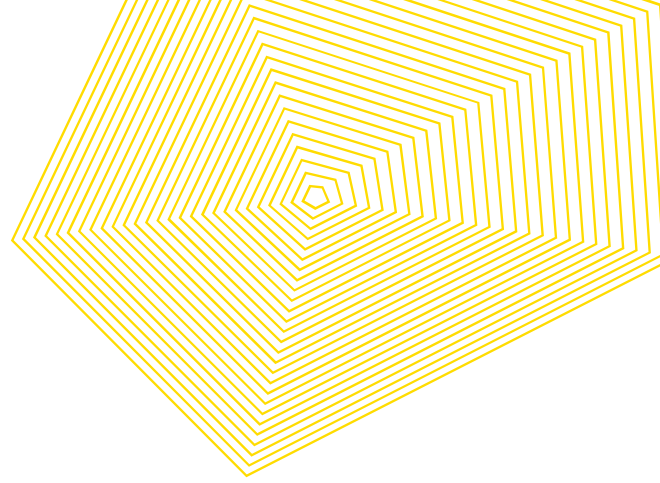




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Informing hepatitis B prevention, testing and treatment programs in Chinese and Vietnamese communities in Australia through the student body.

Prepared for: Australian Government Department of Health

September 2022

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Acknowledgements

This project was funded by the Australian Government Department of Health.

Thanks to the Advisory Group comprised of the Hepatitis and Multicultural Organisations and researchers from most of the states and territory across Australia – Steven Drew (Hepatitis NSW), Russell Shewan (LiverWELL), Amanda Siebert (Hepatitis WA), Lana Richardson (Hepatitis QLD), Jenny Grant (Hepatitis SA), Rebekah Lamb (NTHAC), John Didlick (Hepatitis Australia) Gai Stackpool (MHAHS), Wa'el Sabri (MHAHS), Natali Smud (MHAHS), Piergorgio Moro (MHSS), Zhihong Gu (ECCQ), Nicole Allard, Jack Wallace, Thomas Tu.

Thank you to all the participants involved in this study, but most especially to our researchers of Vietnamese and Chinese background without whom the research could not have been completed.

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The Centre for Social Research in Health is based in the Faculty of Arts, Design and Architecture at UNSW Sydney. This report is an output of the Stigma Indicators Monitoring research project, funded by the Australian Government Department of Health

Suggested citation:

Brener, L., Bryant, J., Horwitz, R., Rance, J., Broady, T., Vu, H., Jin, D., Wu, K.O.E., Yuan, J., Mao, L., Cama, E., & Treloar, C. (2022). *Informing hepatitis B prevention, testing and treatment programs in Chinese and Vietnamese communities in Australia through the student body.*

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A: Quantitative data report

1. Project background

The main aim of this project was to explore the knowledge, attitudes and understanding of hepatitis B among students of Chinese and Vietnamese background. This research focuses on two migrant communities where 1) hepatitis B prevalence is high, and 2) international student numbers in Australia are substantial. Findings of this study will assist in highlighting and understanding factors that could connect hepatitis B prevention, testing, and treatment programs with priority communities in Australia via the international student body.

2. Method

Data was collected using online surveys administered through Qualtrics. The survey questions were adapted from surveys used in the Stigma Indicators Monitoring Project. The surveys assessed knowledge of hepatitis B and health-seeking behaviours around hepatitis B among students of Chinese and Vietnamese background. Online surveys in Chinese, Vietnamese, and English were distributed via social media by researchers of Vietnamese and Chinese background. Attempts were made to recruit participants from each state and territory in Australia to ensure adequate state-wide representation. The surveys took approximately 15-20 minutes to complete. Each participant received an AUD \$15 gift voucher.

2.1 Survey items

Participants were asked questions about their feelings, beliefs, and knowledge around hepatitis B as well as questions on testing, vaccination status, and health seeking behaviour. Demographic data and data on connection to their community were also collected. See appendix A for a copy of the survey.

i. Testing for hepatitis B

The survey included an item that asked participants if they had ever tested for hepatitis B. The response options for this question were “yes”, “no”, or “unsure”.

ii. Attitudes towards Hepatitis B

There were three items that assessed expressing stigma or discrimination (e.g., avoidance, pity, blame, shame, rejection, verbal abuse, and bullying) in relation to hepatitis B, for example “Would you behave negatively towards other people because of their hepatitis B”. The response options for these questions were on a 5-point scale ranging from never (1) to always (5). Participants were asked nine items that dealt with attitudes towards people with hepatitis B, such as “People who have hepatitis B deserve it” and “I would not have a romantic relationship with someone who has

hepatitis B.” Again the response option for these questions were on a 5-point scale ranging from strongly disagree (1) to strongly agree (5).

2.2 Scales

iii. Connection to community scale

The survey asked respondents the extent to which they agreed or disagreed with five statements around connection to the Vietnamese/Chinese community, for example, “I mostly mix with people in the Vietnamese/Chinese community”. Participants answered these questions on a scale from strongly disagree (1) to strongly agree (5). In addition there were a further six items assessing connection with and feelings towards the Vietnamese/Chinese community, for example, “How much do you interact with the Vietnamese/Chinese community in Australia” and “How much do you feel you have in common with the Vietnamese/Chinese community outside Australia”. The response options for these questions were provided on a 4-point scale ranging from not much (1) to quite a lot (4). The connection to community scale comprised eight out of these eleven items. Three items were excluded as these items focus on connection to the local Australian community. The connection to community scale showed good internal reliability among the Vietnamese ($\alpha=.694$) and Chinese samples ($\alpha=.833$).

iv. Trust in Western healthcare scale

The survey included eight items concerning participants’ trust in Western Healthcare, for example, “I believe that using pharmaceutical medicine to treat hepatitis B has more negative side effects than using traditional Chinese/Vietnamese medicines” and “I am suspicious of information about hepatitis B from Western-trained doctors and healthcare workers”. The scale comprised six out of these eight items, with two items excluded from the scale as it was not directly related to trust in Western healthcare. Responses were given on a five-point scale from “strongly disagree” (1) to “strongly agree” (5) with higher scores indicating a greater distrust of Western healthcare. The six items which formed the trust in Western healthcare scale showed good internal reliability among the Vietnamese ($\alpha=.714$) and Chinese samples ($\alpha=.740$).

v. Level of Knowledge about hepatitis B Scale

The knowledge scale contained 30 items used to measure current levels of knowledge among participants about hepatitis B, such as its causes and transmission routes. For example, “Hepatitis B cannot be transmitted by someone who looks and feels healthy” and “Hepatitis B is caused by contaminated food/water or utensils”. Participants had the option of a “false”, “true”, or “unsure” response. These items were rescored as “incorrect” (0) and “correct” (1), with “unsure” responses coded as “incorrect” (0). Items were summed to form a knowledge scale.

3. Data Analysis

Quantitative analyses were conducted using IBM SPSS version 26. Descriptive data outlining the socio-demographics characteristics of the sample and their beliefs, attitudes, and feelings about hepatitis B are presented. Data were also analysed comparing responses by country of birth because of the large number of students born in Australia. Valid percentages are reported for all data as some participants chose to skip some questions. Testing for hepatitis B was recoded to a (0) no and (1) yes; gender was recoded to (1) male and (2) female for analysis purposes as there were very few responses in the other categories. Relationships between continuous variables were assessed using Pearson’s product-moment correlation. Two-tailed significance was set at $p < .05$

4. Results - Students of Vietnamese background

4.1 Demographics

The sample of students of Vietnamese backgrounds consisted of 95 adults, with an average age of 23 years (range 18-31 years). More than half ($n=52$, 54.7%) of the sample were born in Vietnam. There were 41 (43.2%) males and 49 (51.6%) females with 84.2% ($n=80$) identifying as heterosexual. Participants were recruited from each state and territory, most commonly from New South Wales ($n=23$, 24.2%) and Victoria ($n=21$, 22.1). Most of the sample ($n=80$, 84.2%) were currently enrolled at a university, with 45.3% ($n=43$) studying for a bachelor degree ($n=173$, 58.1%). Most reported that they were financially stable ($n=83$, 87.4%). The majority reported speaking Vietnamese only with their parents ($n=57$, 60.0%). More than half of the sample ($n=55$, 57.9%) reported that they spoke English very well. Of the total sample, 83.2% ($n=79$) had ever used student health services (see Table 1 for more socio-demographic details divided by those born in Australia, those born overseas and the total sample).

Table 1: Socio-demographic characteristics for Vietnamese student sample

N (%)	Born in Australia n=43	Born overseas n=52	Total Sample n=95
Current gender identity			
Female	18 (41.9)	31 (59.6)	49 (51.6)
Male	25 (58.1)	16 (30.8)	41(43.2)
Non-binary	0	2 (3.8)	2 (2.1)
I use a different term	0	1 (1.9)	1 (1.1)
I prefer not to answer	0	2 (3.8)	2 (2.1)
Sexuality			
Heterosexual	42 (97.7)	38 (73.1)	80 (84.2)
Gay/Lesbian/Queer	1 (2.3)	3 (5.7)	4 (4.2)
Bisexual/pansexual	0	6 (11.5)	6 (6.3)
Prefer not to answer	0	5 (9.6)	5 (5.3)
State			
NSW	5 (11.6)	18 (34.6)	23 (24.2)
Victoria	10 (23.3)	11 (21.2)	21 (22.1)
Queensland	7 (16.3)	6 (11.5)	13 (13.7)

Western Australia	9 (20.9)	3 (5.8)	12 (12.6)
ACT	3 (7.0)	6 (11.5)	9 (9.5)
Tasmania	1 (2.3)	8 (15.4)	9 (9.5)
Northern Territory	6 (14.0)	0	6 (6.3)
South Australia	2 (4.7)	0	2 (2.1)
Number of years living in Australia			
0-2 years	0	14 (26.9)	14 (14.7)
3-5 years	1 (2.3)	28 (53.8)	29 (30.5)
6-10 years	1 (2.3)	8 (15.4)	9 (9.5)
More than 10 years	41 (95.3)	2 (3.8)	43 (45.3)
Where are you currently enrolled to study			
University	33 (76.7)	46 (88.5)	80 (84.2)
VET/TAFE	10 (23.3)	3 (5.8)	13 (13.7)
ELICOS institutes /other	0	3 (5.8)	2 (2.2)
What are you currently studying			
Bachelor Degree	23 (53.5)	20 (38.5)	43 (45.3)
Advanced Diploma / Associate Degree	12 (27.9)	8 (15.4)	20 (21.1)
Diploma	6 (14.0)	1 (1.9)	7 (7.4)
Bachelor Honours Degree/Graduate Certificate/Graduate Diploma	1 (2.3)	3 (5.8)	4 (4.2)
Masters Degree	1 (2.3)	16 (30.8)	17 (17.9)
Doctoral Degree	0	2 (3.8)	2 (2.1)
Cert I, Cert II, Cert III, Cert IV, HSC	0	2 (3.8)	2 (2.2)
Living situation			
Live with housemates	27 (62.8)	31 (59.6)	58 (61.1)
Live with family	15 (34.9)	3 (5.8)	18 (18.9)
Live alone	1 (2.3)	19 (36.5)	20 (21.1)
Financial status			
I am financially stable	41 (95.3)	42 (80.8)	83 (87.4)
I am having trouble paying my bills	2 (4.7)	10 (19.2)	12 (12.6)
Can you speak Vietnamese			
Yes	43 (100.0)	52 (100.0)	95 (100.0)
Do you speak Vietnamese at home?			
Yes, with my parents only	38 (88.4)	19 (36.5)	57 (60)
Yes, all the time with everyone	5 (11.6)	32 (61.5)	37 (38.9)
No	0	1 (1.9)	1 (1.1)
How well do you speak English			
Very well	40 (93.0)	15 (28.8)	55 (57.9)
Well	2 (4.7)	35 (67.3)	37 (38.9)
Not well	1 (2.3)	2 (3.8)	3 (3.2)
Do you use student health services			
Yes	41 (95.3)	38 (73.1)	79 (83.2)
No, I have never heard of student health services	2 (4.7)	9 (17.3)	11 (11.6)
No, I do not choose to use these services	0	5 (9.6)	5 (5.3)

4.2 Community connection

Most of the sample (n=90, 94.7%) reported feeling some connection with the Vietnamese community, both in Australia and in Vietnam. Almost one-third of students (n=28, 29.5%) who were born in Australia, reported interacting ‘a lot’ with the local English speaking Australian

community compared with 15.5% (n=8) of students born outside Australia. In addition, less than half (n=21, 48.8%) of students born in Australia reported that they feel they have ‘quite a bit’/ ‘a lot’ in common with the Vietnamese community outside Australia compared with 78.9% (n=41) of students born outside Australia. See figure 1-3 for more details.

Figure 1: Degree of community connection (whole Vietnamese student sample, n=95)

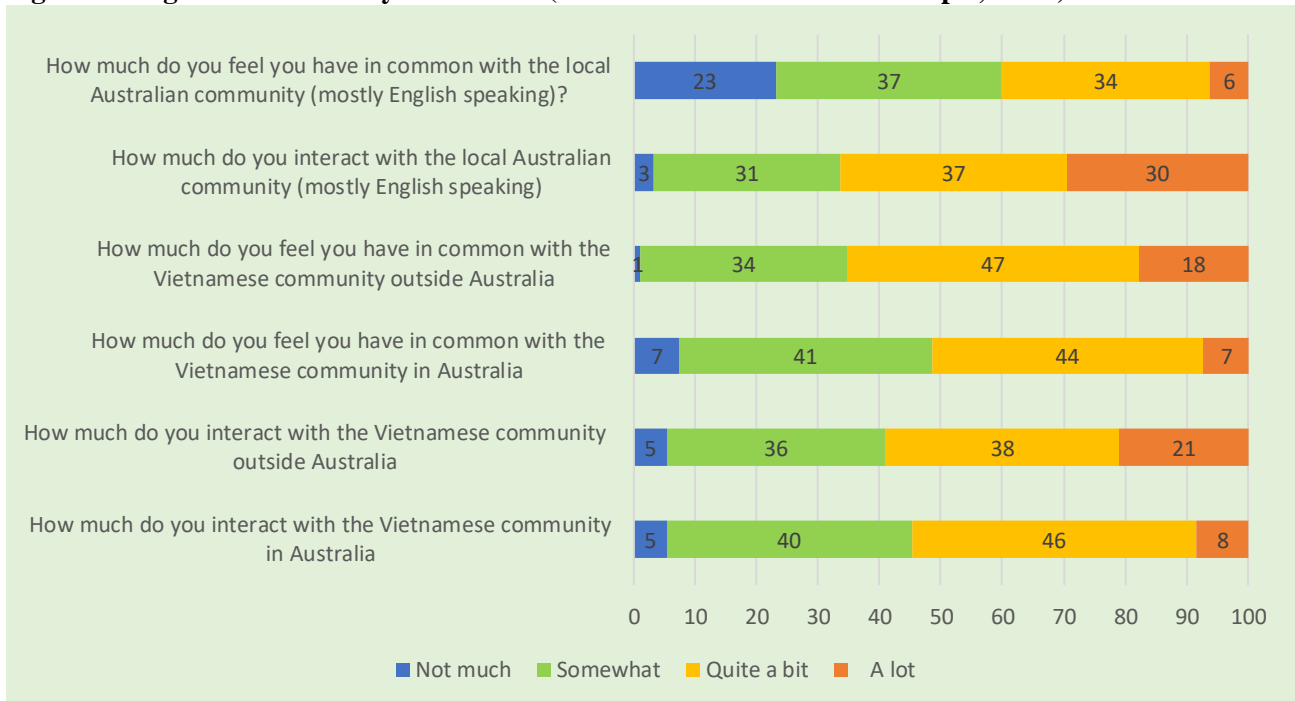


Figure 2 :Degree of community connection (Vietnamese students born in Australia, n=43)

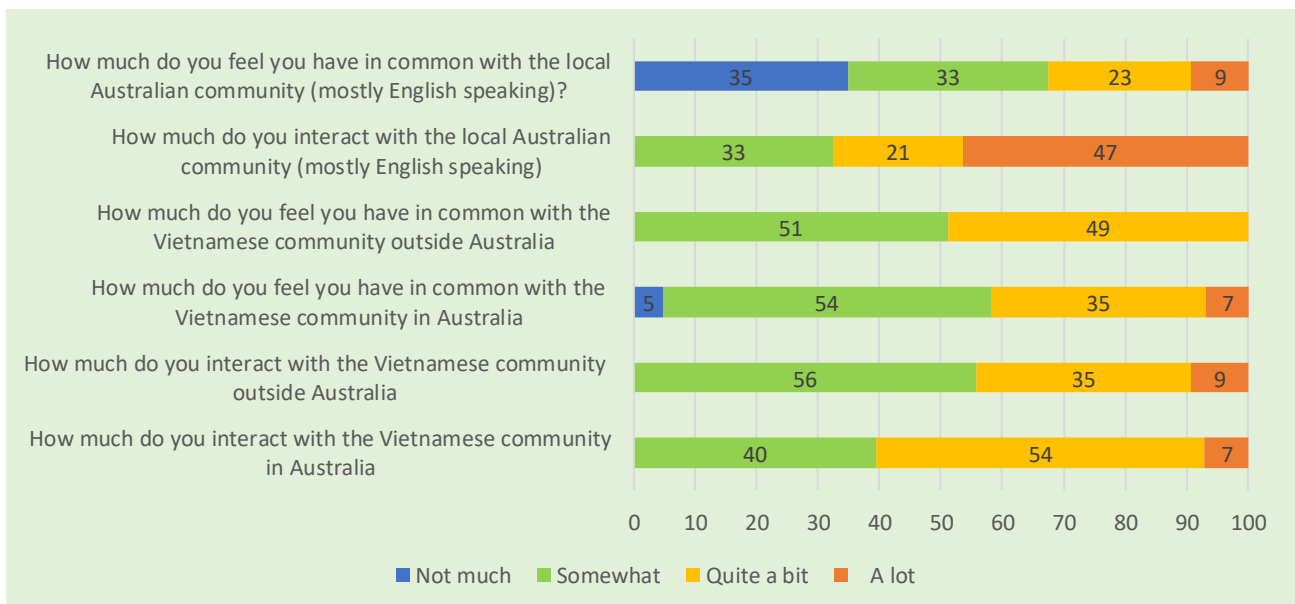
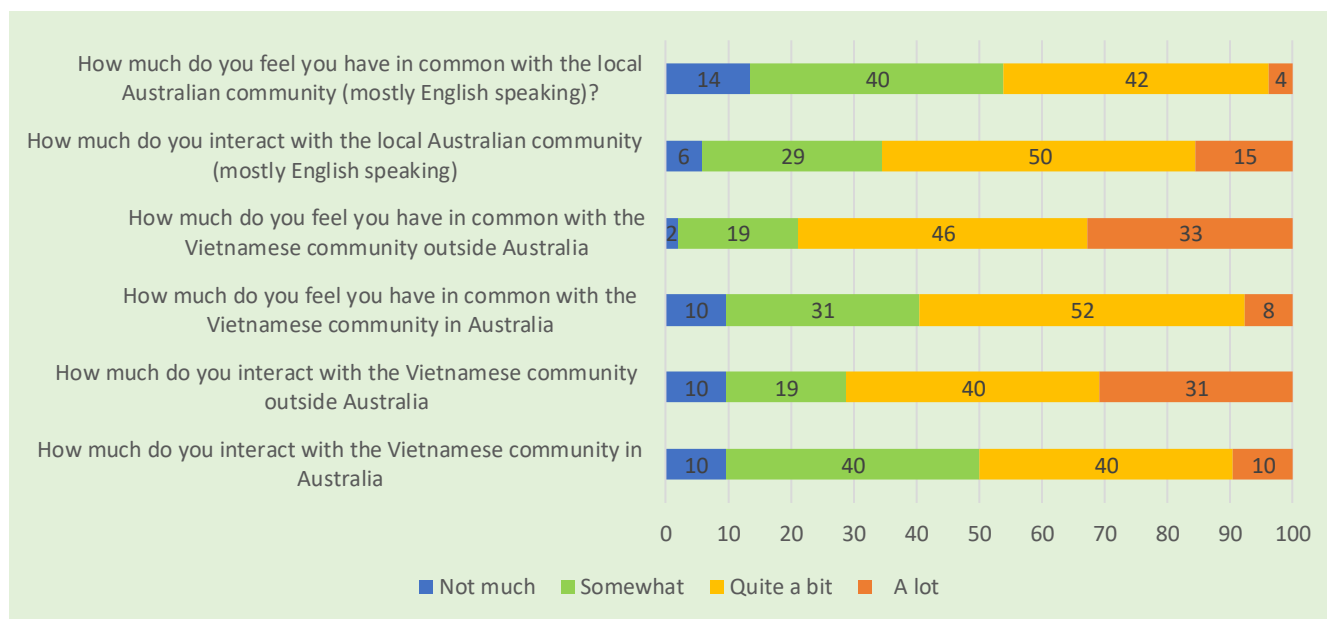


Figure 3: Degree of community connection (Vietnamese students born in Vietnam, n=52)



An additional five items were included to further assess participants' interactions and connection with their community. More than half (n=55, 57.9%) of the total sample reported mixing with other students regardless of identity, yet two-thirds (n=63, 66.3%) 'agreed' or 'strongly agreed' that most of their friends were Vietnamese. When looking at students born in Australia of Vietnamese background, 20.9% (n=9) 'disagreed' that they felt connected to the Vietnamese community in their family's place of birth compared with only 3.8% (n=2) born in Vietnam. Furthermore, 90.7% (n=39) of students born in Australia of Vietnamese background 'agreed'/'strongly agreed' that they felt connected to the Vietnamese community in Australia compared with 44.2% (n=32) of students born in Vietnam (see Figure 4 - 6 for more details on community connection).

Figure 4: Connection with Vietnamese community (whole Vietnamese students sample, n=95)

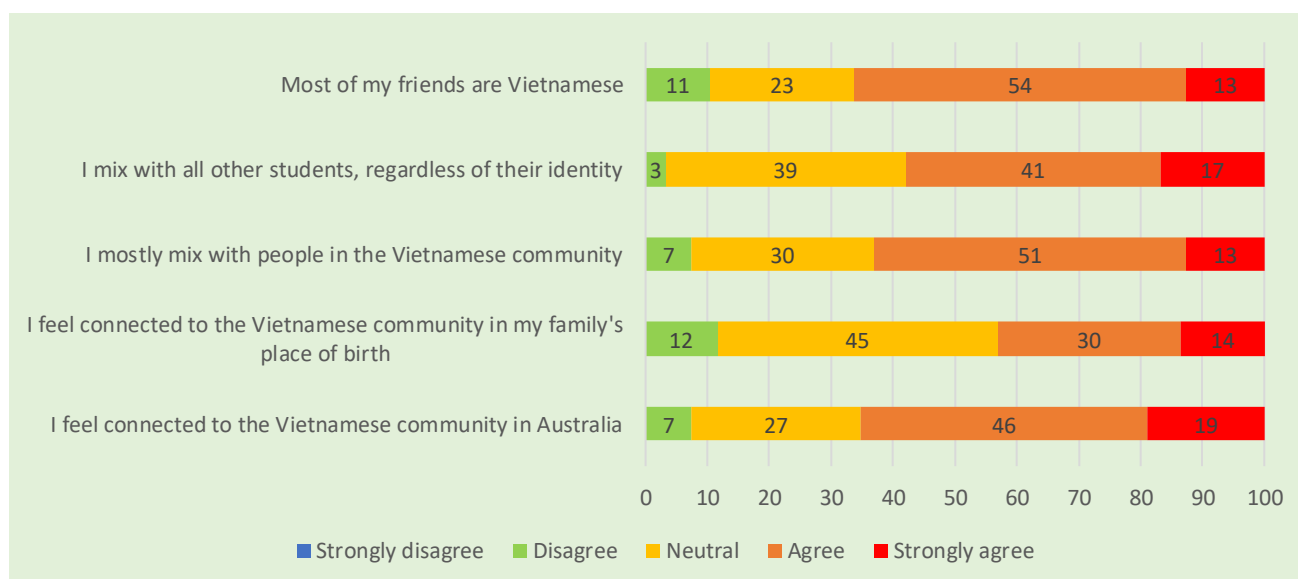


Figure 5: Connection with Vietnamese community (Vietnamese students born in Australia, n=43)

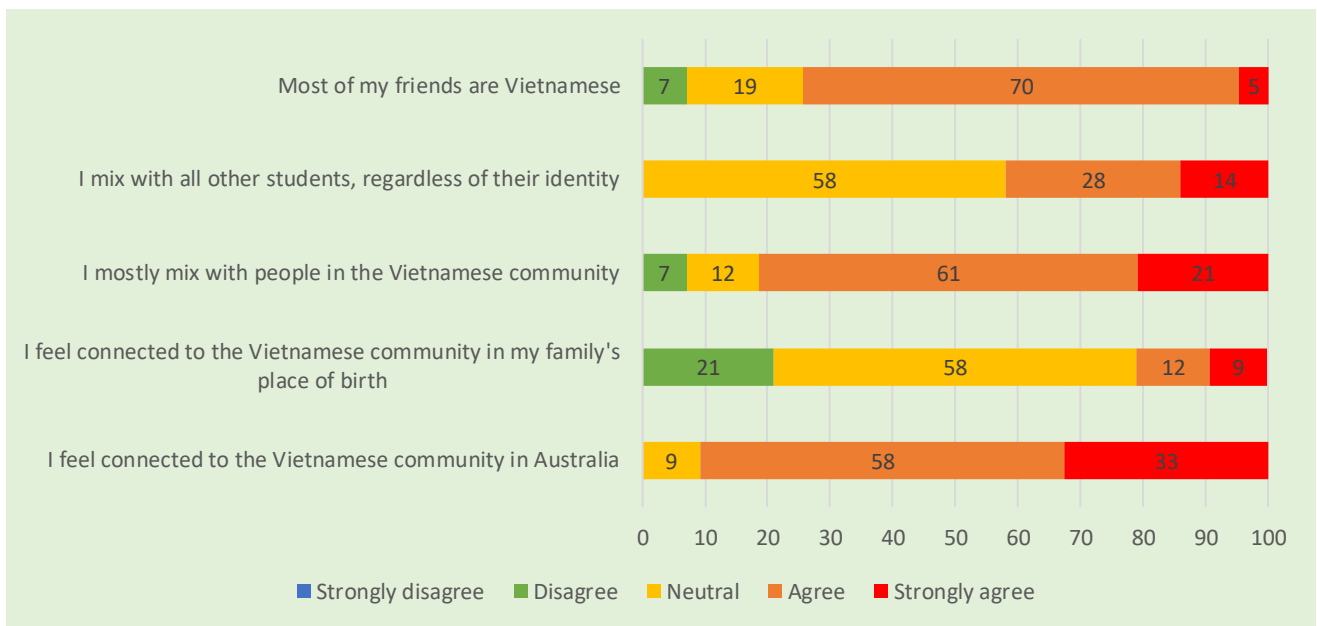
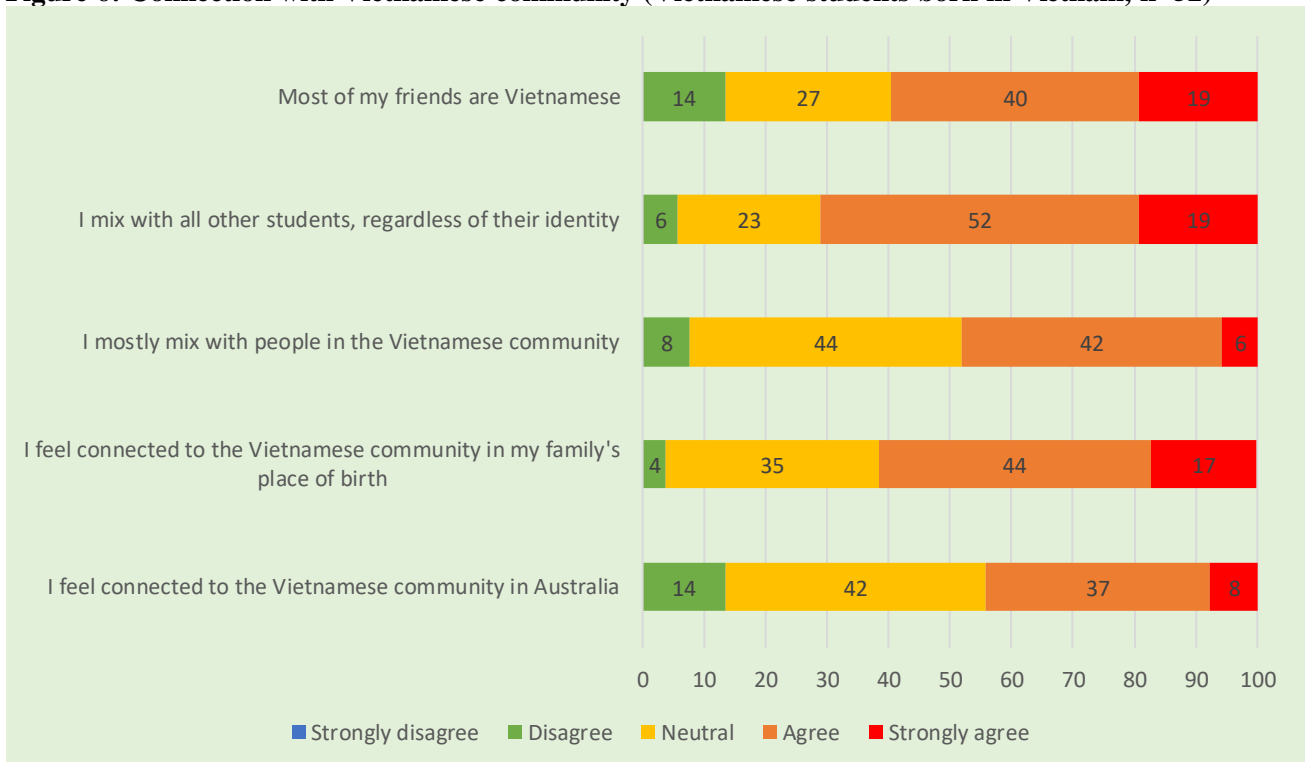


Figure 6: Connection with Vietnamese community (Vietnamese students born in Vietnam, n=52)



4.3 Knowing someone living with hepatitis B

Less than one-fifth of the sample (n=17, 17.9%) reported that they knew someone living with hepatitis B (see table 2 for more details). Of those people who knew someone, they mostly commonly reported knowing one or two people with hepatitis B (n=12, 70.6%). This was mostly reported to be friends (n=10, 58.8%) or family (n=9, 52.9%).

Table 2: Knowing someone with HBV for Vietnamese student sample

N (%)	Born in Australia n=43	Born overseas n=52	Total sample=95
Do you personally know anyone with hep B?			
No	39 (90.7)	30 (57.7)	69 (72.6)
Yes	4 (9.3)	13 (25.0)	17 (17.9)
Not sure	0	8 (15.4)	8 (8.4)
Prefer not to answer	0	1 (1.9)	1 (1.1)

4.4 Testing for hepatitis B

There was a high hepatitis B testing rate, with almost three-quarters of the sample reporting ever being tested for hepatitis B (n=68, 71.6%), however this is noticeably higher for students of Vietnamese background who were born in Australia as compared to those born in Vietnam (93.0% compared with 53.8%). Only one person reported to be living with hepatitis B. Eighty-seven percent of the total sample (n=59) were tested in Australia (97.5% of the students born in Australia compared with 71.4% born in Vietnam), with the most commonly reported location for testing being at a health check centre. Ninety percent of the sample (n=61) reported being either satisfied or very satisfied with the information they were provided about hepatitis B at the time of testing. Among the 20 participants (21.1%) who reported not having ever been tested for hepatitis B, the main reason given was they were feeling quite well (n=10, 50%) and did not think testing was necessary (n=8, 40%). See Table 3 for more information on testing for hepatitis B.

Table 3: Information on testing for HBV among Vietnamese student sample

N(%)	Born in Australia n=43	Born overseas n=52	Total sample n=95
Do you recall having ever been tested for hepatitis B?			
Yes	40 (93.0)	28 (53.8)	68 (71.6)
No	3 (7.0)	17 (32.7)	20 (21.1)
Not sure	0	7 (13.5)	7 (7.4)
What made you decide to get tested for hepatitis B	n=40	n=28	n=68
Part of regular health check	11 (27.5)	11 (39.3)	22 (32.1)
School/university requirement	15 (37.5)	5 (17.9)	20 (29.4)
I learned about hepatitis B in newspaper/TV/radio/printed ad	15 (37.5)	5 (17.9)	20 (29.4)
I learned about hepatitis B on the Internet/social media	8 (20.0)	7(25.0)	15 (22.1)
Doctor recommended	11 (27.5)	7 (25.0)	18 (26.5)
Travel or immigration purposes	8 (20.0)	6 (21.4)	14 (20.6)
Family member/friend suggested	7 (17.5)	4 (14.3)	11 (16.2)
Work requirement	8 (20.0)	6 (21.4)	14 (20.6)
I know someone who has hepatitis B	7 (17.5)	1 (3.6)	8 (11.8)
Part of pregnancy screening	2 (5.0)	2 (7.1)	4 (5.9)
Were you last tested for hepatitis B in Australia	n=40	n=28	n=68
Yes	39 (97.5)	20(71.4)	59 (86.8)
Last place of testing for hepatitis B	n=40	n=28	n=68

Health check centre	22 (55.0)	14 (50.0)	36 (52.9)
Clinic or hospital	8 (20.0)	11 (39.3)	19 (27.9)
Doctor's office	4 (10.0)	3 (10.7)	7 (10.3)
Workplace	3 (7.5)	0	3 (4.4)
Screening event	3 (7.0)	0	3 (4.4)
Were you satisfied with the information about hep B given to you at the time of testing	n=40	n=28	n=68
Very satisfied	30 (75.0)	11 (39.3)	41 (60.3)
Satisfied	10 (25.0)	10 (35.7)	20 (29.4)
Neutral	0	6 (21.4)	6 (8.8)
Dissatisfied/very dissatisfied	0	0	0
Received no information	0	1 (3.6)	1 (1.5)

4.5 Hepatis B vaccination

High vaccination rates were reported among the student sample, with 82.1% (n=78) reporting that they had been vaccinated. This figure is notably higher for those students born in Australia (97.7%, n=42) compared with those students born in Vietnam (69.2%, n=36). This high figure reported among those born in Australia, is most likely given that they were born in Australia, that they were vaccinated at birth. Since 2006, hepatitis B vaccination at birth has become universal in Vietnam, however the country continues to face vaccine hesitancy with lower vaccination rates among vulnerable groups (Nguyen et al., 2019). While almost two-thirds of the whole sample (n=50, 64.1%) received their vaccinations in Australia, this figure is significantly higher among students born in Australia (97.6%, n=41) compared with students born in Vietnam (25.0%, n=9); 83.3% (n=30) of students who were born in Vietnam, received their vaccinations in Vietnam. Further, of those students who reported being vaccinated (n=78), 89.7% (n=70) reported that they had completed the full course of vaccination. Most common reason given for not completing the full vaccination schedule was that their parents did not know how many doses were needed. See Table 4 for more information on vaccinations.

Table 4: Information on HBV vaccination for Vietnamese student sample

	Born in Australia n=43	Born overseas n=52	Total sample n=95
Have you ever had hepatitis B vaccination?			
Yes	42 (97.7)	36 (69.2)	78 (82.1)
No	1 (2.3)	5 (9.6)	6 (6.3)
Not sure	0	11 (21.2)	11 (11.6)
Among students who had ever received a vaccination	n=42	n=36	n=78
Did you complete the full course of vaccination?			
Yes	38 (90.5)	32 (88.9)	70 (89.7)
No	3 (7.1)	2(5.6)	5 (6.4)
Not sure	1 (2.4)	2 (5.6)	3 (3.8)
Where did you get the vaccine?			
Australia	41 (97.6)	9 (25.0)	50 (64.1)
Vietnam	2 (4.8)	30 (83.3)	32 (41.0)

* Items were not mutually exclusive

4.7 Trust in Western healthcare

Participants were asked statements about their trust in Western healthcare, focusing on their beliefs and feelings towards Western healthcare versus traditional Vietnamese/Chinese healthcare. 39% (n=37) of the total sample reported being suspicious of information about hepatitis B from Western-trained doctors and/or healthcare workers. This distrust of Western healthcare was higher among students born in Australia with 67.5% (n=29) agreeing/strongly agreeing with this statement as compared with 15.4% (n=8) of student born in Vietnam.

One-third of the whole sample (n=32, 33.7%) ‘agreed’/ ‘strongly agreed’ that using pharmaceutical medicine to treat hepatitis B has more negative side effects than using traditional Chinese medicine. In addition, over one-third (n=36, 37.9%) reported being unwilling to speak with Western-trained doctors and healthcare workers in detail on their health and disease treatment. Again, this unwillingness was higher among students born in Australia with 65.1% (n=28) ‘agree’/ ‘strongly agreeing’ with the statement as compared with 15.3% (n=8) of students born in Vietnam. See Figure 7, 8 and 9 for more details on trust in Western healthcare.

Figure 7: Trust in Western healthcare (whole sample, n=95)

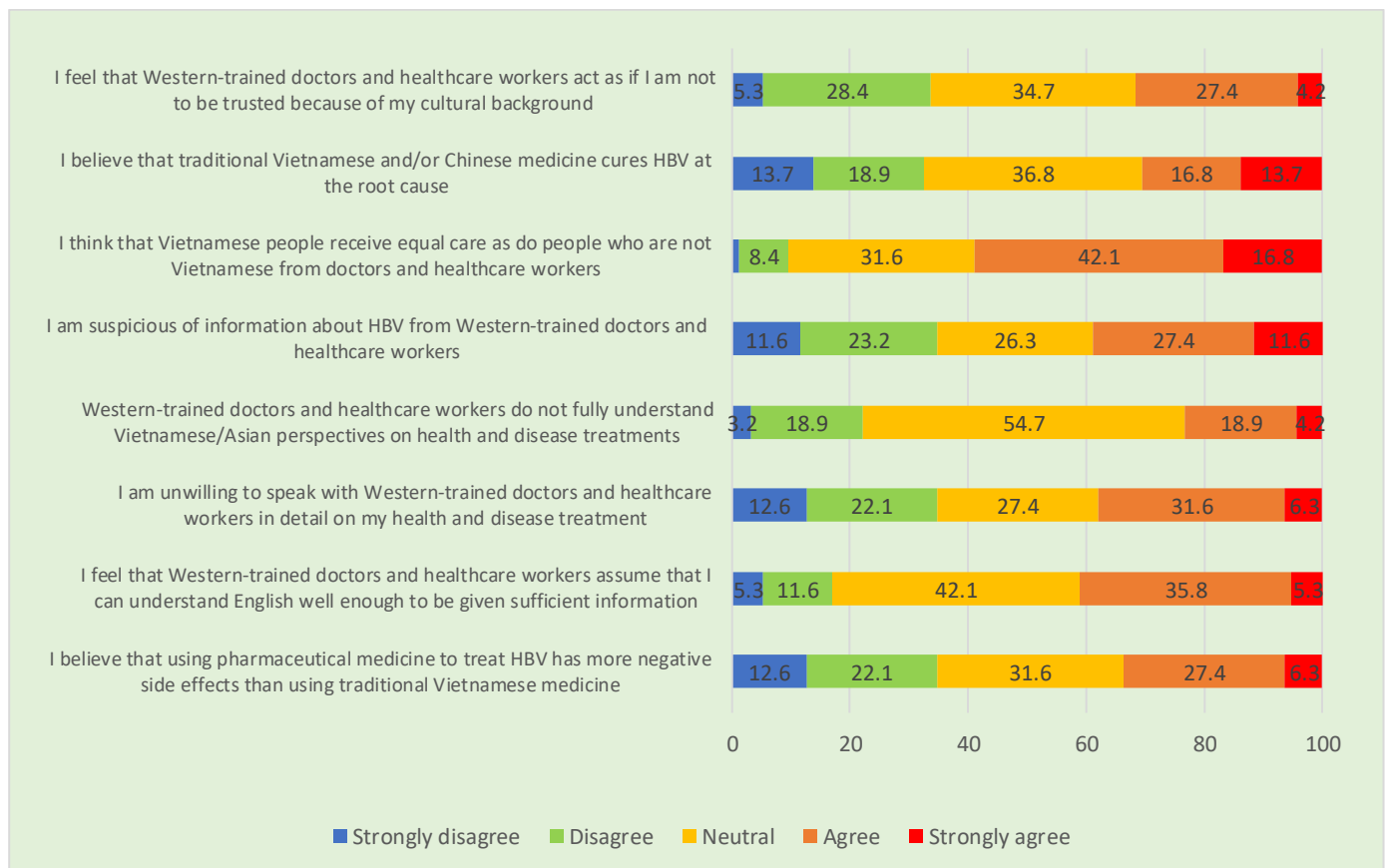


Figure 8: Trust in Western Healthcare (students born in Australia, n=43)

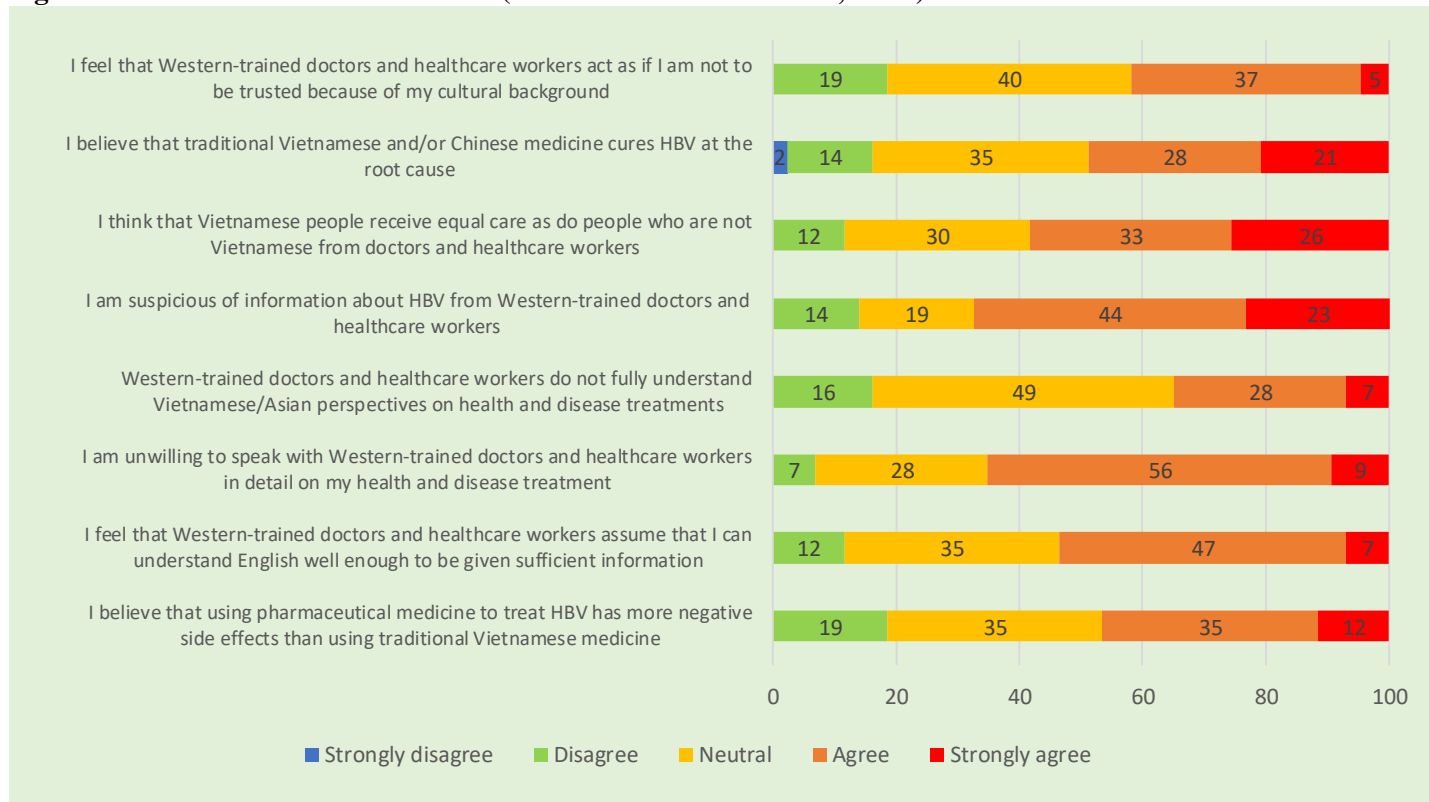
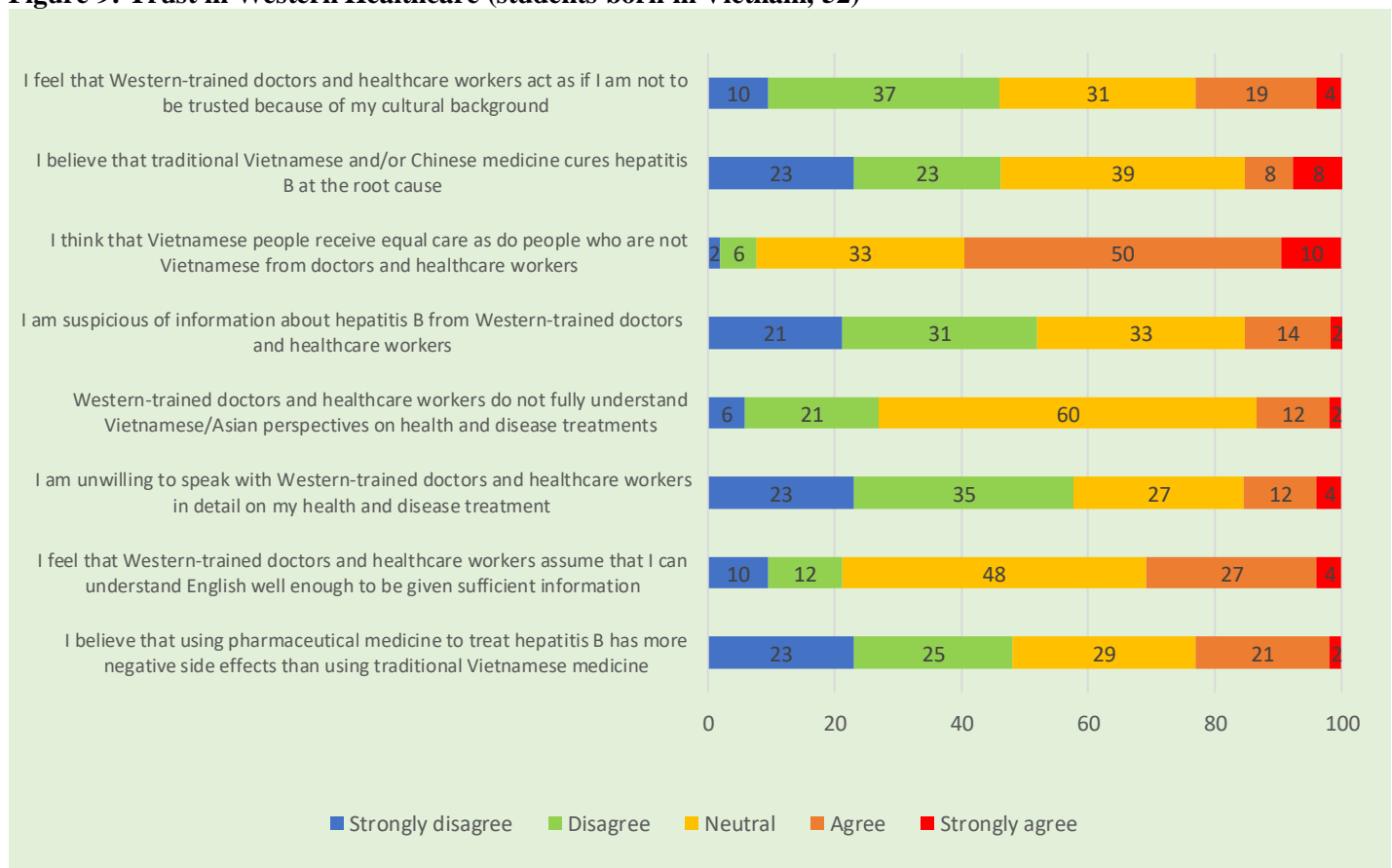


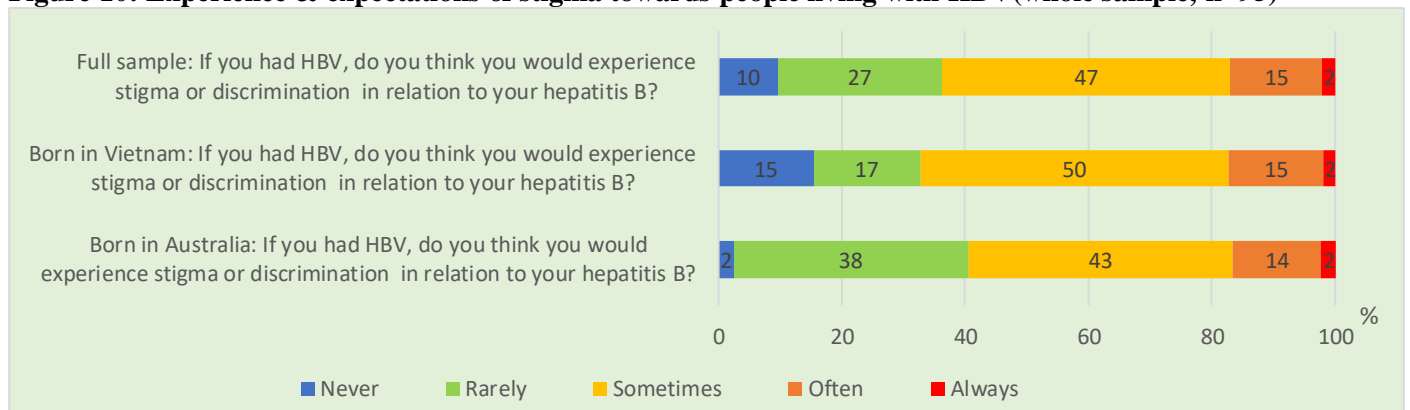
Figure 9: Trust in Western Healthcare (students born in Vietnam, 52)



4.8 Attitudes towards hepatitis B

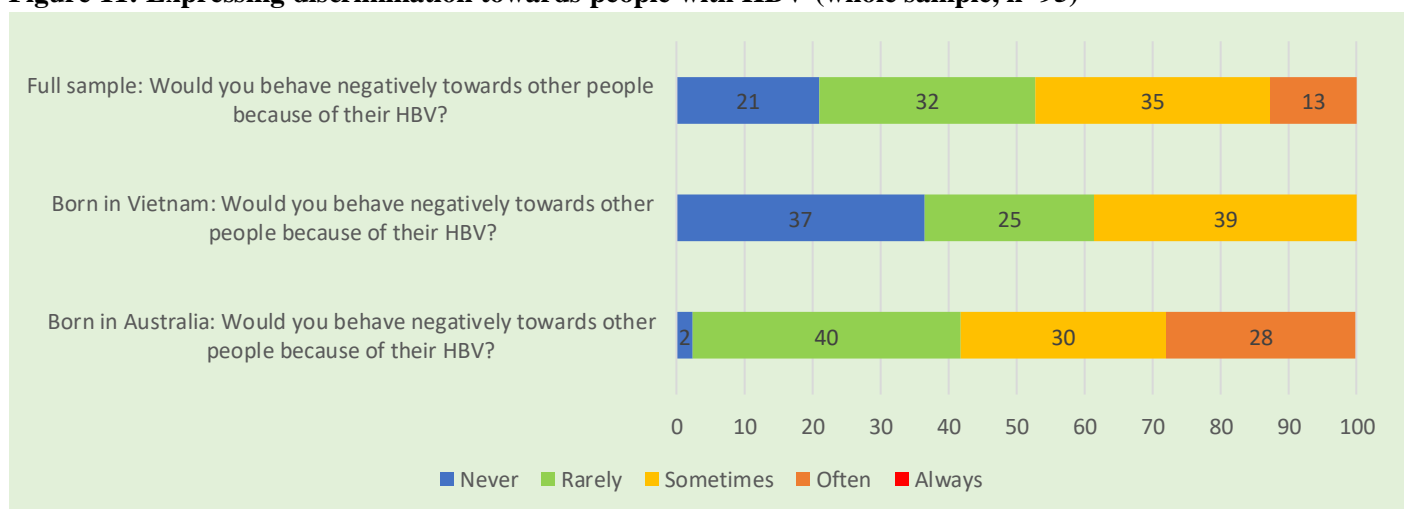
Participants were asked questions around stigma and discrimination in relation to hepatitis B. Sixty-four percent of participants (n=60) reported that if they had hepatitis B, they would expect to experience stigma or discrimination in relation to their hepatitis B, and 14.9% of participants (n=14) thought it would occur ‘often’. When comparing students born in Australia and those born outside of Australia, 38.1% (n=16) of students born in Australia responded that they would ‘rarely’ and 42.9% (n=18) ‘sometimes’ expect to experience stigma or discrimination in relation to their hepatitis B as compared with 17.3% (n=9) of students born outside of Australia who responded ‘rarely’ and 50% (n=26) ‘sometimes’. See figure 10 for more details.

Figure 10: Experience & expectations of stigma towards people living with HBV(whole sample, n=95)



The sample was also asked whether they would behave negatively towards other people because of their hepatitis B. Just over one-third of all respondents (n=33, 34.7%) reported that they would ‘sometimes’ and a further 12 participants (12.6%) reported would ‘often’ behave negatively towards other people because of their hepatitis B. Interestingly, over one third of participants born in Vietnam (n=19, 36.5%) said they would ‘never’ behave negatively toward others because of their HBV compared with only 2.3% (n=1) of the students born in Australia of Vietnamese background, while 27.9% (n=12) of participants born in Australia said they would ‘often’ behave negatively. See figure 11 for details.

Figure 11: Expressing discrimination towards people with HBV (whole sample, n=95)



Participants were also asked nine statements about their attitudes towards people living with hepatitis B. Almost three-quarters of the sample (n=65, 70.7%) felt that people who have hepatitis B should not be isolated by family and friends, however, 28.2% of the sample (n=26) reported that if they knew that someone had hepatitis B, they would avoid close contact with them (e.g., shaking hands, hugging). More than half of the sample (n=55, 59.8%) felt that screening or testing for hepatitis B is necessary for job applications because it is helpful for preventing transmission to other employees. In addition, almost one third of the sample (n=30, 32.6%) felt that people who have hepatitis B should be ashamed of their illness. When looking at these attitudes taking country of birth into account, it is worth noting that more students who were born in Vietnam have less negative attitudes towards people living with hepatitis B. For example, 55.8% (n=29) of participants born in Vietnam ‘strongly disagree’ that people who have hepatitis B deserve it compared with 20% (n=8) of students born in Australia; similarly 50% (n=26) of students born in Vietnam ‘strongly disagree’ that people who have hepatitis B should be ashamed of their illness as compared with 2.5% (n=1) of students born in Australia. See figure 12, 13 and 14 for more information.

Figure 12: Attitudes towards hepatitis B (whole sample, n=95)

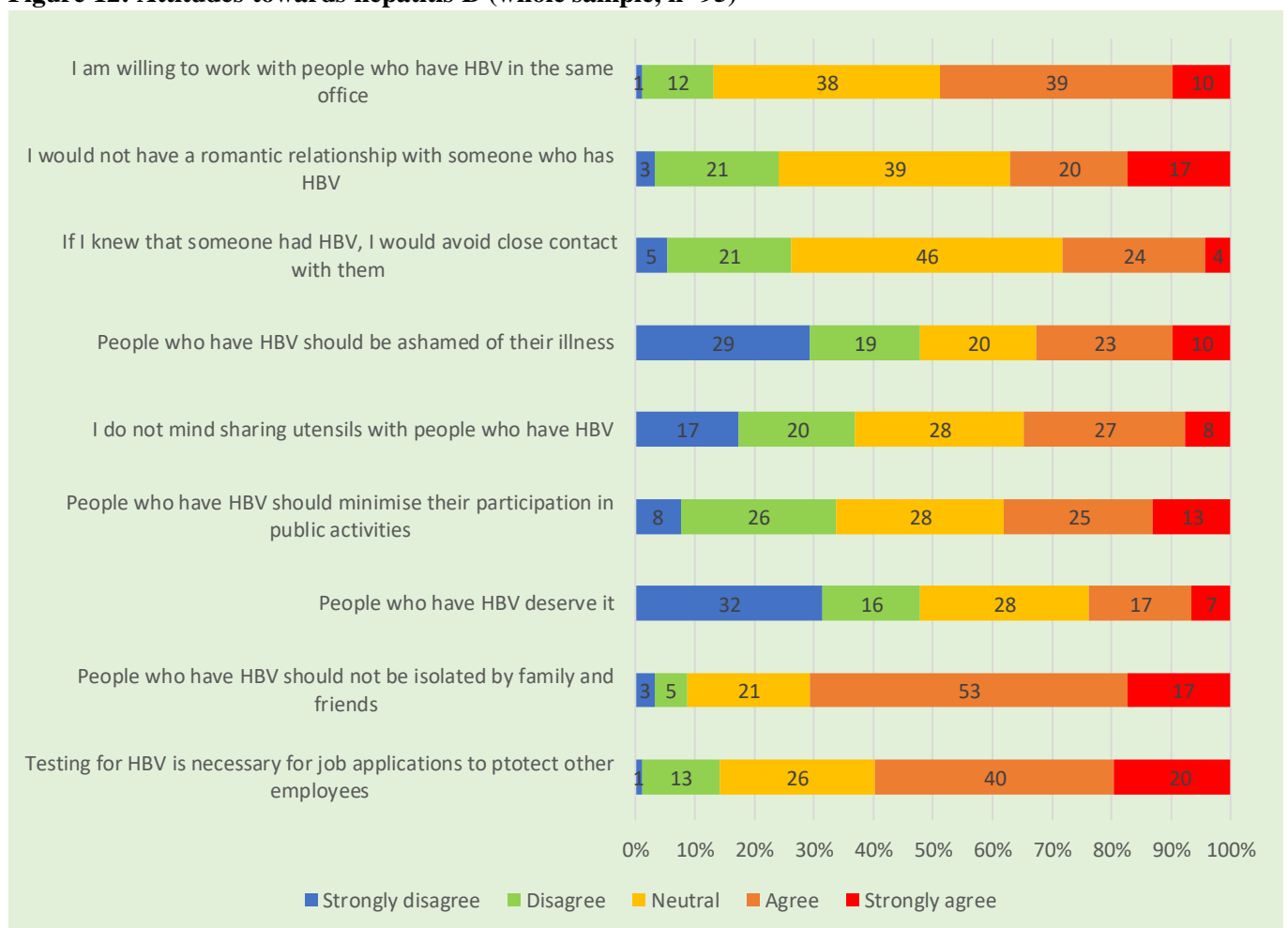


Figure 13: Attitudes towards hepatitis B (students born in Australia, n=43)

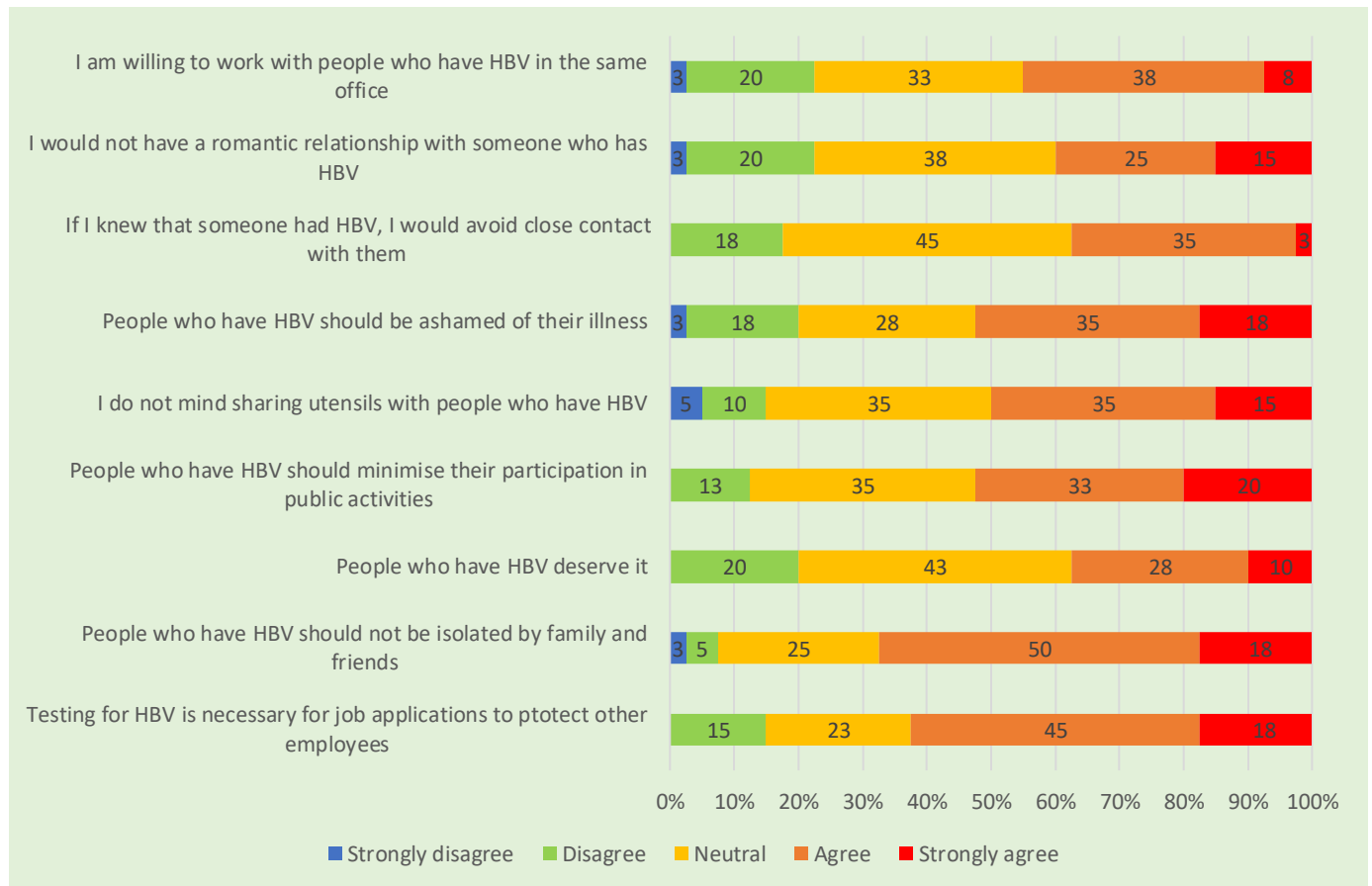
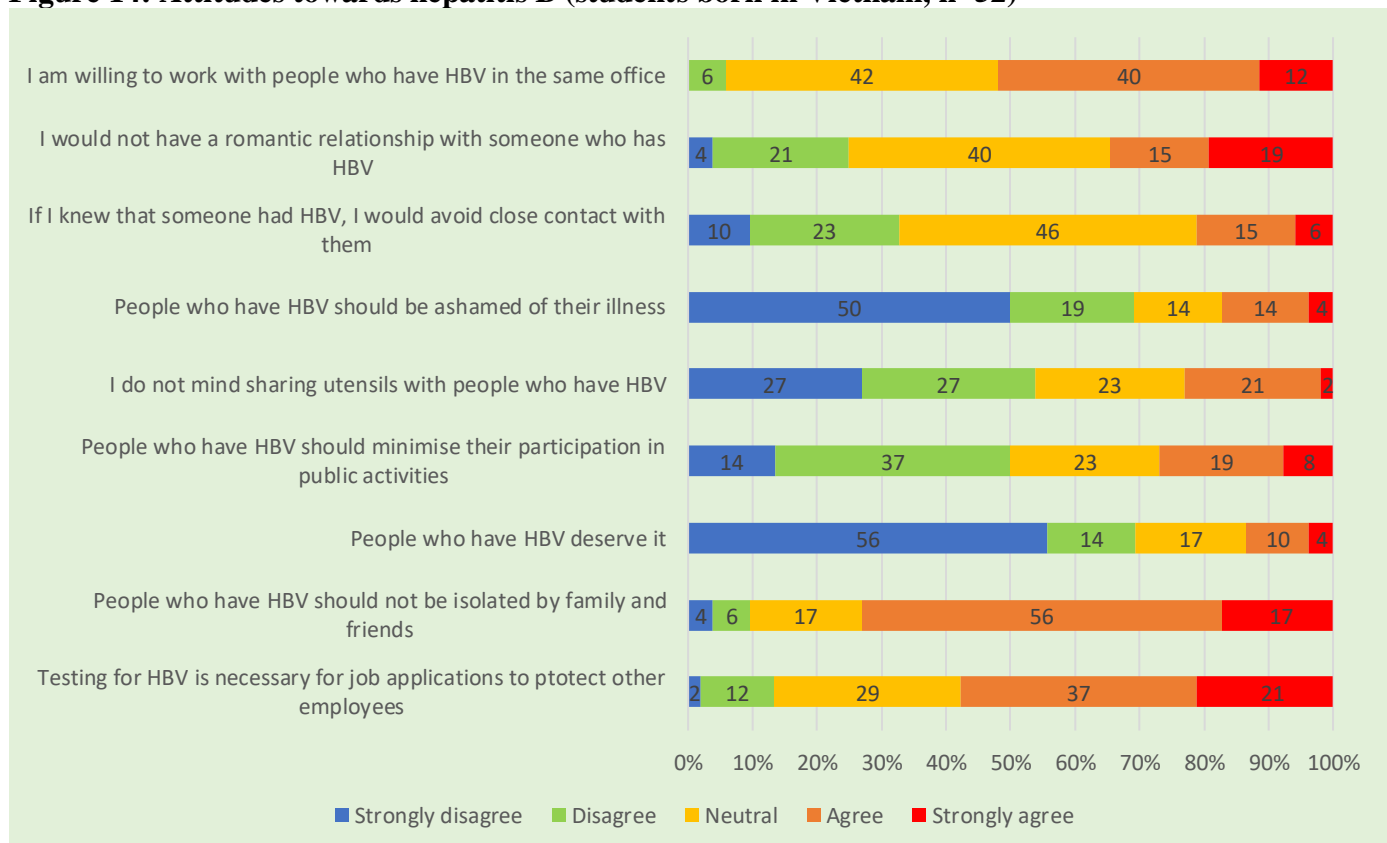


Figure 14: Attitudes towards hepatitis B (students born in Vietnam, n=52)



4.9 Knowledge of hepatitis B

Participants were given several statements to assess their knowledge around hepatitis B. Knowledge among the sample was mixed. While 83.2% (n=79) knew that there is a vaccination that can prevent hepatitis B infection, over two-thirds of participants (n=66, 69.5%) incorrectly responded or were unsure that hepatitis B cannot be transmitted by someone who looks and feels healthy. Only 15.8% (n=15) were aware that there are effective pharmaceutical medicines available to treat hepatitis B infection. Comparison between countries of birth reveal that while more students born in Australia knew that hepatitis B can only be identified by a blood test (79.1% born in Australia vs 63.5% born in Vietnam), more students born in Vietnam were aware that hepatitis B can be transmitted by someone who looks and feels healthy (30.5% born in Australia vs 46.2% born in Vietnam). It is also worth noting, that while less than 5% of participants born in Australia responded 'unsure' to these statements, approximately one-quarter (ranging from 15-37%) of the sample born in Vietnam responded 'unsure' to each of the knowledge items, for example 36.5% (n=19) were unsure that all parents (regardless of their hepatitis B status) are offered a free hepatitis B vaccine for their newborn children in Australia (see Table 6- 8 for more details).

Table 5: Participants knowledge of HBV for Vietnamese student sample (whole sample, n=95)

	Correctly Answered	Incorrectly Answered	Unsure
Statements about participants knowledge of hepatitis B			
Hep B can only be identified by a blood test (True)	67 (70.5)	12 (12.6)	16 (16.8)
There is a vaccination that can prevent hep B infection (True)	79 (83.2)	4 (4.2)	12 (12.6)
There are no effective pharmaceutical medicines available to treat hepatitis B infection (False)	15 (15.8)	60 (63.2)	20 (21.1)
Hepatitis B may cause the skin and eyes to turn a yellow colour (True)	72 (75.8)	10 (10.5)	13 (13.7)
Hepatitis B cannot be transmitted by someone who looks and feels healthy (False)	29 (30.5)	51 (53.7)	15 (15.8)
Chronic hepatitis B can develop into cirrhosis and liver cancer (True)	76 (80.0)	9 (9.5)	10 (10.5)
All parents (regardless of their hepatitis B status) are offered a free hepatitis B vaccine for their newborn children in Australia (True)	69 (72.6)	5 (5.3)	21 (22.1)

Table 6: Participants knowledge of HBV for Vietnamese sample (students born in Australia, n=43)

	Correctly Answered	Incorrectly Answered	Unsure
Statements about participants knowledge of hepatitis B			
Hep B can only be identified by a blood test (True)	34 (79.1)	6 (14.0)	3 (7.0)
There is a vaccination that can prevent hep B infection (True)	38 (88.4)	4 (9.3)	1 (2.3)

There are no effective pharmaceutical medicines available to treat hepatitis B infection (False)	5 (11.6)	36 (83.7)	2 (4.7)
Hepatitis B may cause the skin and eyes to turn a yellow colour (True)	35 (81.4)	6 (14.0)	2 (4.7)
Hepatitis B cannot be transmitted by someone who looks and feels healthy (False)	5 (11.6)	37 (86.0)	1 (2.3)
Chronic hepatitis B can develop into cirrhosis and liver cancer (True)	34 (79.1)	7 (16.3)	2 (4.7)
All parents (regardless of their hepatitis B status) are offered a free hepatitis B vaccine for their newborn children in Australia (True)	37 (86.0)	4 (9.3)	2 (4.7)

Table 7: Participants knowledge of HBV for Vietnamese sample (students born in Vietnam, n=58)

	Correctly Answered	Incorrectly Answered	Unsure
Statements about participants knowledge of hepatitis B			
Hep B can only be identified by a blood test (True)	33 (63.5)	6 (11.5)	13 (25.0)
There is a vaccination that can prevent hep B infection (True)	41 (78.8)	0	11 (21.2)
There are no effective pharmaceutical medicines available to treat hepatitis B infection (False)	10 (19.2)	24 (46.2)	18 (34.6)
Hepatitis B may cause the skin and eyes to turn a yellow colour (True)	37 (71.2)	4 (7.7)	11 (21.2)
Hepatitis B cannot be transmitted by someone who looks and feels healthy (False)	24 (46.2)	14 (26.9)	14 (26.9)
Chronic hepatitis B can develop into cirrhosis and liver cancer (True)	42 (80.8)	2 (3.8)	8 (15.4)
All parents (regardless of their hepatitis B status) are offered a free hepatitis B vaccine for their newborn children in Australia (True)	32 (61.5)	1 (1.9)	19 (36.5)

Participants were asked a further seven questions around the causes of hepatitis B. Most of the total sample (n=82, 86.3%) correctly responded that hepatitis B is caused by the hepatitis B virus (90.7% students born in Australia vs 82.7% students born in Vietnam). More than three-quarters of the sample incorrectly believed (or were unsure) that hepatitis B was caused by a damaged/weak liver (83.2%), drinking too much alcohol (75.8%), poor sanitation and hygiene (87.4%) and from contaminated food/water or utensils (83.2%). More of the students born in Vietnam correctly responded that Yin and Yang imbalance inside and outside the body (46.2% vs 32.6%), drinking too much alcohol (32.7% vs 14.0%), working too hard (53.8% vs 23.3%) and physical exhaustion and fatigue (42.3% vs 20.9%) were not causes of hepatitis B compared with students born in Australia (see Table 9-11 for more details).

Table 8: Knowledge of causes of HBV for Vietnamese student sample (whole sample, n=95)

	Correctly Answered	Incorrectly Answered	Unsure
Hepatitis B is caused by			
Damaged liver/weak liver (False)	16 (16.8)	66 (69.5)	13 (13.7)

Hepatitis B virus (True)	82 (86.3)	5 (5.3)	8 (8.4)
Stress and negative emotions (False)	28 (29.5)	57 (60.0)	10 (10.5)
Poor sanitation and hygiene (False)	12 (12.6)	68 (71.6)	15 (15.8)
Drinking too much alcohol (False)	23 (24.2)	64 (67.4)	8 (8.4)
Contaminated food/water or utensils (False)	16 (16.8)	71 (74.7)	8 (8.4)
Physical exhaustion and fatigue (False)	31 (32.6)	44 (46.3)	20 (21.1)
Working too hard (False)	38 (40.0)	44 (46.3)	13 (13.7)
Yin and Yang imbalance inside and outside the body (False)	38 (40.0)	37 (38.9)	20 (21.1)

Table 9: Knowledge of causes of HBV for Vietnamese sample (students born in Australia, n=43)

	Correctly Answered	Incorrectly Answered	Unsure
Hepatitis B is caused by			
Damaged liver/weak liver (False)	9 (20.9)	34 (79.1)	0
Hepatitis B virus (True)	39 (90.7)	4 (9.3)	0
Stress and negative emotions (False)	6 (14.0)	37 (86.0)	0
Poor sanitation and hygiene (False)	5 (11.6)	34 (79.1)	4 (9.3)
Drinking too much alcohol (False)	6 (14.0)	37 (86.0)	0
Contaminated food/water or utensils (False)	8 (18.6)	34 (79.1)	1 (2.3)
Physical exhaustion and fatigue (False)	9 (20.9)	30 (69.8)	4 (9.3)
Working too hard (False)	10 (23.3)	32 (74.4)	1 (2.3)
Yin and Yang imbalance inside and outside the body (False)	14 (32.6)	29 (67.4)	0

Table 10: Knowledge of causes of HBV for Vietnamese sample (students born in Vietnam, n=58)

	Correctly Answered	Incorrectly Answered	Unsure
Hepatitis B is caused by			
Damaged liver/weak liver (False)	7 (13.5)	32 (61.5)	13 (25.0)
Hepatitis B virus (True)	43 (82.7)	1 (1.9)	8 (15.4)
Stress and negative emotions (False)	22 (42.3)	20 (38.5)	10 (19.2)
Poor sanitation and hygiene (False)	7 (13.5)	34 (65.4)	11 (21.2)
Drinking too much alcohol (False)	17 (32.7)	27 (51.9)	8 (15.4)
Contaminated food/water or utensils (False)	8 (15.4)	37 (71.2)	7 (13.5)
Physical exhaustion and fatigue (False)	22 (42.3)	14 (26.9)	16 (30.8)
Working too hard (False)	28 (53.8)	12 (23.1)	12 (23.1)
Yin and Yang imbalance inside and outside the body (False)	24 (46.2)	8 (15.4)	20 (38.5)

Participants were also asked about ways someone can prevent getting hepatitis B or giving it to others. Over three quarters of the sample incorrectly thought or were unsure that someone can prevent hepatitis B transmission by exercising (88.4%), avoiding eating food prepared by a person infected with hepatitis B (75.8%), avoiding sharing eating utensils with a person infected with hepatitis B (87.4%), making sure food or water are not contaminated with hepatitis B (89.5%), as well as maintaining good hygiene (88.4%). When comparing responses by country at birth, more students born in Vietnam compared to Australia were aware that taking traditional Vietnamese/Chinese medicines or health supplements to improve their health (30.8% vs 18.6%) and avoiding close contact with someone with hepatitis B (32.7% vs 18.6%) were not going to prevent

someone from transmitting the virus. However, 44.2% of students born in Vietnam responded ‘unsure’ to the statement that taking traditional Vietnamese/Chinese medicines or health supplements to improve immunity/ health can prevent transmission (see Table 12-14 for details).

Table 11: Knowledge of transmission routes for Vietnamese student sample (whole sample, n=95)

	Correctly Answered	Incorrectly Answered	Unsure
Someone can prevent themselves from getting hepatitis B or giving it to others by:			
Avoiding blood-to-blood contact (True)	83 (87.4)	6 (6.3)	6 (6.3)
Using condoms when having sex (True)	68 (71.6)	14 (14.7)	13 (13.7)
Not sharing drug injecting equipment (True)	82 (86.3)	7 (7.4)	6 (6.3)
Not drinking alcohol (False)	23 (24.2)	51 (53.7)	21 (22.1)
Exercising (False)	11 (11.6)	64 (67.4)	20 (21.1)
Avoiding eating food prepared by a person infected with hepatitis B (False)	23 (24.2)	59 (62.1)	13 (13.7)
Avoiding close contact with someone with hepatitis B (e.g. shaking hands, hugging, kissing) (False)	25 (26.3)	56 (58.9)	14 (14.7)
Not sharing personal items with someone with hepatitis B (e.g. toothbrush, razors, blades) (True)	77 (81.1)	8 (8.4)	10 (10.5)
Avoiding sharing eating utensils with a person infected with Hepatitis B (False)	12 (12.6)	72 (75.8)	11 (11.6)
Making sure food or water are not contaminated with hepatitis B (False)	10 (10.5)	77 (81.1)	8 (8.4)
Having hepatitis B vaccinations (True)	81 (85.3)	8 (8.4)	6 (6.3)
Taking traditional Vietnamese/Chinese medicines or health supplements to improve immunity/ health (False)	24 (25.3)	40 (42.1)	31 (32.6)
Maintaining good hygiene (e.g. washing hands frequently, general cleanliness) (False)	11 (11.6)	76 (80.0)	8 (8.4)

Table 12: Knowledge of transmission routes for Vietnamese sample (students born in Australia, n=43)

	Correctly Answered	Incorrectly Answered	Unsure
Someone can prevent themselves from getting hepatitis B, or giving it to others by:			
Avoiding blood-to-blood contact (True)	38 (88.4)	5 (11.6)	0
Using condoms when having sex (True)	32 (74.4)	9 (20.9)	2 (4.7)
Not sharing drug injecting equipment (True)	34 (79.1)	7 (16.3)	2 (4.7)
Not drinking alcohol (False)	9 (20.9)	28 (65.1)	6 (14.0)
Exercising (False)	4 (9.3)	34 (79.1)	5 (11.6)
Avoiding eating food prepared by a person infected with hepatitis B (False)	7 (16.3)	34 (79.1)	2 (4.7)
Avoiding close contact with someone with hepatitis B (e.g. shaking hands, hugging, kissing) (False)	8 (18.6)	29 (67.4)	6 (14.0)
Not sharing personal items with someone with hepatitis B (e.g. toothbrush, razors, blades) (True)	34 (79.1)	6 (14.0)	3 (7.0)
Avoiding sharing eating utensils with a person infected with Hepatitis B (False)	7 (16.3)	34 (79.1)	2 (4.7)
Making sure food or water are not contaminated with hepatitis B (False)	5 (11.6)	37 (86.0)	1 (2.3)
Having hepatitis B vaccinations (True)	34 (79.1)	7 (16.3)	2 (4.7)
Taking traditional Vietnamese/Chinese medicines or health supplements to improve immunity/ health (False)	8 (18.6)	27 (62.8)	8 (18.6)

Maintaining good hygiene (e.g. washing hands frequently, general cleanliness) (False)	6 (14.0)	35 (81.4)	2 (4.7)
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Table 13: Knowledge of transmission routes for Vietnamese sample (students born in Vietnam, n=58)

	Correctly Answered	Incorrectly Answered	Unsure
Someone can prevent themselves from getting hepatitis B, or giving it to others by:			
Avoiding blood-to-blood contact (True)	45 (86.5)	1 (1.9)	6 (11.5)
Using condoms when having sex (True)	36 (69.2)	5 (9.6)	11 (21.2)
Not sharing drug injecting equipment (True)	48 (92.3)	0	4 (7.7)
Not drinking alcohol (False)	14 (26.9)	23 (44.2)	15 (28.8)
Exercising (False)	7 (13.5)	30 (57.7)	15 (28.8)
Avoiding eating food prepared by a person infected with hepatitis B (False)	16 (30.8)	25 (48.1)	11 (21.2)
Avoiding close contact with someone with hepatitis B (e.g. shaking hands, hugging, kissing) (False)	17 (32.7)	27 (51.9)	8 (15.4)
Not sharing personal items with someone with hepatitis B (e.g. toothbrush, razors, blades) (True)	43 (82.7)	2 (3.8)	7 (13.5)
Avoiding sharing eating utensils with a person infected with Hepatitis B (False)	5 (9.6)	38 (73.1)	9 (17.3)
Making sure food or water are not contaminated with hepatitis B (False)	5 (9.6)	40 (76.9)	7 (13.5)
Having hepatitis B vaccinations (True)	47 (90.4)	1 (1.9)	4 (7.7)
Taking traditional Vietnamese/Chinese medicines or health supplements to improve immunity/ health (False)	16 (30.8)	13 (25.0)	23 (44.2)
Maintaining good hygiene (e.g. washing hands frequently, general cleanliness) (False)	5 (9.6)	41 (78.8)	6 (11.5)

The knowledge scale comprised of all 30 items reported on above. The mean score on the knowledge scale was 12.85 (range 0-24, SD = 4.67), indicating overall low levels of knowledge of hepatitis B among the sample. Correlations were undertaken in order to assess whether particular sample characteristics or measures were associated with hepatitis B knowledge. The knowledge scale was positively correlated with knowing someone living with hepatitis B and gender and negatively correlated with trust in Western healthcare. Participants with a better knowledge of hepatitis B were more likely to be know someone living with hepatitis B, to be female and were more likely to trust Western healthcare. See Table 15.

Table 14: Correlations with knowledge scale among Vietnamese student sample

	Knowing someone with HBV	Country of Birth	Connection to Vietnamese community	Gender	Number of years living in Australia	Distrust in Western healthcare
Knowledge scale	.392***	.149	-.086	.214*	-.132	-.399***

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

5. Results - Students of Chinese background

5.2 Demographics

The Chinese student sample consisted of 112 adults, with an average age of 24 years (range 18-32 years). Just over half of the sample were born in Australia (n=58, 51.8%), with 51 students (45.5%) born in Mainland China and 3 students (2.7%) born in Hong Kong. There were 58 (51.8%) males and 54 (48.2%) females, with 96.4% (n=108) identifying as heterosexual. Participants were recruited from each state and territory, with nearly one-third (n=35, 31.3%) being from New South Wales. More than half of the sample (n=63, 56.3%) had lived in Australia for more than 10 years, with almost all the sample (n=108, 97.3%) wanting to stay in Australia after they had finished studying. Most of the sample (n=104, 92.9%) was currently enrolled at a university with the majority studying for a bachelor degree (n=68, 60.7%). Almost all (n=102, 91.1%) reported being financially stable. English was the most commonly spoken first language (n=62, 55.4%), followed by Mandarin (n=40; 35.7%) and Cantonese (n=10, 8.9%). Almost half the sample (n=53, 47.3%) reported that they spoke English very well. Of the sample, 86.8% (n=92) reported that they use student health services. See Table 16 for more socio-demographic details divided by those born in Australia, those born overseas, and the total sample.

Table 15: Socio-demographic characteristics for Chinese student sample

N (%)	Born in Australia n=58	Born overseas n=54	Total sample n=112
Current gender identity			
Male	32 (55.2)	26 (48.1)	58 (51.8)
Female	26 (44.8)	28 (51.9)	54 (48.2)
Where do you live			
NSW	17 (29.3)	18 (33.3)	35 (31.3)
Victoria	12 (20.7)	5 (9.3)	17 (15.2)
ACT	2 (3.4)	15 (27.8)	17 (15.2)
Queensland	5 (8.6)	8 (14.8)	13 (11.6)
Northern Territory	9 (15.5)	2 (3.7)	11 (9.8)
Western Australia	7 (12.1)	3 (5.6)	10 (8.9)
Tasmania	4 (6.9)	1 (1.9)	5 (4.5)
South Australia	2 (3.4)	2 (3.7)	4 (3.6)
Number of years living in Australia?			
More than 10 years	56 (96.6)	7 (13.0)	63 (56.3)
6-10 years	-	16 (29.6)	16 (14.3)
3-5 years	1 (1.7)	26(48.1)	27 (24.1)
0-2 years	1 (1.7)	5 (9.3)	6 (5.4)
Where are you currently enrolled to study			
University	56 (96.6)	48 (88.9)	104 (92.9)
VET/TAFE	2 (3.4)	3 (5.6)	5 (4.5)
ELICOS institutes	0	1 (1.9)	1 (0.9)
Other	0	2 (3.7)	2 (1.8)
What are you currently studying			
Bachelor Degree	54 (93.1)	14 (25.9)	68 (60.7)

Masters Degree	1 (1.7)	24 (44.4)	25 (22.3)
Doctoral Degree	0	5 (9.3)	5 (4.5)
Diploma	1 (1.7)	3 (5.6)	4 (3.6)
Cert I, Cert II, Cert III, Cert IV	1 (1.7)	3 (5.6)	4 (3.6)
Bachelor Honours Degree / Graduate Certificate / Graduate Diploma	0	4 (7.4)	4 (3.6)
Advanced Diploma / Associate Degree	1 (1.7)	1 (1.9)	2 (1.8)
Living situation			
Live with housemates	31 (53.4)	19 (35.2)	50 (44.6)
Live with family	19 (32.8)	14 (25.9)	33 (29.5)
Live alone	8 (13.8)	21 (38.9)	29 (25.9)
Financial status			
I am financially stable	55 (94.8)	47 (87.0)	102(91.1)
I am having trouble paying my bills	3 (5.2)	7 (13.0)	10(8.9)
Language spoken most frequently at home			
English	50 (86.2)	12 (22.2)	62 (55.4)
Mandarin	8 (13.8)	32 (59.3)	40 (35.7)
Cantonese	0	10 (18.5)	10 (8.9)
How well do you speak English			
Very well	40 (69.0)	13 (24.1)	53 (47.3)
Well	18 (31.0)	31 (57.4)	49 (43.8)
Not well	0	5 (9.3)	5 (4.5)
Not well at all	0	1 (1.9)	1 (0.9)
Can't say	0	4 (7.4)	4 (3.6)
Do you use student health services			
Yes	45 (84.9)	47 (88.7)	92 (86.8)
No, I have never heard of student health services	6 (11.3)	2 (3.8)	8 (7.5)
No, I do not choose to use these services	2 (3.8)	4 (7.5)	6 (5.7)

5.3 Community connection

Almost all of the sample reported having some interaction with the Chinese community in Australia (n=104, 92.9%) and outside Australia (n=105, 93.7%). Over one-third of students (n=23, 39.7%) who were born in Australia, report that they interact ‘a lot’ with the local English speaking Australian community compared with 5.6% (n=3) of students born outside Australia. Interestingly, 84.5% (n=47) of students born in Australia reported they feel they have ‘quite a bit’ or ‘a lot’ in common with the Chinese community outside Australia compared with 40.7% (n=22) of students born outside Australia. See figures 15, 16 and 17 for more details.

Figure 15: Degree of community connection (whole Chinese student sample, n=112)

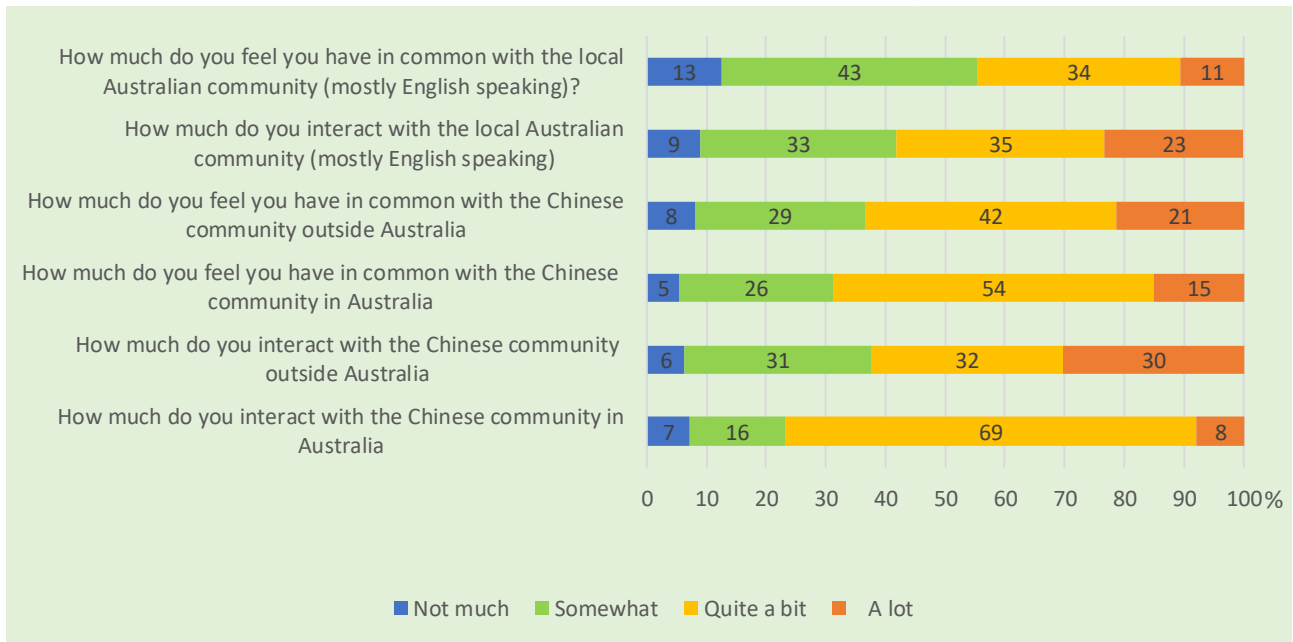


Figure 16: Degree of community connection (Chinese students born in Australia, n=58)

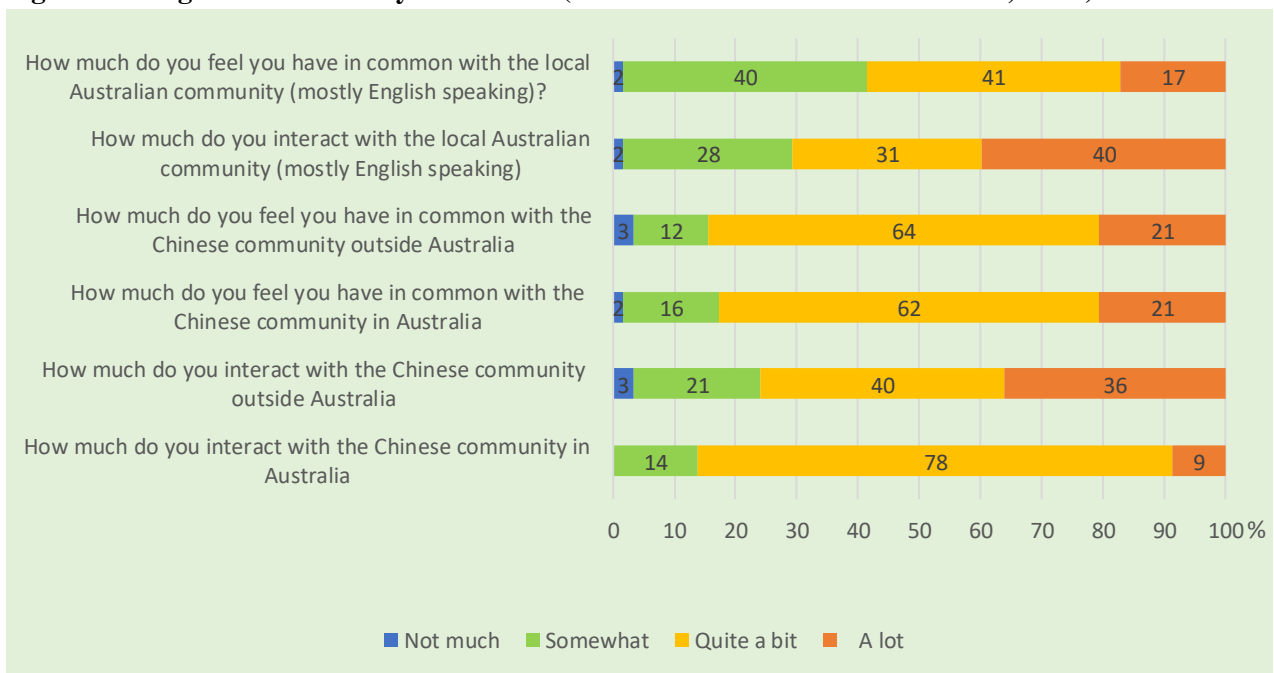
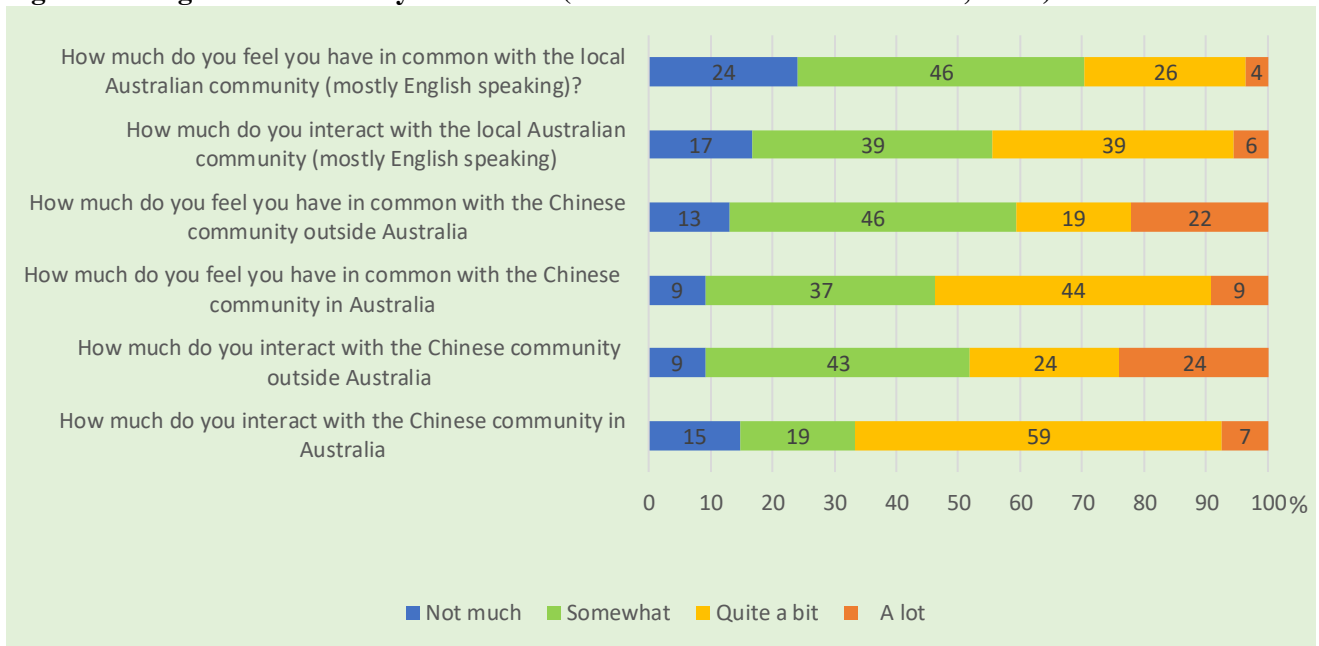


Figure 17: Degree of community connection (Chinese students born overseas, n=54)



While more than half of the full sample (n=61, 54.9%) reported mixing with other students regardless of identity, 82.0% ‘agreed’ or ‘strongly agreed’ that most of their friends were Chinese. When looking at students born in Australia, 82.4% (n=47) ‘agreed’ or ‘strongly agreed’ that they feel connected to the Chinese community in Australia compared with only 59.2% (n=32) the students born outside Australia. Furthermore, only 28% (n=16) of students born in Australia ‘agreed’ or ‘strongly agreed’ that they feel connected to the Chinese community in their family’s place of birth as compared with 57.4% (n=31) of students born outside Australia. See Figure 18 - 20 for more details on community connection.

Figure 18: Connection with Chinese community (whole Chinese student sample, n=112)

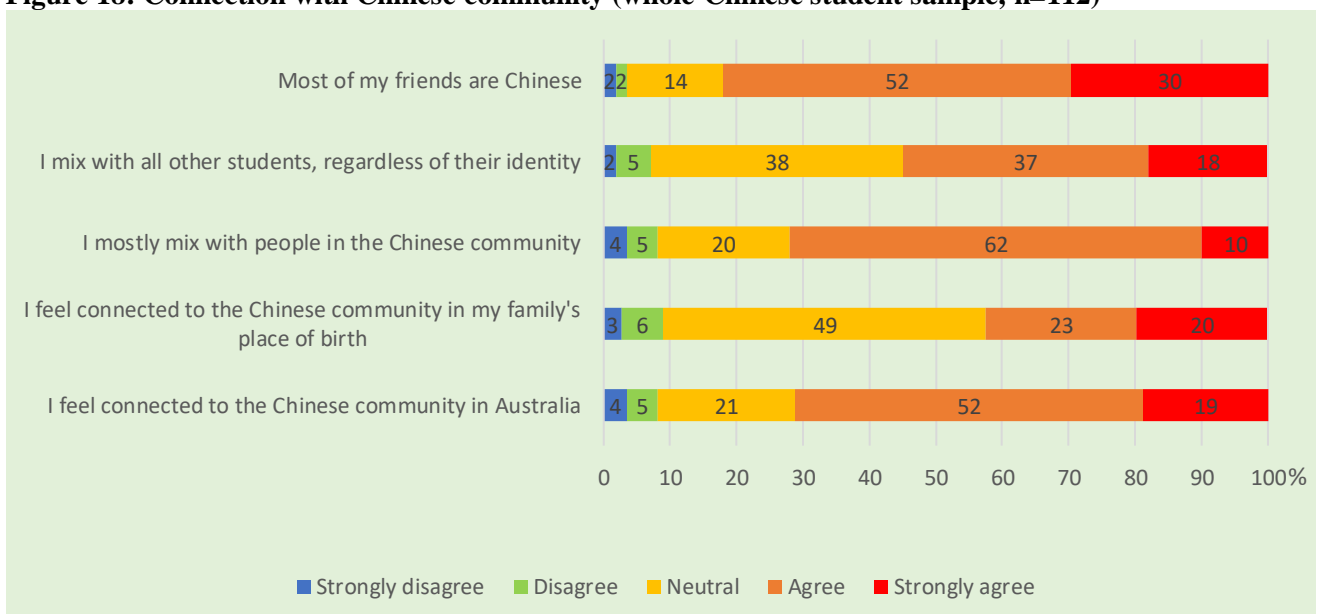


Figure 19: Connection with Chinese community (Chinese students born in Australia, n=58)

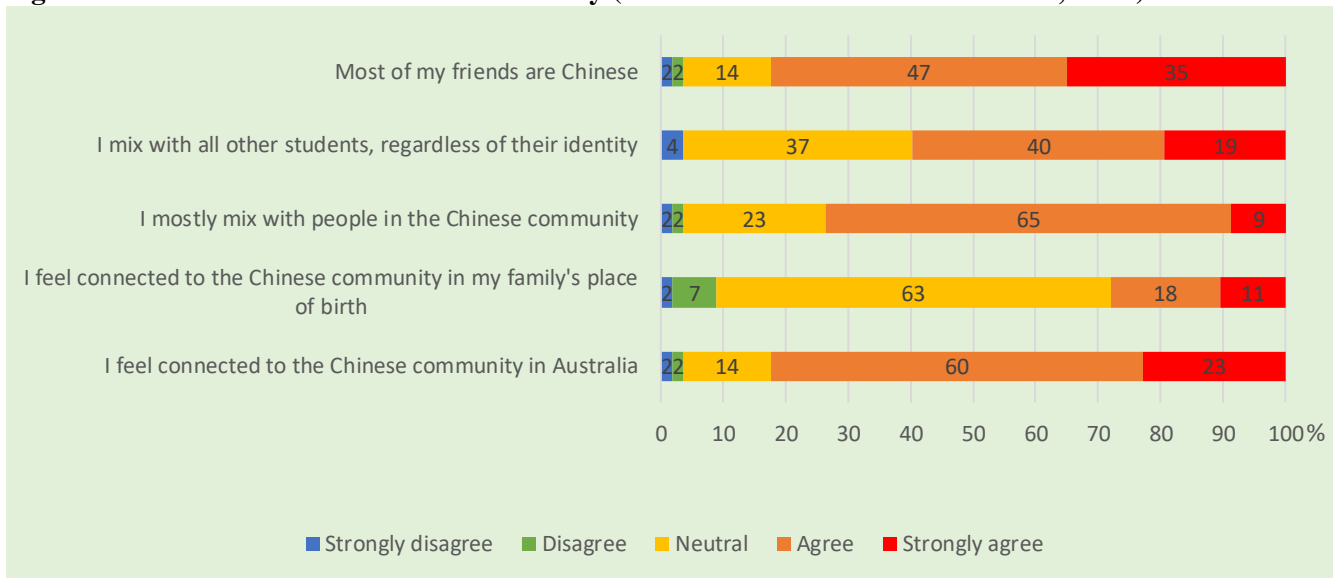
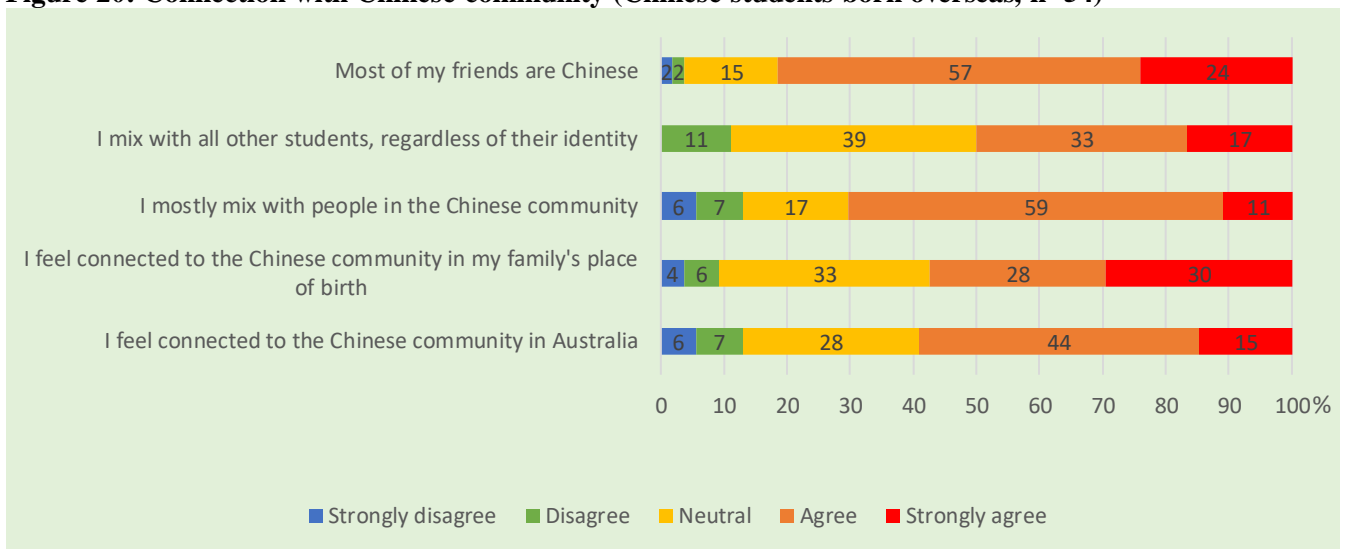


Figure 20: Connection with Chinese community (Chinese students born overseas, n=54)



5.4 Knowing someone living with hepatitis B and receiving information

Eighteen percent of the sample (n=19) reported that they knew someone living with hepatitis B. This figure was higher among those students born outside Australia with 26.4% (n=14) reporting to know someone with hepatitis B, compared with 9.6% (n=5) of students born in Australia. Of those people who knew someone living with hepatitis B, they most commonly (n=12, 63.2%) reported knowing one or two people with hepatitis B, and in most cases, this was either a friend (n=11, 57.9%) or an acquaintance (n=10, 52.6%) (see table 17 for more details).

Table 16: Knowing someone with hepatitis B for Chinese student sample

N (%)	Born in Australia n=58	Born overseas n=54	Total sample n=112
Do you personally know anyone with hep B			
No	47 (90.4)	21 (39.6)	68 (64.8)
Yes	5 (9.6)	14 (26.4)	19 (18.1)
Not sure	0	12 (22.6)	12 (11.4)
Prefer not to answer	0	6 (11.3)	6 (5.7)

5.5 Testing for hepatitis B

As with the Vietnamese sample, there was a high testing rate, with over three quarters of the sample (n=82, 77.4%) recalling being tested for hepatitis B. This high testing rate, was again noticeably higher for students who were born in Australia as compared to those students born outside Australia (92.5% compared with 62.3%). All students born in Australia who had tested for hepatitis B (n=187) had their last test in Australia and 72.7% (n=24) of students born outside Australia had their last test in Australia. The main reason given for testing for students born in Australia was as part of their regular health check (n=63, 33.7%) while among students born outside Australia the main reason given was that it was a school/university requirement (n= 35, 42.7%).

The most commonly reported location for testing was at a health centre (n=34, 41.5%) – this figure is slightly higher among students born outside Australia (n=15, 45.5%) compared with students born in Australia (n=19, 38.8%). Satisfaction with the information provided about hepatitis B at the time of testing was very high with 92.7% percent of the sample (n=76) reporting that they were either ‘satisfied’ or ‘very satisfied’ with the information provided. Among the 13 participants (12.3%) who reported not having ever been tested for hepatitis B, the main reason given was they did not know much about the testing (n=6, 46.2%) followed by the fact that they were feeling quite well and did not therefore think testing for hepatitis B was necessary (n=5, 38.5%). Only one person reported having hepatitis B, with an additional two participants reporting that they would prefer not to answer the question, and 5 participants were unsure. See Table 18 for more information on testing for hepatitis B.

Table 17: Information on testing for hepatitis B for Chinese student sample

N (%)	Born in Australia n=58	Born overseas n=54	Total sample n=112
Do you recall having ever been tested for Hepatitis B			
Yes	49 (92.5)	33 (62.3)	82 (77.4)
No	3 (5.7)	10 (18.9)	13 (12.3)
Not sure	1 (1.9)	10 (18.9)	11 (10.4)
What made you decide to get tested for hepatitis B	n=49	n=33	n=82
School/university requirement	17 (34.7)	18 (54.5)	35 (42.7)
Family member/friend suggested	13 (26.5)	17 (51.5)	30 (36.6)
Part of regular health check	12 (24.5)	7 (21.2)	19 (23.2)

I learned about hepatitis B on the Internet/social media	12 (24.5)	8 (24.2)	20 (24.4)
I learned about hepatitis B in newspaper/TV/radio/printed ad	11 (22.4)	6 (18.2)	17 (20.7)
I know someone who has hepatitis B	9 (18.4)	5 (15.2)	14 (17.1)
Travel or immigration purposes	8 (16.3)	9 (27.3)	17 (20.7)
Doctor recommended	10 (20.4)	4 (12.1)	14 (17.1)
Work requirement	10 (20.4)	4 (12.1)	14 (17.1)
Part of pregnancy screening	2 (4.1)	0	2 (2.4)
Were you last tested for hepatitis B in Australia	n=49	n=33	n=82
Yes	49 (100)	24 (72.7)	73 (89.0)
No	0	9 (27.3)	9 (11.0)
Last place of testing for hepatitis B	n=49	n=33	n=82
Health check centre	19 (38.8)	15 (45.5)	34 (41.5)
Clinic or hospital	23 (46.9)	9 (27.3)	32 (39.0)
Doctor's office	7 (14.3)	4 (12.1)	11 (13.4)
Screening event	0	3 (9.1)	3 (3.7)
Don't remember/other	0	2 (6.0)	2 (2.4)
Were you satisfied with the information about hep B given to you at the time of testing	n=49	n=33	n=82
Very satisfied	28 (57.1)	12 (36.4)	40 (48.8)
Satisfied	19 (38.8)	17 (51.5)	36 (43.9)
Neutral	2 (4.1)	3 (9.1)	5 (6.1)
Very dissatisfied	0	1 (3.0)	1 (1.2)

* Valid percents are used

5.6 Hepatitis B vaccination

High vaccination rates were reported among the student sample, with 88.7% (n=94) of the sample reported being vaccinated. This figure was higher among students born in Australia with 94.3% (n=50) having been vaccinated compared with 83.0% (n=44) of students born outside of Australia. Again, this high reported figure among those born in Australia, is likely because given that they were born in Australia that they were vaccinated at birth, however vaccinations for new born babies is also universal in China.

Further, of those students who reported being vaccinated, 95.7% (n=90) reported that they had completed the full course of vaccination. Among those students who were vaccinated, all students born in Australia except for one participant were vaccinated in Australia compared with only 3 students who were born outside Australia; 37 students (92.5%) born outside Australia reported to have received their vaccinations in China. See Table 19 for more information on vaccinations.

Table 18: Information on hepatitis B vaccination for Chinese student sample

N (%)	Born in Australia n=58	Born overseas n=54	Total sample n=112
Have you ever had hepatitis B vaccination?			
Yes	50 (94.3)	44 (83.0)	94 (88.7)
No	3 (5.7)	2 (3.8)	5 (4.7)

Not sure	0	7 (13.2)	7 (6.3)
Among students who had ever received a vaccination	n=50	n=44	n=94
Did you complete the full course of vaccination?			
Yes	50 (100)	40(90.9)	90 (95.7)
No	0	1(2.3)	1 (1.1)
Not sure	0	3(6.8)	3 (3.2)
Where did you get the vaccine?	n=50	n=44	n=94
Australia	49 (98.0)	3 (7.5)	52 (55.3)
China	1 (2.0)	37 (92.5)	38 (40.4)

* valid percent

5.7 Trust in Western healthcare

Participants were asked statements about their trust in Western healthcare, focusing on their beliefs and feelings towards Western healthcare versus traditional Chinese healthcare. Almost half (n=51, 48.5%) of all students ‘agreed’ or ‘strongly agreed’ that using pharmaceutical medicine to treat hepatitis B has more negative side effects than using traditional Chinese medicine. In addition, 31.4% (n=33) reported being unwilling to speak with Western-trained doctors and healthcare workers in detail about their health and treatment. This unwillingness, as with the Vietnamese sample, was notably higher among students born in Australia – while almost two-thirds of students born outside Australia ‘disagreed’/’strongly disagreed’ with this statement (n=47, 65.2%) only 7.4% (n=14) of students born in Australia ‘disagreed’/ ‘strongly disagreed’ with the above. See Figure 21-23 more details on trust in Western healthcare.

Figure 21: Trust in Western Healthcare (whole Chinese student sample, n=112)

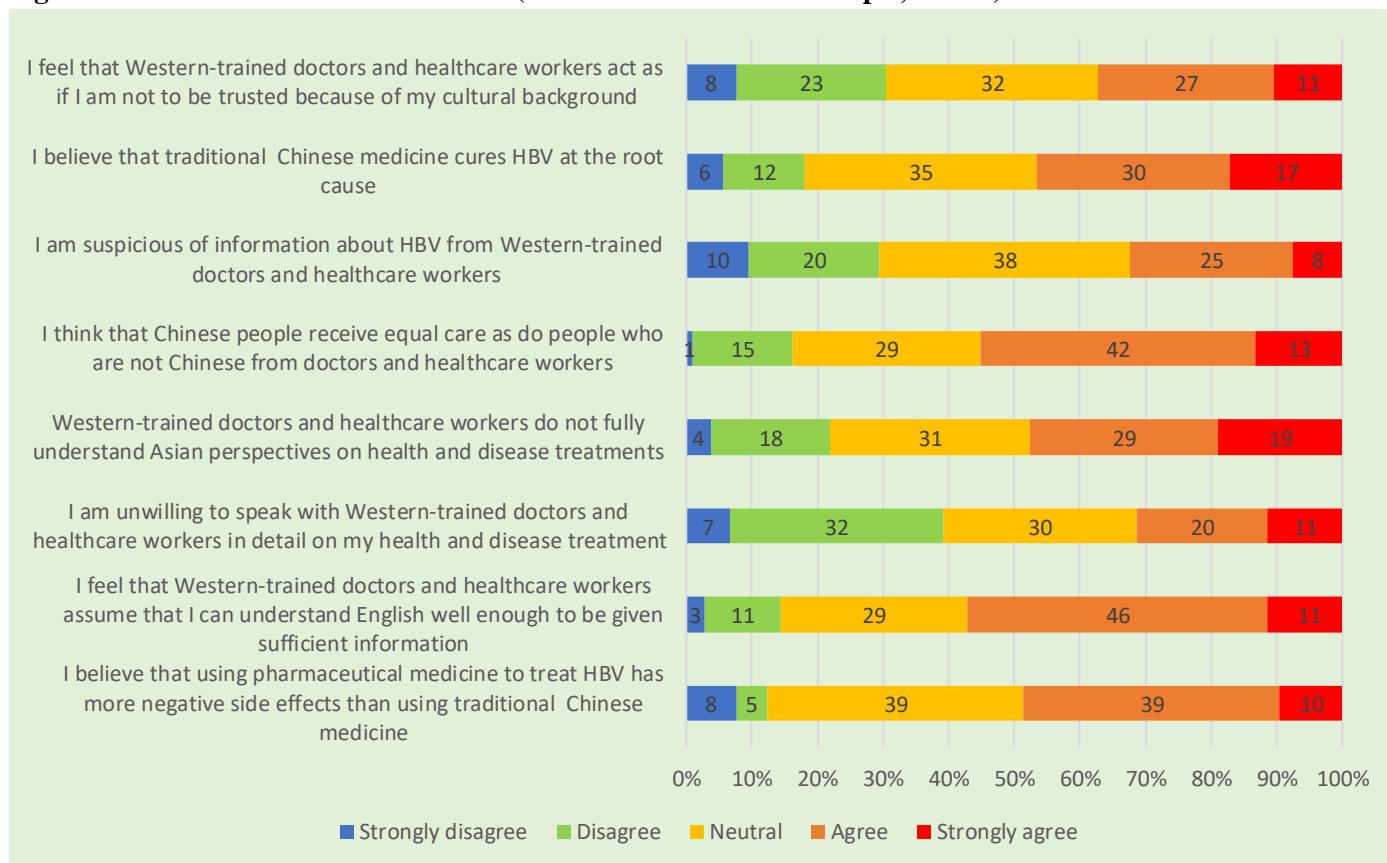


Figure 22: Trust in Western Healthcare (Chinese students born in Australia, n=58)

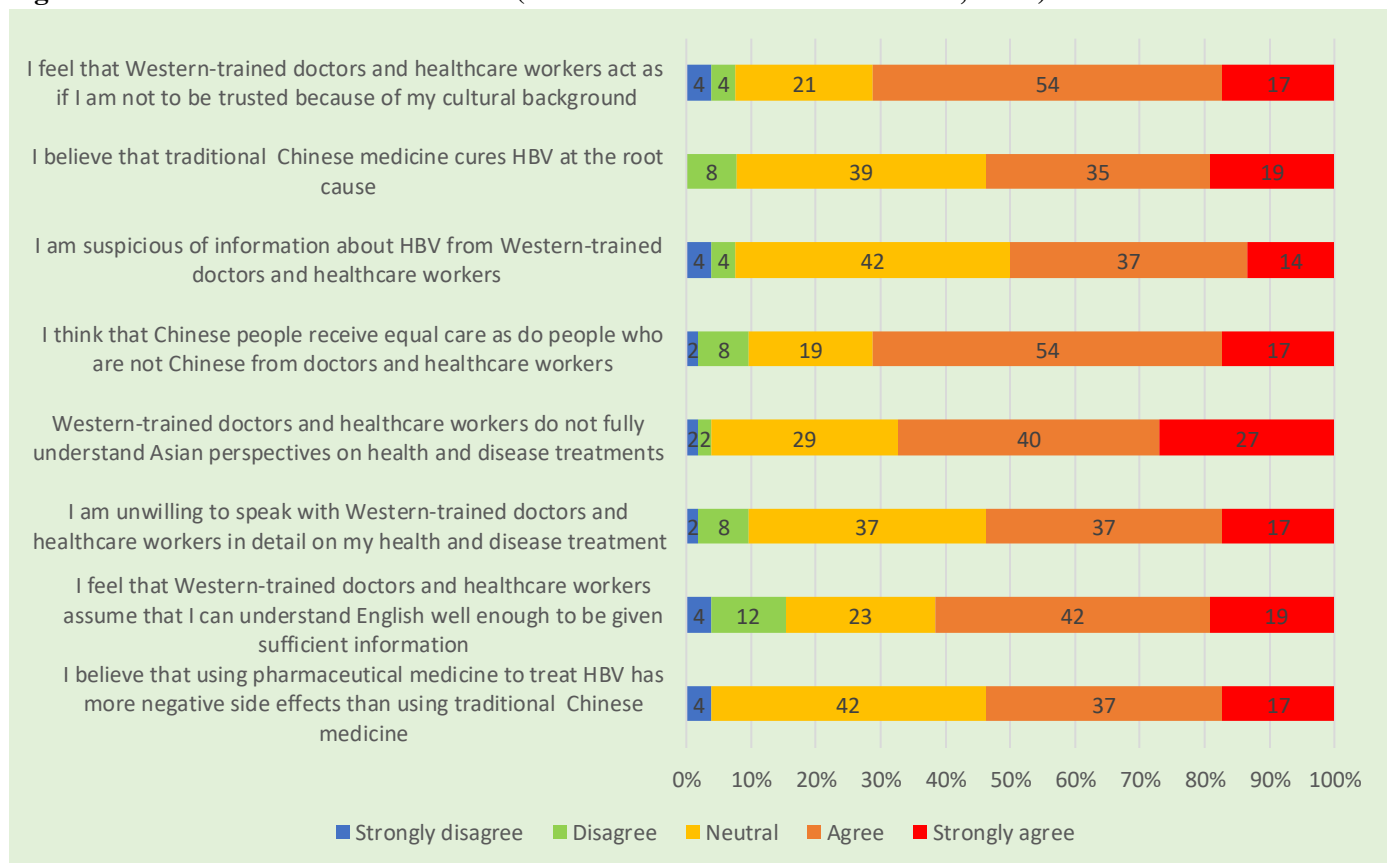
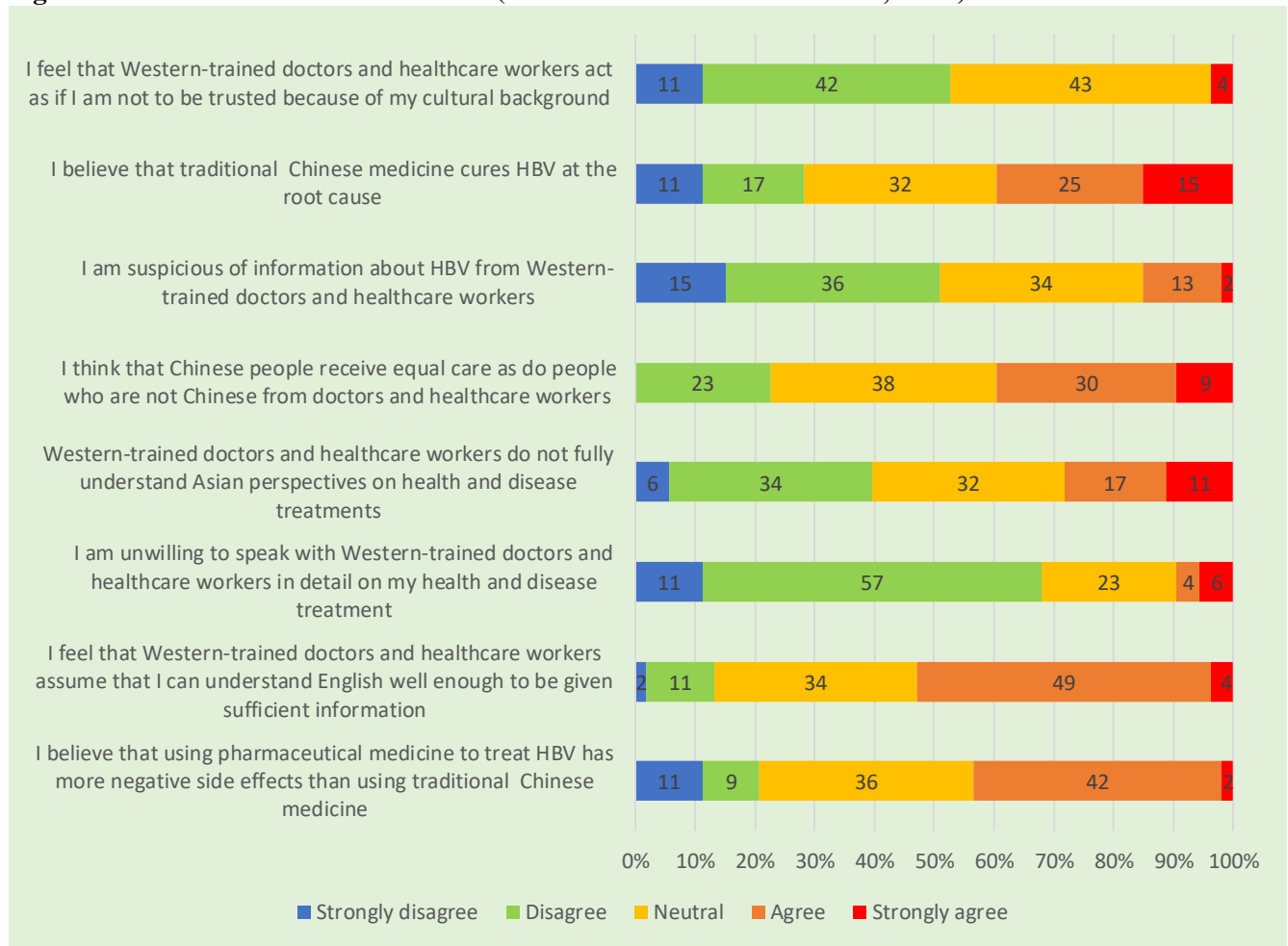


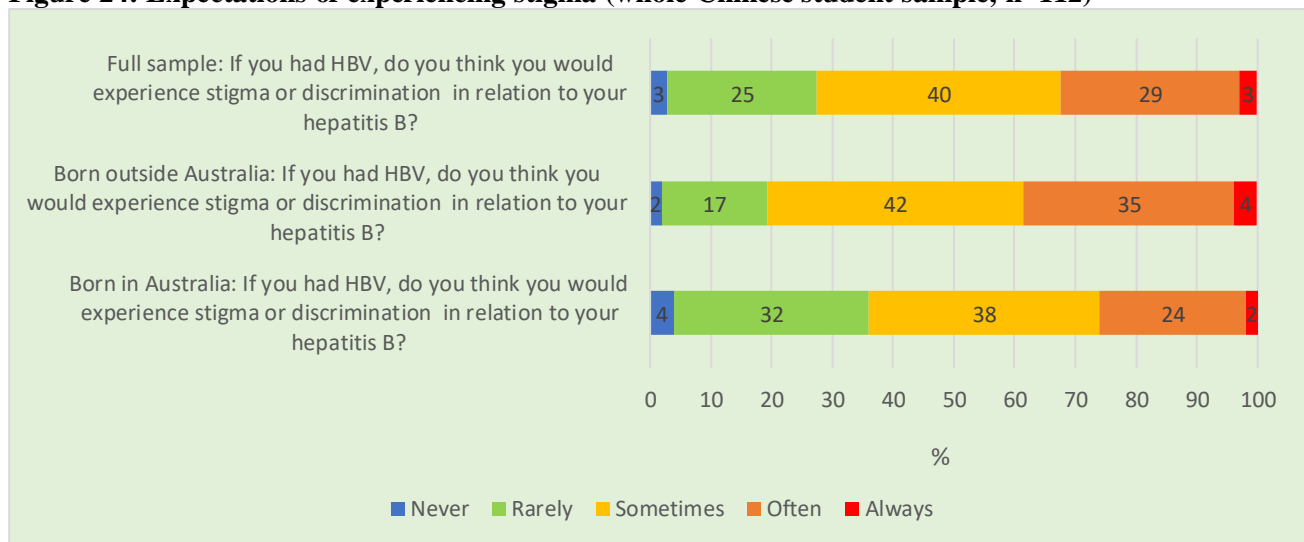
Figure 23: Trust in Western Healthcare (Chinese students born overseas, n=54)



5.8 Attitudes towards hepatitis B

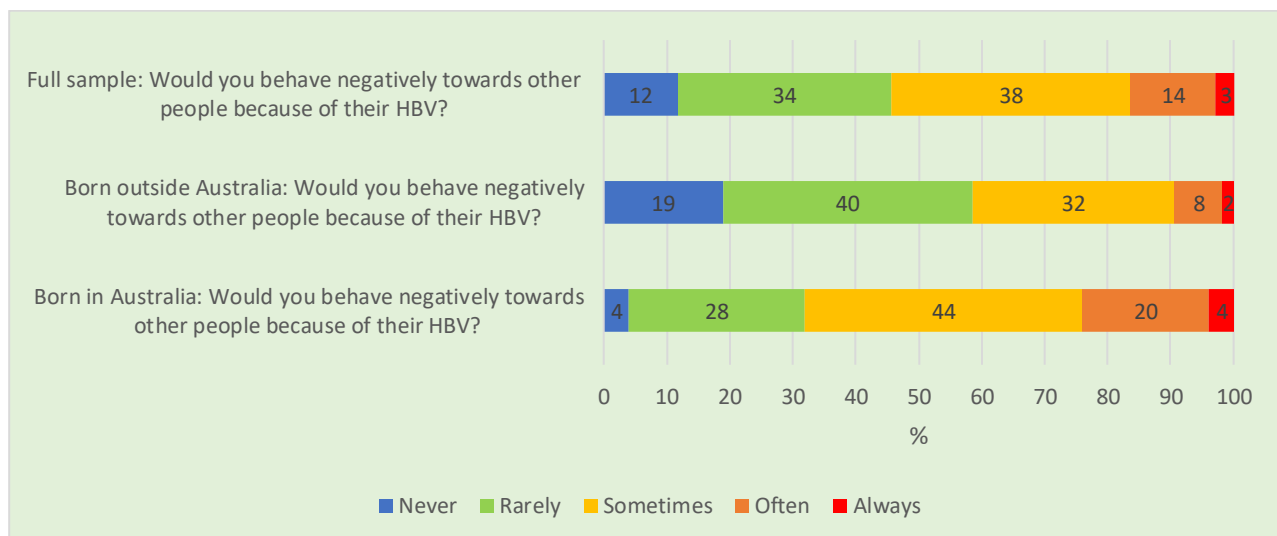
Participants were asked questions around stigma and discrimination in relation to hepatitis B. Seventy-two percent of participants (n=74) reported that if they had hepatitis B, they would expect to experience stigma or discrimination in relation to their hepatitis B, and 29.4% of participants (n=30) thought it would occur ‘often’. When comparing students born in Australia and those born outside of Australia, 32% (n=16) of students born in Australia responded that they would ‘rarely’ and 24% (n=12) responded they would ‘often’ expect to experience stigma or discrimination in relation to their hepatitis B as compared with 17.3% of students born outside of Australia (n=9) who responded ‘rarely’ and 34.6% (n=18) who responded ‘often’. See figure 24 for more details.

Figure 24: Expectations of experiencing stigma (whole Chinese student sample, n=112)



The sample was also asked whether they would behave negatively towards other people because of their hepatitis B. 37.9% of respondents (n=39) reported that they would ‘sometimes’ and a further 13.6% (n=14) reported would ‘often’ behave negatively towards other people because of their hepatitis B. Interesting, 18.9% of students born outside Australia (n=10) said they would ‘never’ behave negatively toward others because of their HBV compared with only 4% (n=2) of the students born in Australia. See figure 25 for details.

Figure 25: Expressing discrimination towards people with HBV (whole Chinese student sample, n=112)



Participants were also asked nine statements about their attitudes towards people living with hepatitis B. Attitudes towards people living with hepatitis B were mixed (similar to the Vietnamese student sample). Almost three-quarters of the sample (n=74, 71.8%) felt that people who have hepatitis B should not be isolated by family and friends yet almost half of the sample (n=49, 47.6%) reported that if they knew that someone had hepatitis B, they would avoid close contact with them (e.g., shaking hands, hugging). The majority of the sample (n=66, 64.1%) felt that screening or testing for hepatitis B is necessary for job applications because it is helpful for preventing transmission to other employees. In addition, almost one-third (n=32, 31%) of the sample felt that people who have hepatitis B should be ashamed of their illness.

When looking at these attitudes, taking country of birth into account, it is worth noting more students who were born outside Australia ‘strongly disagreed’ with the attitudes items (this is similar to the Vietnamese students), for example 66% (n=35) of participants born outside Australia ‘strongly disagree’ that people who have hepatitis B deserve it compared with 4% (n=2) of students born in Australia. Similarly, 37.7% (n=20) of students born outside Australia ‘strongly disagree’ that people who have hepatitis B should be ashamed of their illness as compared with 4% (n=2) of students born in Australia. See figure 26-28 for more information.

Figure 26: Attitudes towards HBV (whole Chinese student sample, n=112)

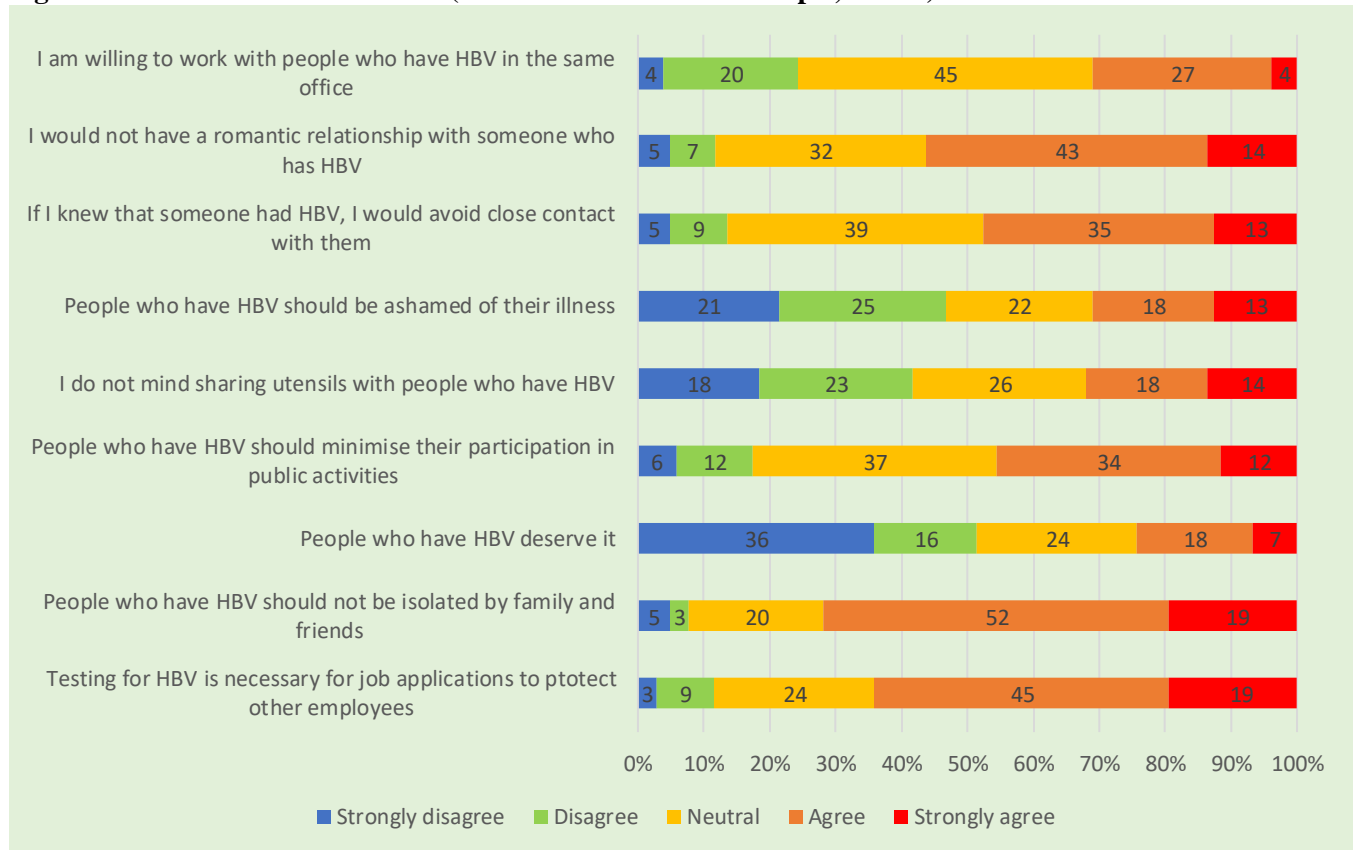


Figure 27: Attitudes towards HBV (Chinese students born in Australia, n=58)

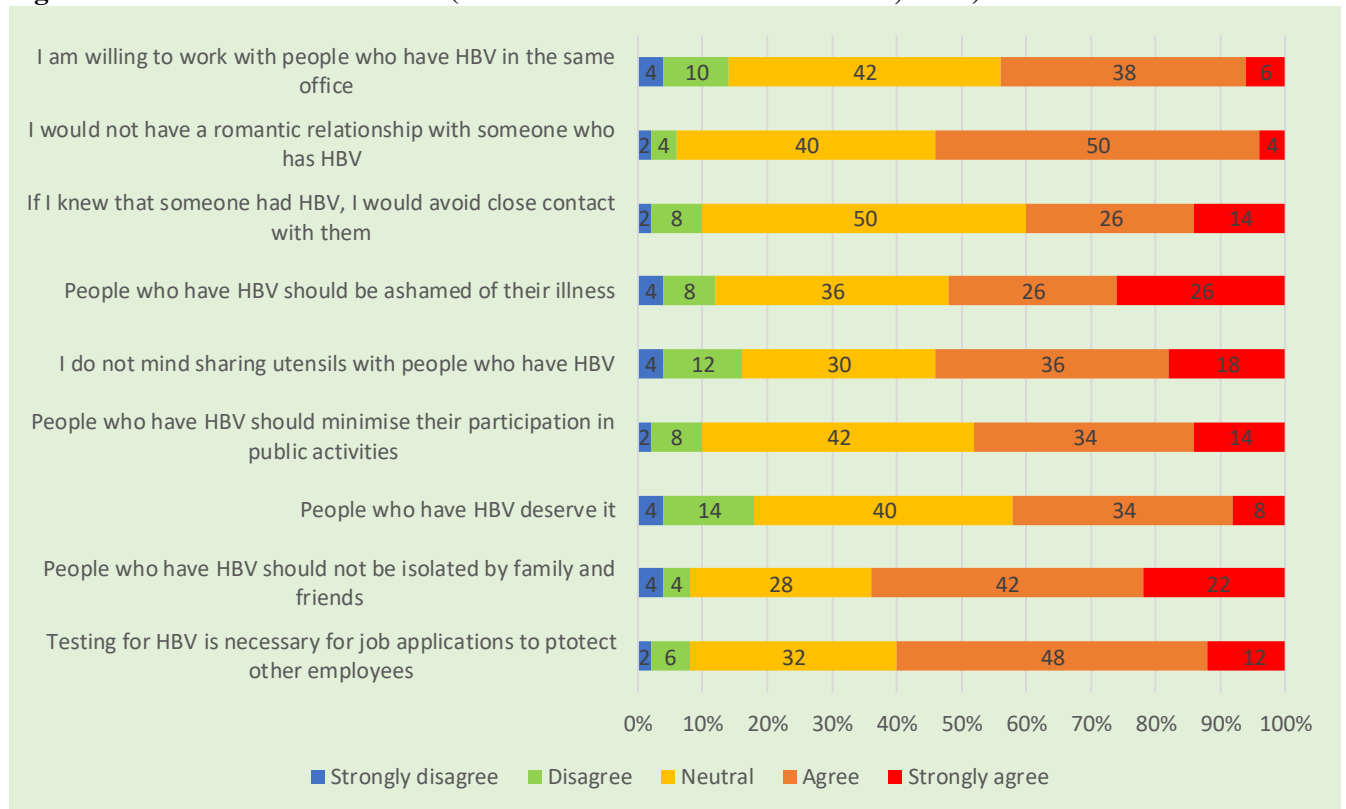
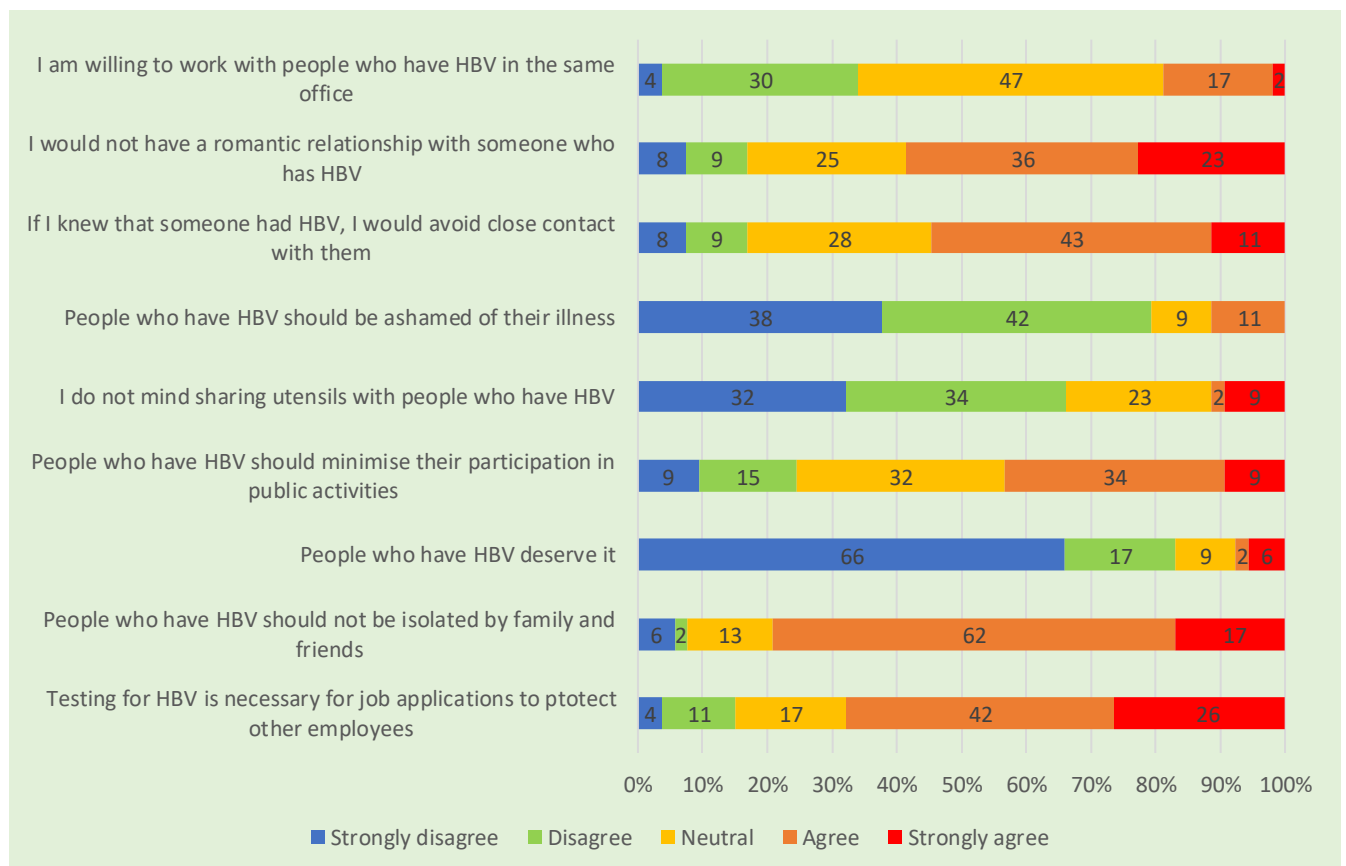


Figure 28: Attitudes towards HBV (Chinese students born overseas, n=54)



5.9 Knowledge of hepatitis B

Participants were given several statements to assess their knowledge around hepatitis B. Knowledge among the sample was mixed (similar findings to the Vietnamese student sample). While 88.8% (n=95) knew that there is a vaccination that can prevent hepatitis B infection, the majority of participants (n=64, 59.8%) responded incorrectly or were ‘unsure’ that hepatitis B cannot be transmitted by someone who looks and feels healthy. Only 26.8% (n=30) of the sample were aware that there are effective pharmaceutical medicines available to treat hepatitis B infection.

Comparison between countries of birth reveal that while more students born in Australia knew that hepatitis B can only be identified by a blood test (86.8% born in Australia vs 61.1% born outside Australia), more students born outside Australia were aware that hepatitis B can be transmitted by someone who looks and feels healthy (only 7.5% born in Australia vs 72.2% born outside Australia). On the whole, as with the Vietnamese sample, between 10-20% of the sample responded ‘unsure’ to each of the knowledge items. This was higher among students born outside Australia, where for example 24.1% (n=13) were unsure that all parents (regardless of their hepatitis B status) are offered a free hepatitis B vaccine for their newborn children in Australia (see Table 20-22 for more details).

Table 19: Participants knowledge of HBV (whole Chinese student sample, n=112)

	Correctly Answered	Incorrectly Answered	Unsure
Statements about participants knowledge of hepatitis B			
Hep B can only be identified by a blood test (True)	79 (73.8)	14 (13.1)	14 (13.1)
There is a vaccination that can prevent hep B infection (True)	95 (88.8)	2 (1.9)	10 (9.3)
There are no effective pharmaceutical medicines available to treat hepatitis B infection (False)	30 (26.8)	55 (51.4)	22 (20.6)
Hepatitis B may cause the skin and eyes to turn a yellow colour (True)	84 (78.5)	6 (5.6)	17 (15.9)
Hepatitis B cannot be transmitted by someone who looks and feels healthy (False)	43 (40.2)	44 (41.1)	20 (18.7)
Chronic hepatitis B can develop into cirrhosis and liver cancer (True)	90 (84.1)	2 (1.9)	15 (14.0)
All parents (regardless of their hepatitis B status) are offered a free hepatitis B vaccine for their newborn children in Australia (True)	84 (78.5)	5 (4.7)	18 (16.8)

Table 20: Participants knowledge of HBV (Chinese students born in Australia, n=58)

	Correctly Answered	Incorrectly Answered	Unsure
Statements about participants knowledge of hepatitis B			
Hep B can only be identified by a blood test (True)	46 (86.8)	3 (5.7)	4 (7.5)
There is a vaccination that can prevent hep B infection (True)	47 (88.7)	2 (3.8)	4 (7.5)
There are no effective pharmaceutical medicines available to treat hepatitis B infection (False)	3 (5.7)	45 (84.9)	5 (9.4)
Hepatitis B may cause the skin and eyes to turn a yellow colour (True)	48 (90.6)	2 (3.8)	3 (5.7)

Hepatitis B cannot be transmitted by someone who looks and feels healthy (False)	4 (7.5)	39 (73.6)	10 (18.9)
Chronic hepatitis B can develop into cirrhosis and liver cancer (True)	49 (92.5)	1 (1.9)	3 (5.7)
All parents (regardless of their hepatitis B status) are offered a free hepatitis B vaccine for their newborn children in Australia (True)	44 (83.0)	4 (7.5)	5 (9.4)

Table 21: Participants knowledge of HBV (Chinese students born overseas, n=54)

	Correctly Answered	Incorrectly Answered	Unsure
Statements about participants knowledge of hepatitis B			
Hep B can only be identified by a blood test (True)	33 (61.1)	11 (20.4)	10 (18.5)
There is a vaccination that can prevent hep B infection (True)	48 (88.9)	0 (0)	6 (11.1)
There are no effective pharmaceutical medicines available to treat hepatitis B infection (False)	27 (50.0)	10 (18.5)	17 (31.5)
Hepatitis B may cause the skin and eyes to turn a yellow colour (True)	36 (66.7)	4 (7.4)	14 (25.9)
Hepatitis B cannot be transmitted by someone who looks and feels healthy (False)	39 (72.2)	5 (9.3)	10 (18.5)
Chronic hepatitis B can develop into cirrhosis and liver cancer (True)	41 (75.9)	1 (1.9)	12 (22.2)
All parents (regardless of their hepatitis B status) are offered a free hepatitis B vaccine for their newborn children in Australia (True)	40 (74.1)	1 (1.0)	13 (24.1)

Participants were asked a further seven questions around the causes of hepatitis B. The majority of the sample correctly reported that hepatitis B is caused by the hepatitis B virus (86%, n=92). However, over 90% of the sample incorrectly believed or were unsure as to whether, hepatitis B was caused by a damaged/weak liver, drinking too much alcohol, poor sanitation and hygiene, and from contaminated food/water or utensils. Similar to finding among the Vietnamese students, more students born outside of Australia compared to students born in Australia correctly responded that Yin and Yang imbalance inside and outside the body (25.9% vs 15.1%), working too hard (22.2% vs 9.4%), and physical exhaustion and fatigue (20.4% vs 7.5%) were not causes of hepatitis B, however these figures were very low and indicate a lack of understanding around causes hepatitis B (see Table 23-25 for more details).

Table 22: Knowledge of causes of Hepatitis B (whole Chinese student sample, n=112)

	Correctly Answered	Incorrectly Answered	Unsure
Hepatitis B is caused by			
Damaged liver/weak liver (False)	10 (9.3)	73 (68.2)	24 (22.4)
Hepatitis B virus (True)	92 (86.0)	1 (0.9)	14 (13.1)
Stress and negative emotions (False)	16 (15.0)	65 (60.7)	26 (24.3)
Poor sanitation and hygiene (False)	8 (7.5)	85 (79.4)	14 (13.1)
Drinking too much alcohol (False)	8 (7.5)	78 (72.9)	21 (19.6)
Contaminated food/water or utensils (False)	5 (4.7)	85 (79.4)	17 (15.9)

Physical exhaustion and fatigue (False)	15 (14.0)	65 (60.7)	27 (25.2)
Working too hard (False)	17 (15.9)	70 (65.4)	20 (18.7)
Yin and Yang imbalance inside and outside the body (False)	22 (20.6)	58 (54.2)	27 (25.2)

Table 23: Knowledge of causes of Hepatitis B (Chinese students born in Australia, n=58)

	Correctly Answered	Incorrectly Answered	Unsure
Hepatitis B is caused by			
Damaged liver/weak liver (False)	5 (9.4)	36 (67.9)	12 (22.6)
Hepatitis B virus (True)	47 (88.7)	1 (1.9)	5 (9.4)
Stress and negative emotions (False)	5 (9.4)	42 (79.2)	6 (11.3)
Poor sanitation and hygiene (False)	6 (11.3)	40 (75.5)	7 (13.2)
Drinking too much alcohol (False)	2 (3.8)	43 (81.1)	8 (15.1)
Contaminated food/water or utensils (False)	3 (5.7)	42 (79.2)	8 (15.1)
Physical exhaustion and fatigue (False)	4 (7.5)	40 (75.5)	9 (17.0)
Working too hard (False)	5 (9.4)	44 (83.0)	4 (7.5)
Yin and Yang imbalance inside and outside the body (False)	8 (15.1)	34 (64.2)	11 (20.8)

Table 24: Knowledge of causes of Hepatitis B (Chinese students born overseas, n=54)

	Correctly Answered	Incorrectly Answered	Unsure
Hepatitis B is caused by			
Damaged liver/weak liver (False)	5 (9.3)	37 (68.5)	12 (22.2)
Hepatitis B virus (True)	45 (83.3)	0 (0)	9 (16.7)
Stress and negative emotions (False)	11 (20.4)	23 (42.6)	20 (37.0)
Poor sanitation and hygiene (False)	2 (3.7)	45 (83.3)	7 (13.0)
Drinking too much alcohol (False)	6 (11.1)	35 (64.8)	13 (24.1)
Contaminated food/water or utensils (False)	2 (3.7)	43 (79.6)	9 (16.7)
Physical exhaustion and fatigue (False)	11 (20.4)	25 (46.3)	18 (33.3)
Working too hard (False)	12 (22.2)	26 (48.1)	16 (29.6)
Yin and Yang imbalance inside and outside the body (False)	14 (25.9)	24 (44.4)	16 (29.6)

Participants were also asked about ways someone can prevent getting hepatitis B or giving it to others. Again, knowledge was poor, with similar findings to the Vietnamese student sample. Over two thirds of the sample incorrectly thought that someone can prevent the transmission of hepatitis B by not drinking alcohol, exercising, avoiding eating food prepared by a person infected with hepatitis B, avoiding close contact with someone with hepatitis B (e.g. shaking hands, hugging, kissing), avoiding sharing eating utensils with a person infected with hepatitis B, making sure food or water are not contaminated with hepatitis B, as well as maintaining good hygiene.

When comparing participants according to country of birth, more students born outside Australia compared to students born in Australia were aware that avoiding blood-to blood contact (92.6% vs 83.0%), using condoms (92.6% vs 69.8%), not sharing injecting equipment (94.4% vs 75.5%), not sharing razors and toothbrushes (90.7% vs 73.6%), and having the hepatitis B vaccination (96.3% vs 79.2%) can prevent themselves from getting hepatitis B, or giving it to others. See Table 26-28.

Table 25: Knowledge of transmission routes (whole Chinese student sample, n=112)

	Correctly Answered	Incorrectly Answered	Unsure
Someone can prevent themselves from getting hepatitis B, or giving it to others by:			
Avoiding blood-to-blood contact (True)	94 (87.9)	7 (6.5)	6 (5.6)
Using condoms when having sex (True)	87 (81.3)	11 (10.3)	9 (8.4)
Not sharing drug injecting equipment (True)	91 (85.0)	10 (9.3)	6 (5.6)
Not drinking alcohol (False)	19 (17.8)	70 (65.5)	18 (16.7)
Exercising (False)	11 (10.3)	85 (79.4)	11 (10.3)
Avoiding eating food prepared by a person infected with hepatitis B (False)	10 (9.3)	81 (75.7)	16 (15.0)
Avoiding close contact with someone with hepatitis B (e.g. shaking hands, hugging, kissing) (False)	13 (12.1)	80 (74.8)	14 (13.1)
Not sharing personal items with someone with hepatitis B (e.g. toothbrush, razors, blades) (True)	88 (82.2)	11 (10.3)	8 (7.5)
Avoiding sharing eating utensils with a person infected with Hepatitis B (False)	11 (10.3)	86 (80.4)	10 (9.3)
Making sure food or water are not contaminated with hepatitis B (False)	13 (12.1)	83 (77.6)	11 (10.3)
Having hepatitis B vaccinations (True)	94 (87.9)	8 (7.5)	5 (4.7)
Taking traditional Chinese medicines or health supplements to improve immunity/ health (False)	23 (21.5)	67 (62.6)	17 (15.9)
Maintaining good hygiene (e.g. washing hands frequently, general cleanliness) (False)	8 (7.5)	91 (85.0)	8 (7.5)

Table 26: Knowledge of transmission routes (Chinese students born in Australia, n=58)

	Correctly Answered	Incorrectly Answered	Unsure
Someone can prevent themselves from getting hepatitis B, or giving it to others by:			
Avoiding blood-to-blood contact (True)	44 (83.0)	7 (13.2)	2 (3.8)
Using condoms when having sex (True)	37 (69.8)	11 (20.8)	5 (9.4)
Not sharing drug injecting equipment (True)	40 (75.5)	10 (18.9)	3 (5.7)
Not drinking alcohol (False)	10 (18.9)	35 (66.0)	8 (15.1)
Exercising (False)	6 (11.3)	40 (75.5)	7 (13.2)
Avoiding eating food prepared by a person infected with hepatitis B (False)	5 (9.4)	41 (77.4)	7 (13.2)
Avoiding close contact with someone with hepatitis B (e.g. shaking hands, hugging, kissing) (False)	5 (9.4)	41 (77.4)	7 (13.2)
Not sharing personal items with someone with hepatitis B (e.g. toothbrush, razors, blades) (True)	39 (73.6)	11 (20.8)	3 (5.7)
Avoiding sharing eating utensils with a person infected with Hepatitis B (False)	6 (11.3)	43 (81.1)	4 (7.5)
Making sure food or water are not contaminated with hepatitis B (False)	11 (20.8)	37 (69.8)	5 (9.4)
Having hepatitis B vaccinations (True)	42 (79.2)	8 (15.1)	3 (5.7)
Taking traditional Chinese medicines or health supplements to improve immunity/ health (False)	11 (20.8)	36 (67.9)	6 (11.3)
Maintaining good hygiene (e.g. washing hands frequently,	6 (11.3)	41 (77.4)	6 (11.3)

general cleanliness) (False)			
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Table 27: Knowledge of transmission routes (Chinese students born overseas, n=54)

	Correctly Answered	Incorrectly Answered	Unsure
Someone can prevent themselves from getting hepatitis B, or giving it to others by:			
Avoiding blood-to-blood contact (True)	50 (92.6)	0 (0)	4 (7.4)
Using condoms when having sex (True)	50 (92.6)	0 (0)	4 (7.4)
Not sharing drug injecting equipment (True)	51 (94.4)	0 (0)	3 (5.6)
Not drinking alcohol (False)	9 (16.7)	35 (64.8)	10 (18.5)
Exercising (False)	5 (9.3)	45 (83.3)	4 (7.4)
Avoiding eating food prepared by a person infected with hepatitis B (False)	5 (9.3)	40 (74.1)	9 (16.7)
Avoiding close contact with someone with hepatitis B (e.g. shaking hands, hugging, kissing) (False)	8 (14.8)	39 (72.2)	7 (13.0)
Not sharing personal items with someone with hepatitis B (e.g. toothbrush, razors, blades) (True)	49 (90.7)	0 (0)	5 (9.3)
Avoiding sharing eating utensils with a person infected with Hepatitis B (False)	5 (9.3)	43 (70.6)	6 (11.1)
Making sure food or water are not contaminated with hepatitis B (False)	2 (3.7)	46 (85.2)	6 (11.1)
Having hepatitis B vaccinations (True)	52 (96.3)	0 (0)	2 (3.7)
Taking traditional Chinese medicines or health supplements to improve immunity/ health (False)	12 (22.2)	31 (57.4)	11 (20.4)
Maintaining good hygiene (e.g. washing hands frequently, general cleanliness) (False)	2 (3.7)	50 (92.6)	2 (3.7)

The knowledge scale comprised of all 30 items reported on above. The mean on the knowledge scale was 11.78 (range 0-26, SD = 3.86), indicating overall poor knowledge of hepatitis B. Pearson correlations were undertaken to assess whether particular sample characteristics or scales were associated with hepatitis B. The knowledge scale was positively correlated with knowing someone living with HBV and negatively correlated with distrust in Western healthcare. Participants with a better knowledge of hepatitis B were more likely to know someone living with HBV, and were more likely to trust Western healthcare. See Table 29.

Table 28: Correlations with knowledge scale among Chinese student sample

	Knowing someone with HBV	Country of Birth	Gender	Connection to Chinese Community	Number of years living in Australia	Distrust in Western Healthcare
Knowledge scale	.331***	.176	-.051	-.039	-.078	-.374***

* $p < 0.05$; *** $p < 0.001$

6. Concluding Points

- Just less half of the Vietnamese students (45.3%) and just over half of the Chinese students (51.8%) were born in Australia.
- Findings of a strong connection to, and levels of interaction with their communities in Australia and outside of Australia suggests that these students are likely to continue to network with their communities both in Australia and in their country of birth. The strong connection to their communities may present as a good mechanism to share knowledge and information about hepatitis B.
- Self-reported testing for hepatitis B was high among the Vietnamese students (77.3%) and very high among the Chinese students (86.3%), with almost all being satisfied or very satisfied with the information they were provided about hepatitis B at the time of testing.
- However, despite this reported satisfaction with the hepatitis B information provided at testing, knowledge of hepatitis B was poor in both samples. For example, approximately two-thirds of both samples thought that hepatitis B was caused by a damaged/weak liver, drinking too much alcohol, poor sanitation and hygiene, and from contaminated food/water or utensils.
- A possible explanation for the above is that not every general practitioner would provide disease-specific information (for example, information around hepatitis B). Thus being tested for hepatitis B and being given a negative result would likely be considered as 'satisfactory' by some, especially when patients are asked for blood pathology to test for several diseases at once. This can explain the students lack of correct knowledge despite reporting satisfactory information given at time of testing.
- Among the participants who either were unsure or reported not having ever been tested for hepatitis B, one of the main reasons given, was they were feeling quite well and did not think testing to be necessary. This suggests that there are misperceptions that having a hepatitis B test is only for people who feel unwell.
- Inconsistency was also seen in attitudes towards people living with hepatitis B. Approximately half of both samples (54.4% of Chinese students and 47.3% of Vietnamese students) reported that they would behave negatively towards other people because of their hepatitis B. However, over 70% in both samples reported that people who have hepatitis B should not be isolated by family and friends. In addition, the majority of both sample (64.1% of Chinese students and 59.8% of Vietnamese students) felt that screening or testing for hepatitis B is necessary for job applications because it is helpful for preventing transmission to other employees and almost one-third of both samples (31% of Chinese students and 32.6% of Vietnamese students) felt that people who have hepatitis B should be ashamed of their illness.
- Attitudes toward Western healthcare were inconsistent. Very high vaccination rates were reported among both student samples (over 80%), yet almost half the Chinese sample and one third of the Vietnamese sample 'agreed' or 'strongly agreed' that using pharmaceutical medicine to treat hepatitis B has more negative side effects than using traditional Chinese medicine. In addition, approximately one-third of both samples reported being unwilling to speak with Western-trained doctors and healthcare workers in detail about their health and treatment. This highlights some inconsistency in attitudes among both groups with more than half of both samples agreed or strongly agreed that Vietnamese/Chinese people receive equal care from doctors and healthcare workers compared to people who are not Vietnamese/Chinese. It is possible that language barriers play a role in participants not wanting to discuss their health in detail with Western trained healthcare workers. The unwillingness to speak to Western trained health care workers, which is higher among Australian born students, is an interesting finding and warrants further research.

- Lack of trust in Western healthcare is also worth noting and is interesting given that the majority of students reported that they had been tested and vaccinated for hepatitis B in Australia, which would imply trust in Western healthcare. It is possible that this strong connection to their community both inside and outside Australia could be acting as a negative influence on their trust in Western healthcare.
- The low levels of knowledge of hepatitis B noted in this study could be a result of the possible confusion amongst participants of the differences between different types of viral hepatitis. This would explain the very low levels of knowledge around Western medicine available for treatment of hepatitis B (11.6% among Vietnamese and 26.8% among Chinese students) and the inaccurate belief that good hygiene is necessary to prevent transmission.
- Furthermore, misunderstandings between hepatitis B and other hepatitis viruses, can again be the reason for inaccurate knowledge around sharing utensils and avoiding close contact with someone with hepatitis B (e.g., shaking hands, hugging, kissing).
- Among both samples, better knowledge of hepatitis B was more likely to be found among students who knew someone living with HBV, and these students were more likely to trust Western healthcare

7. Limitations

- The majority of respondents (59.1% Vietnamese and 70.7% Chinese) reported being born in Australia with almost all being proficient in English. Hence, much of the sample appears to be comprised of domestic students of Vietnamese or Chinese background and reflect the views of a group who are likely to be second generation migrants to Australia. These results are not necessarily generalisable to international students of Vietnamese and Chinese background. Nonetheless, as noted above, the current sample is well connected to either the Vietnamese or Chinese communities and is thus able to act as a bridge to disseminate HBV knowledge other migrants of Chinese or Vietnamese background.
- A possible shortcoming in the data is selection bias. For example, many international students' studying and/or working in a health or disability-related industry are mandated to be tested for and vaccinated against hepatitis B as a component of their education and/or employment. This may partly explain high testing numbers found in the sample

8. Conclusion

Findings from this study provide important information about the attitudes of students of Vietnamese and Chinese background towards people living with hepatitis B, their health seeking behaviours, and their knowledge, testing, and vaccination rates in relation to hepatitis B. This research is important in informing hepatitis B prevention, testing, and treatment programs for culturally and linguistically diverse communities in Australia which could be delivered through the international student body.

B. Qualitative interview data report

Introduction

Qualitative methodologies can offer in-depth and detailed information about the meanings people attach to disease and their experiences of health care services. For this report, the qualitative data explores and extends on the quantitative data. For this arm of the study, we were interested in how students of Chinese and Vietnamese background understand health and hepatitis B, whether this is different in Australia compared to their home countries, and their perceptions of care and management options in Australia and their home countries.

The guiding research questions were:

1. How is hepatitis B virus and liver health understood by students of Chinese and Vietnamese background in Australia?
3. How are these understandings different in Australia compared to students' home countries?
4. What are students' understandings about hepatitis B care and management options in Australia and their home countries?
5. What cultural and intergenerational issues surrounding hepatitis B are important to understand in order to connect with Vietnamese and Chinese migrant communities in Australia?

1 Method

In-depth semi-structured interviews were conducted with a subset of students who participated in the online survey component of the research. On completion of the survey participants were invited to indicate their interest in taking part in an interview. Interviews were conducted by phone or using online platforms such as Teams and Zoom. Interviews were conducted by a research team member of the same cultural background as participants e.g. Vietnamese participants were interviewed by a Vietnamese researcher, Cantonese-speaking participants by a Cantonese-speaking researcher, and Mandarin-speaking participants by Mandarin-speaking researcher, although all interviews were conducted in English. Interviews lasted approximately 20-30 minutes and participants were compensated \$30 gift voucher.

Data analysis was inductive (data-driven) and deductive (analyst-driven) and occurred in several stages. First the team developed a broad coding template based on the research questions. Next the Vietnamese, Cantonese and Mandarin-speaking researchers used this template to read and code the transcripts from their interviewees and develop preliminary themes and discussion points for the team to consider. Third, a preliminary analysis document was drafted by JB and a team meeting was held to discuss themes and check on interpretation in particular with respect to cultural meanings.

2 Interview sample

A total of 23 students were interviewed for the qualitative arm of the study. Thirteen were Vietnamese and 10 were Chinese (including two from Hong Kong). The time in which they had lived in Australia ranged from 2 months to 12 years, and their ages ranged from 19-29 years. A number of participants were studying health sciences or related disciplines and these students by consequence appeared to have more detailed knowledge about hepatitis B. All participants were well-educated and, by way of their being able to study in Australia, tended to come from privileged socio-economic backgrounds.

3 Concepts of health – emphasis on physical aspects, rather than mental or emotional

How people make sense of and conceptualise their health is important for understanding how they respond to it: what they do to look after themselves and prevent illness; how they understand and respond to ill-health; and what kind of care and where they seek it. Importantly, understandings of health and the body are cultural, and how Chinese and Vietnamese Australians interpret and manage their health may differ from the Western approaches. In this study we asked participants to describe what they understood ‘health’ to be, as a way to contextualise and better understand their beliefs and values about hepatitis B.

Both Chinese and Vietnamese participants described health in terms of physical and observable aspects of the body (balanced diet, exercise, sufficient sleep and minimized drinking and smoking). Mental or emotional aspects of health were generally given much less attention (although this inattention was identified as problematic by several participants) and social determinants such as racism and poverty were not mentioned at all. For example, Vanny (21, China mainland) said:

I think a healthy person will be like doing exercise. Regularly having meals regularly and eats more vegetables. Like balance for each type of food. And also sleep regularly, at least like six to eight hours a day. Yeah, I think that’s a healthy person for me. (Vanny, 21, China mainland)

Vietnamese participants similarly described healthy people as those who have “a healthy lifestyle, who has a healthy diet, who exercises, who knows how to prevent all the preventable disease. So, like stopping smoking. Don’t drink alcohol, don’t use drugs.” (Tran, 24, Vietnam). Health was often judged based on externally observable factors such as “very good skin” (Tan, Vietnam), “have health gums and teeth” (Minh, 27, Vietnam), or “not too fat, not too slim” (Christy, 22, China mainland).

The focus on eating well, exercising, and so forth meant that health was very much understood as an individual responsibility to be maintained through a person’s discipline and ability to manage their daily routines. As Kylie (21, China mainland) explained:

I know a lot of like peers who study (my subject)... they are in a similar situation to me because like this major is quite intense, my course, so often we just don't have time to do that much things like workout or those things ourselves, but like I feel it depends on how self-disciplined you are.

Some participants were critical of concepts of health that were overly focussed on physical factors and wanted to see more attention to mental health in Chinese and Vietnamese communities. They described the importance of “people not only doing exercise and eating healthy food to keep physical health but also consulted if they have depression or feeling a big deal of stress” (Luo, 22, China mainland). Others described the importance of “coping with stress in daily life” (Sally, 21,

China mainland) and “full of energy and positive” (Yun, 21, China mainland). Vietnamese participants referred not only to the importance of mental well-being but also to ideas of “thriving” (Tran, 24, Vietnam) and “accomplish things, like daily activities” (Alan, Vietnam). Chinese participants, in particular, believed that daily life in China involved “more pressure, high competition, high stress” (Mary 26 China mainland) and that “people rarely talk about, like depression, anxiety and other things” (Betty 22 China mainland). Life in Australia was compared favourably in this regard: “I think that in general, Australia has a better mental life in here in compared to Hong Kong.” (Nathan 23 China Hong Kong).

4.1 Summary: Concepts of health

Participants described Chinese and Vietnamese concepts of health as:

- Relating to physical and externally observable factors, more than mental, emotional, or social factors
- As an individual’s responsibility to be achieved through appropriate levels of self-discipline. A person’s health is thought to be controllable through their personal actions and decisions.

Implications for hepatitis B:

- Because health is seen to be controllable, people will respond to calls to intervene in their health if the correct messages are provided.
- Physical wellness is thought to matter more, meaning that mental, emotional or social impacts of hepatitis B infection, such as stigma, might be minimized or ignored.
- Health care seeking will more likely be prompted by physical manifestation of hepatitis B symptoms. This complicates messages to encourage people to get screened if asymptomatic.

4 Beliefs about hepatitis B – saliva, genetics, curability

The existing small body of social research on hepatitis B in Australia clearly identifies that knowledge about hepatitis B in certain migrant populations is poor. Qualitative research helps to identify both the specificities and commonalities that underpin knowledge about hepatitis B. In our study, participants were asked for their views about: hepatitis B transmission; vaccines; monitoring and ongoing care; and perceptions of disease impact and severity.

5.1 Beliefs about transmission: saliva, genetics, sex

When asked about how hepatitis B is transmitted, participants were generally unsure, saying for example, that they “don't know, because most people don't know how the virus spread” (Christy, 22, mainland China).

Saliva – on cooking utensils, in improperly prepared food and in the air

An overwhelmingly common belief however was that hepatitis B could be acquired through *saliva*, by sharing food, and via cooking and eating utensils. Almost all participants reported this, including those who otherwise identified correct transmission routes, such as sexual transmission and mother-to-child transmission.

sharing the same cooking items... shared in the same table and they exchange the forks, the spoon, if they exchange the things they have used (Mary 26 China mainland)

Chopsticks, spoon utensil glass, glassware, anything they could put in their mouth actually (Minh 27 Vietnam)

get infected by someone else, like eating the same food, using the same spoon, drinking from the same glass” (Nga, Vietnam)

Transmission via saliva was also seen as a concern when in close proximity to someone with hepatitis B, with some participants saying that sitting next to others while they were eating or talking was a risk:

Most commonly know way of contraction is through eating, through saliva. So, people don't share food, don't eat in public, like if they know the person next to them is hepatitis B infected, they will not share the food or the utensils with that person... through talking.

Through talking because like saliva can be you know, spit when you talk” (Melissa, Vietnam)

I don't think people with hepatitis can actually be teachers or lecture, or speaker, public speaker, something like that, because you'll been talking a lot so people have a chance to touch your spit. (Luo, 22, China mainland)

Similarly, Sally (22, China mainland) suggested that airborne saliva transmission could be avoided by wearing masks and gloves.

Related to this were descriptions of how hepatitis B could be acquired through unhygienic food preparation, suggesting a confusion with hepatitis A. Nathan (China Hong Kong) said hepatitis B could be caught by “eating some things that contain the virus” including “any raw seafood”. Minh (27, Vietnam) identified a similar risk with eating “blood jelly”, and Tan (Vietnam) who identified how street food could cause infection.

Intergenerational disease – genetically transmitted

While some participants correctly identified that hepatitis B could be acquired intergenerationally, the specific way intergenerational transmission happens was not clearly understood. For example, Oliver (24, Vietnam) was unsure how mother-to-child transfer happened, asking the interviewer: “you can get the hepatitis B via your partner... or mother to the son, right?” Alan (Vietnam) and Luo (22, China mainland) also reported that it can “go through generation” or “transfer to their children” but they could not identify how this happened. Kylie (China mainland) and others (Vanny, 21, China mainland) suggested hepatitis B might be genetic:

My dad hasn't been confirmed with this, but his family has this issue... My mother test for me because they were worried that I might be like, that's like a gene issue. Like I would like pass on this as well. (Kylie, China mainland)

Sexual transmission of hepatitis B was widely identified, and some participants were confident about the veracity of this route of transmission, such as Yun (21 mainland China) and Minh (27, Vietnam), who had learned about hepatitis risk on visiting a sexual health clinic for men who have sex with men: “I learned for being a gay man, because if you have anal sex, you can have hepatitis A, B, C” (Minh, 27, Vietnam). Others thought that hepatitis B might be transmitted sexually but were unsure whether this was true, including Christy (22, China mainland) who said “I'm guessing it might be related to sex, so it might have some impact on relationship, I guess.”

Beliefs about vaccines

Participants from mainland China and Hong Kong rarely mentioned vaccines, while by comparison Vietnamese participants mentioned them much more often. The Chinese participants that did mention vaccines had mixed understandings, with Sally (22, China mainland) being very clear that they prevent transmission, but Christy (22, China mainland) was much less sure saying “maybe there's a vaccine related to that. I heard there is vaccine to prevent that virus, but I think I'm not sure have I took that yet ... yeah, I don't know”.

By comparison Vietnamese participants talked confidently about newborn vaccination programs in Vietnam (Amanda, 29; An; Tan; Tran, 24). Tan (Vietnam) identified that the extensive Vietnamese vaccination program: “It's quite popular in Vietnam, so you get a vaccination for that disease”

5.2 Beliefs about monitoring and ongoing care: faith in Western medicine to cure hepatitis B

Vietnamese participants talked in much more depth about the strategies needed to monitor and treat hepatitis B, compared to Chinese participants. For example, several Vietnamese participants noted that hepatitis B could be asymptomatic and, consequently the importance of early intervention and monitoring. For example, Thu (30, Vietnam) identified that “most of the people with hep B, doesn't have any symptoms or signs”; Nga (Vietnam) mentioned needing to see “a doctor regularly” in order to manage hepatitis B; and Huong (19, Vietnam) reported the need to cut down smoking and drinking so to manage hepatitis B.

Relatedly, participants were largely unsure whether hepatitis B was curable. Osmond (29, Vietnam) correctly identified that a person “cannot be cured completely, there is no medicine to like to wipe that away, maybe there's something to reduce the impacts.” However other participants reported that hepatitis B is curable, expressing a generalised faith that western medicine could cure hepatitis B and most other disease and illnesses. Alan (Vietnam) expressed this best when he explained the perspectives of the younger generation of Vietnamese people towards illness: “For me, I'm just like, oh yeah, just like some disease: you go to the hospital to fix it and boom you're good”. Sally (22, mainland China) suggested that hepatitis B could be cured by antibiotics, and Huong (19, Vietnam) believed that “medicine can cure this. Hepatitis B is not something that is incurable, I guess”.

5.2 Perceptions of disease impact: physical wellbeing and intimate relationships

Participants were asked about what it might be like for people living with hepatitis B, which gives insight about their perceptions of disease severity. Some participants could not respond in much depth because they simply did not know enough about the virus and its impact. Those that could identified two main areas of impact: on bodies and physical wellbeing, and on intimate relationships and marriage.

Thu (30, Vietnam) accurately noted the significant long-term impact of hepatitis B on physical well-being:

if a person contracted to hepatitis B, they can get like acute disease or chronic disease and acute disease can lead to liver failure. It could be like deadly, as the chronic hepatitis B could lead to cirrhosis and cancer.

Sally (21, China mainland) and others (Alan, Vietnam) believed that hepatitis B can cause physical symptoms that would interfere with important daily obligations:

they would have lots of symptoms that will interfere with their daily life, like they will lose their appetite, and they would lose the weight and also feel tired, and if that's a student obviously, it can affect their academic performance and if there were, if it works, it will affect their income and financial status (Sally, 21, China mainland)

However, the more commonly noted concern was the impact hepatitis B may have on intimate relationships and marriage. Participants discussed issues around hepatitis B disclosure (given it is associated with sexual transmission), and perhaps more importantly, of mother to child transmission. Jun (21, China mainland) viewed this as the main problem:

I think probably marriage is the biggest problem, because the partners might think it's not good for the children to have this, so yeah... they might not be fairly treated when they are in a relationship of the parents in law.

Osmond (29, Vietnam) similarly reported marriage and family as the main concern for those living with hepatitis B: "it can be transmitted from mom to children as well. So, people need to put that into consideration as well when they decided to get family because can be transmitted from having sex".

5.3 Summary: Participant beliefs about hepatitis B

- participants recognized that their knowledge of hepatitis B is poor: in the process of kindly trying to answer our questions, many openly said they did not know much at all about hepatitis B.
- hepatitis B could be transmitted by saliva, sharing food, and utensils for cooking and eating. Related to this were beliefs that any sort of close contact was a risk, for example, by touching a person with hepatitis B or breathing the air of someone nearby with hepatitis B.
- hepatitis B could be transmitted through sexual relationships.
- hepatitis B could be transmitted intergenerationally, although participants were generally unsure about how exactly it was transmitted, with some referring to ideas of genetic inheritance.
- there is some understanding that a person could have hepatitis B without displaying symptoms.
- hepatitis B was thought by many to be curable through western medical techniques.

- the main problem with having hepatitis B was seen to be its impact on intimate relationships and marriage, whereby a person would need to disclose their status so to avoid sexual and mother-to-child transmission.

Implications for hepatitis B prevention, testing, and management in Australia

Develop health promotion messaging that:

- Identifies that knowledge is poor in the community: people acknowledge this fact themselves and want to address it. Messages that call for collective learning about hepatitis B will be well-received.
- Address views that hepatitis B is transferred through saliva and sharing eating utensils. This seems especially important given the central role of food and eating in socializing and the potential for people with hepatitis B to be unnecessarily excluded from this social activity.
- Clarify intergenerational nature of hepatitis B transmission: that it is not genetic or necessarily from living within a family with hepatitis B, but rather from maternal-fetal transmission.
- Address expectations about hepatitis B cure: hepatitis B is not curable but poor health outcomes can be reduced through appropriate clinical care.
- Because participants tended to know that hepatitis B was sexually transmitted, and that its main impact was perceived to be about marriage and relationships, develop messages indicating that: sexual transmission can be prevented; that adults who acquire hepatitis B tend to clear the virus; and that mother-to-child transmission can be prevented.
- Improving knowledge about transmission routes will address myths (about poor hygiene, sexual immorality and genetic inheritance) and reduce current levels of stigma, as described next.

6. Stigma –the need to better understand what counts as discrimination

Participants had a range of things to say about discrimination and stigma, which were sometimes contradictory. For the most part, participants objected to any sort of discrimination towards people with hepatitis B, explaining that having hepatitis B is “normal” and “not anyone’s fault”, and they were critical of people that held discriminatory or negative views about hepatitis B. Yet, at the same time, participants often justified discriminatory attitudes, explaining that this was just how some people protect themselves and act cautiously around those with hepatitis B. These contradictory explanations but might partially be explained by the specific meaning given to ‘stigma’ in Chinese and Vietnamese culture, where exclusionary behaviors might not be seen as necessarily discriminatory.

While participants themselves were against any sort of discrimination towards people with hepatitis B, they believed that discriminatory attitudes were more common among people living in their home countries, and especially the older generations. Participants themselves, however, held attitudes that were either non-judgmental or benevolent:

I think it’s normal, yeah, it's not that big of a deal. (Alan, Vietnam)

I think is normal. I don’t feel like if you have hepatitis B you are different or something. I feel like everyone is not perfect, so it’s okay if you have something like that. (Jun, 21, China mainland)

As far as I’m concerned, that disease is not infectious, so there's nothing for me to worry about. I will be more like paying attention to him, or more giving kindness to him, giving help giving a hand to him, I would not be like, discriminate him (Huong, 19, Vietnam)

Indeed, participants were critical of people who held discriminatory or negative beliefs about hepatitis B, describing these as “quite common” (Sally, 22, China mainland) in their home countries and especially among the older generations. Minh (27, Vietnam) described this to be very true in Vietnam:

Oh they are treated like the taboo. Like a taboo, I have no idea why, they treat HIV like taboo, as well darling. Vietnam, people treat everything like a taboo, even gay people? If you have blue hair, it’s a taboo, everything is a taboo, even nails is taboo. It's really discriminating in Vietnam. We were so lucky we just run away from that. (Minh, 27, Vietnam)

And, as Kathy (26, China Hong Kong) described, discrimination about hepatitis B is a problem with older generations who have conservative values about sex and other matters:

I feel like our generation is more open and our generation is more accepting and yeah, and the older generation is more conservative over many things, especially on matters like sex or sexually related diseases, they are less open.” (What are the older generation’s attitudes toward people with Hepatitis B?) I think they won't socialize with them actually. (Kathy 26 China Hong Kong)

Participants gave a range of explanations for why there might be discriminatory behaviours towards people with hepatitis B. Some said it was because people believed hepatitis B was the result of “doing something dodgy, like using drugs or have been involved with sex workers” (Tran, 24, Vietnam). For example, Luo (22, China mainland) explained how, in China, hepatitis B was associated with “bad habits”:

In China, I guess there are still people judge people with hepatitis, because **they assume they have a bad life habits or done something wrong**. But in my mind and other people around me, we just think a disease is not somebody's fault, it’s just a more difficulty that you have to conquer your life. It should not be judged personally. (Luo, 22, Chinese)

Other participants provided different justifications, saying that avoiding people with hepatitis B was not meant to be discriminatory or purposely malicious, but rather just a way to act cautiously and protect oneself and family:

So, I think older people like, my parents, they usually scare me and my older brother to get any disease and then they will always ask us to protect ourselves and don't try to contact with other people who have diseases such as of flu or something like this. They ask us try to avoid because we are studying abroad and **we need to protect ourselves first**, rather than trying to understand other people (An, Vietnam)

[People will] live with you in more cautious way, because you never know if, I know that hep B is not just from through the food way, but you never know if inside you when you eat something just letting then if possible in other dishes, then someone also caught it ... they start to like, stay away from the people who living with hep B. And also, like not really stay away, **just try to be cautious, but in a very rude way**. (Amanda 29, Vietnam)

Participants like Oliver (24, Vietnam) do not see avoidance as discrimination per se, rather just being serious and conscientious about disease:

it was 10 years ago, when my father told me about his friend got hepatitis B. He tells a story about him with like not good attitude, that's what I remember. It’s like, **not really discrimination**, but I don't know how to explain it, but not as normal as here, yeah, it's like they take it more seriously.... Vietnam, they take it more seriously (Oliver, 24, Vietnam)

These careful explanations about ‘caution’ versus ‘discrimination’ are meaningful: participants see discrimination as purposefully malicious and this is *not* what they observe happening with regards to hepatitis B where instead people are just being “rude” or “protecting ourselves”. This suggests a

potentially different understanding of stigma and discrimination than what is commonly understood in Australian western settings. Where in the Australian western settings we see stigma as any form of negative thought and discrimination as any form of negative action, our participants are telling us that, for them, only some actions count as discrimination. In this regard, more research is needed to better understand and map out what counts as stigmatising and discriminatory. This would be essential before any meaningful intervention about hepatitis B stigma is introduced.

6.1 Summary: Stigma

When participants were asked to comment about stigma related to hepatitis B they responded by saying:

- While stigma might be common in their home countries and among the older generation, younger people do not feel the same.
- Sometimes people's responses to hepatitis B are not purposefully malicious and discriminatory, but rather arise out of a need for caution and self-protection. This is not seen to be necessarily bad or malicious.

Implications for hepatitis B prevention, testing, and management in Australia

- Better knowledge about transmission and prevention will reduce negative perceptions about hepatitis B being attached to bad and immoral habits. This is especially true with respect to knowledge about transmission through food, eating utensils and sharing space, wherein there is a tendency to isolate and exclude others if they have hepatitis B.
- Seek more detailed information about how stigma and discrimination is understood and operates in Vietnamese and Chinese community settings, as these seem to have different meanings for some. This is necessary before any meaningful intervention about hepatitis B stigma proceeds.

7. Understandings about testing and care – overly complex health care system

We asked participants about how a person finds out if they have contracted hepatitis B and what the clinical care process might be. This revealed several important themes: that testing was thought to be necessary only if a person has symptoms; that “seeing a doctor”(typically at a hospital) was seen as the first step in finding out if you have hepatitis B and accessing care; and that the considerable differences between the Australian health care system and that of participants’ home countries can make accessing care more difficult for some Vietnamese and Chinese people resident in Australia.

Beyond knowing that a medical test was required participants were unclear regarding the diagnostic process: “What kind of test [for diagnose]? No, I’m not sure.” (Vanny, 21, Chinese). Others, like Luo (22, China mainland) whose mother had been tested for hepatitis B, knew that “blood results” were necessary for diagnosis. While Thu (30, Vietnam) also knew that clinical tests were required, he echoed a common misconception that such tests were accessed at hospitals only after a person “has issues” or develops symptoms:

They must have like issues and they go to the hospital to check and yeah, that’s how they know if they got the hepatitis B. I mean they need to do laboratory tests, yeah to get diagnosed with hepatitis B (Thu 30, Vietnam)

The idea that testing for hepatitis B took place *after* symptoms developed was commonplace among our participants. For example, Alan (Vietnam) described how a person would be “not feeling well, or maybe like not healthy anymore” before getting tested, while Oliver (24, Vietnam) suggested that a person would “go to the hospital take some tests, like blood tests... when they see their skin become yellow or too yellow”. Overall, while some participants knew that hepatitis B could be asymptomatic (eg, Thu, 30, Vietnam; Luo 22, mainland China), there was a general view that testing and clinical care happened after the development of symptoms.

Testing and care for hepatitis B was thought to be accessed by visiting a doctor - “they can directly go to the doctor” (Mary 26 China mainland), “just go to the doctor”(Sally, 21, China mainland). Participants did not mention other points of care or information, such as specialized clinics or community hepatitis organisations. This may be because health care systems in China and Vietnam are largely administered through hospital-based care (although Vietnamese participants did mention community and district services). For example, Chinese participants spoke about large hospitals as the best place to receive care for serious disease, compared to smaller clinics:

There are some different levels of hospital so you might go to top hospitals. So, they might have specialist doctors, I guess they probably mainly just go to hospital because if you are going only go to a small clinic, they might not be able to help. (Christy, 22, Chinese)

Yes, because clinic is a place that people would only go if they have like, really mild illness, like just flu or cold, but if they found out they have like more serious problems, they would just rather go into the hospital instead of going into the clinic. (Sally, 21 Chinese)

Vietnamese participants similarly described a large hospital-based system accessible without referral from a GP, but with more availability for community-based care through out-of-hours doctor services and pharmacies:

in Australia, we can access to the community health services to get, you know, downstream level of health, but in Vietnam, we don't have something like community services, but we do have a province or district and is also enough. I mean, like good enough to access the medication or if something that you need to advance testing or screening, you can go to the general hospitals anytime you want. You don't need to go to the GP or whatever, like here. (Amanda 29, Vietnam)

now in Vietnam not really family doctor, but they have a privacy doctor, right, it mean that the doctor works in a hospital from 9 to 5pm and then they open their own store and the patients usually go to there at first, and then if the doctor says something like “okay, something wrong with your body, you need to go to the hospital” and they will go, so first choice family doctor, second choice hospital” (Oliver 24, Vietnam)

Trang (Vietnam) described how this sort of system allows for a more self-determined form of health care. He described the Australian system where GPs “give a decision to bring us to the specialist or just give us the medication, like the GP will make a decision, but in Vietnam we are the one who makes a decision to go to the hospital or to take the medication by ourselves”.

Indeed, in comparison to the Chinese and Vietnamese systems, the Australian health care system was seen to provide high quality care that was more equitable due to its universal access (for Australian residents at least), but also overly complex, not amenable to out-of-hours care, and potentially very expensive for international students. For example, Osmond (29, Vietnam) suggested that the Australian system has “a lot of steps going here and going there”; and Alan (Vietnam) noted that Australian business hours were surprising and that “everything in Australia is kind of like closed around 6 or 8pm or something, yeah, that's kind of like ... if we want you check our health, we need to take a day off right? We cannot do that after we finished our work or finishing our schooling, so yeah, it's kind of like stupid.” Several participants also mentioned concerns about the cost of health care in Australia for international students.

7.1 Summary: Understandings about testing and care

Participants views about testing and care for hepatitis B included:

- That getting a test happens after symptoms develop. There were only a few mentions of screening tests, possibly because many participants had been vaccinated as children (although we did not ask interview participants this).
- That care is accessed through doctors who, in their home countries at least, are located in hospitals. There was no mention of specialized clinical and information services in the community, perhaps suggesting low awareness of different access points in the Australian health care system.
- That the Australian health care system is high quality and provides fairer access to care, but that this can be overly complex to access, potentially expensive and not amenable to out-of-hours care.

Implications for hepatitis B prevention, testing, and management in Australia

- Improve awareness about asymptomatic nature of hepatitis B and that screening should happen *before* symptoms develop.
- Improve knowledge about various access points for hepatitis B care and information in the Australian community and that these services are offered, in some instances, free of charge.

8. Concluding remarks

The qualitative data highlights the low and/or mixed levels of knowledge found among participants and allows us to better understand the health beliefs of students of Vietnamese and Chinese background in order to design hepatitis B health promotion and education messages that will be appropriately targeted for this group. This interview data further explores attitudes that Chinese and Vietnamese students hold towards hepatitis B, how they understand stigma and discrimination, and why they believe it occurs (as a means of protection rather than a dislike of the group). The interview data reveals reported differences in health systems between Australia and the countries that these participants come from. Difficulties in navigating a different health care system is important to understand given that many people living with or affected by hepatitis B come from culturally and linguistically diverse communities. While the survey data provides an overall understanding of patterns of hepatitis B knowledge, attitudes and health seeking behaviours among students of Vietnamese and Chinese background, the qualitative data allows us to investigate in depth issues, concepts and understanding of health and illness that may be different for people from Vietnamese and Chinese background. This combined mixed methods data provides important information on hepatitis B knowledge gaps, health seeking behaviour and attitudes towards hepatitis B among students of Chinese and Vietnamese background and can be used to inform the development of messaging around hepatitis B for Chinese and Vietnamese communities in Australia.