmission and prevention, and be disseminated through trusted platforms, including online and community-based channels.
- Low testing rates, particularly among those with limited knowledge about testing, suggest a need for proactive, community-based screening initiatives. Policies should support routine hepatitis B testing in primary care and community health settings, accompanied by clear explanations of the purpose and benefits of testing that are not solely tied to immigration or travel requirements.

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