

'Think Hep B' in primary care

A before-and-after evaluation of a self-guided learning package

Yinzong Xiao, Caroline van Gemert, Jess Howell, Emily Adamson, Vanessa Towell, Benjamin C Cowie, Alex J Thompson, Margaret Hellard

Background and objective

In Australia, over a third of individuals living with chronic hepatitis B (CHB) remain undiagnosed. Evidence suggests general practitioners (GPs) can be uncertain regarding whom to test. The aim of this study was to evaluate an educational resource for improving GPs' knowledge about whom to test for CHB.

Methods

Following a 2014 baseline survey that identified gaps in CHB knowledge among GPs in Victoria, an educational resource package was developed. Using a follow-up survey, the resource was evaluated by comparing the before-and-after CHB-related knowledge.

Results

Sixty-five GPs responded to both the baseline and follow-up survey. Their knowledge of populations at high risk of CHB who require testing was significantly greater following the intervention than at baseline.

Discussion

Concise, clear and practical resources can support GPs when identifying whom to test for hepatitis B.

HEPATITIS B VIRUS INFECTION affects approximately 238,000 people (1% of the population) in Australia and causes significant morbidity and mortality from liver disease, liver failure and liver cancer.¹ Hepatitis B disproportionately affects people who are vulnerable and those from culturally and linguistically diverse (CALD) communities, with 61% of the affected population having been born overseas.² Reports estimate that only 62% of people living with chronic hepatitis B (CHB) have been diagnosed and 7.2% have received treatment.² Barriers preventing general practitioners (GPs) from testing for hepatitis B include lack of knowledge,^{3,4} limited or negligible support^{3,5,6} and competing priorities.³

In 2014, these authors conducted a baseline survey of hepatitis B knowledge among Victorian GPs.⁷ Few GPs knew that patients from CALD populations have high hepatitis B prevalence and should be tested. In response, the authors developed an educational resource package designed to support GPs in targeting hepatitis B testing. The aim of this follow-up survey was to assess the effectiveness of the resource package by comparing the before-and-after knowledge scores.

Methods

This is a before-and-after comparison study evaluating a self-guided learning package designed from the baseline survey findings.

Baseline survey and intervention development

The baseline survey was conducted in 2014/2015 and included 232 responses from 974 eligible GPs in Victoria.⁷

In response to GPs reporting limited knowledge of hepatitis B testing, the researchers developed two simple educational resources (Supplement 1, available online only). 'Think Hep B' covers key elements of identifying, testing and monitoring patients with hepatitis B and is targeted at GPs. 'Ask your doctor for a hepatitis B test' repeats this simple message in five community languages and is targeted towards CALD communities. Both are single-sided, laminated, colour-printed A4 cards.

Follow-up survey

In October 2017, GPs who completed the baseline survey were posted a 'Think Hep B' card and 'Ask your doctor for a hepatitis B test' cards, a questionnaire with a stamped return-addressed envelope and a link to the questionnaire on Survey Monkey. The questionnaire repeated the baseline assessment instrument and included qualitative questions about the resources (Supplement 2, available online only). Four weeks later, non-responding participants were posted a second questionnaire.

Data analysis

Returned questionnaires were entered into Survey Monkey and analysed using Stata 13.1 (College Station, Texas, USA).

Demographics, patient profiles, knowledge and practice patterns from the baseline survey⁷ were compared between respondents and non-respondents to the 2017 follow-up survey to assess possible selection bias. For participants who completed both surveys (ie respondents to the follow-up survey), a paired Student’s *t* test was used to compare the before-and-after hepatitis B related-knowledge scores. The knowledge scores were measured using three single-choice questions on treatment, serology interpretation and high-risk populations.

Ethical approval was received from the Alfred Health Ethics Committee (Project No: 198/14).

Results

Sixty-five completed questionnaires were received from 213 eligible GP participants (30.5% response rate). Nineteen GPs were excluded because of the researchers’ inability to make contact since baseline (Supplement 3, available online only).

Comparing data to the baseline survey,⁷ respondents’ and non-respondents’ demographic characteristics and patient profiles were similar, although a significantly higher proportion of non-respondents were multilingual (Table 1). The baseline hepatitis B knowledge and testing behaviour of respondents and non-respondents were also similar.

Post-intervention, the proportion of respondents correctly identifying people from CALD communities as the population at highest risk for CHB in Australia significantly increased from 23% in the baseline assessment to 53% ($P < 0.01$; Table 2). Similar to the baseline assessment, 86% of participants correctly responded that treatment is available for CHB, and 73% correctly interpreted CHB serology. Overall, the percentage of GPs who correctly answered all three knowledge-related questions increased from 19% to 39% ($P = 0.011$).

Overall, the educational resources were well accepted by the participants

who answered the evaluation question (Supplement 4, available online only). Sixty-three per cent of respondents agreed that they would use ‘Think Hep B’, and 67% would recommend it to other GPs. Over half agreed that the ‘Ask your doctor for a hepatitis B test’ tool would be used in their practice.

Discussion

Insufficient knowledge regarding hepatitis B has been identified as a significant barrier to testing in primary care. Several educational and support tools for GPs exist,^{8,9} but few have been systematically evaluated. One study conducted in a region in Sydney with high CHB prevalence showed no significant knowledge improvement among GPs following education seminar attendance and provision of resources targeting hepatitis B diagnosis and management.⁹ In contrast, the present study showed that a simple factsheet targeting the main knowledge gap helped GPs identify priority populations at risk of CHB, a fundamental step for initiating hepatitis B testing. Meanwhile, no difference was noted in knowledge regarding treatment and serology interpretation following the intervention, possibly because the resource did not focus on this information. Lack of time, heavy workload and perceived non-relevance of the research could lead to non-participation of GPs. A higher proportion of multilingual GPs among non-respondents indicated the challenge of engaging these GPs in providing hepatitis B-related care. As patients from CALD communities have a strong preference for engagement with bilingual GPs,¹⁰ there is a critical opportunity to engage multilingual GPs with ‘Think Hep B’ to support their management of CALD clients at high risk of hepatitis B infection.

While supporting GPs and their knowledge of CHB is important, the key long-term outcome is to increase hepatitis B testing among priority populations and reduce the burden of undiagnosed infections. Few intervention studies have shown

significantly increased testing.^{11,12} One recent study by Richmond et al showed improved rates of hepatitis B testing;¹² however, this involved multiple interventions in a high-caseload clinic. Such interventions are hard to generalise, fund and sustain in most primary care settings because of multiple barriers, including limited resources, lack of systematic support and many competing priorities.¹²

This study had several limitations. The response rate was low, albeit similar to other surveys of GPs in Australia.¹³ Prevalences of multilingual ability among respondents and non-respondents were significantly different, but this did not predict hepatitis B testing behaviour.⁷ Respondents might differ from non-respondents on other characteristics, such as baseline hepatitis B knowledge; however, no other differences were statistically significant in the present study. The three-item test for knowledge about hepatitis B has not been validated and therefore may not be sufficient to accurately measure GPs’ hepatitis B knowledge; however, for the purpose of determining whether GPs know the main risk group to test for chronic hepatitis B, the third question is specific and appropriate to cover the desired content.

The study design was an immediate post-intervention evaluation; hence, the long-term impact of the intervention on GPs’ knowledge is uncertain. With no control group, it is not possible to exclude the possibility that other factors unrelated to the intervention during the study period affected the GPs’ knowledge. The small sample size may also reduce the generalisability of the findings.

In conclusion, this study shows that a simple and brief self-guided package can be an effective method of informing GPs about whom to test for hepatitis B. Further research and follow-up is needed to assess whether the study intervention led to sustained retention of knowledge about hepatitis B testing, and also whether increased knowledge translated into hepatitis B testing behaviour change among GPs.

Table 1. Comparison of demographics and hepatitis B knowledge at baseline between respondents and non-respondents

	Non-respondents (n = 148)	Respondents (n = 65)	P value
Sex, n (%)			
Female	74 (50.0%)	27 (41.5%)	0.255
Age group (years), n (%)			
20–29	2 (1.4%)	1 (1.5%)	0.136
30–39	24 (16.2%)	5 (7.7%)	
40–49	35 (23.7%)	9 (13.9%)	
50–59	52 (35.1%)	28 (43.0%)	
60–69	28 (18.9%)	20 (30.7%)	
≥70	7 (4.7%)	2 (3.1%)	
Experience as a GP			
Median years as a GP (years)	24.5	26	0.051
Mean working hours per week as a GP (hours)	32.7	33.3	0.757
Graduation year, n (%)			
1950–1969	7 (4.7%)	2 (3.1%)	0.077
1970–1989	85 (57.4%)	48 (73.9%)	
1990–2009	54 (36.5%)	13 (20.0%)	
2010–2014	1 (0.7%)	0	
Not reported	1 (0.7%)	2 (3.1%)	
Country where primary medical degree was completed, n (%)			
Australia	110 (74.8%)	54 (83.1%)	0.186
GPs speaking a language other than English, n (%)			
Yes	56 (38.1%)	15 (23.4%)	0.038
Patient profile: estimated proportion of patients who are from CALD community, n (%)			
0–25%	93 (64.8%)	49 (75.4%)	0.251
26–50%	38 (25.7%)	8 (12.3%)	
51–75%	4 (2.7%)	3 (4.6%)	
76–100%	8 (5.4%)	3 (4.6%)	
Not reported	5 (3.4%)	2 (3.1%)	
Baseline hepatitis B-related knowledge^a			
Correctly identified that treatment is available for chronic hepatitis B, n (%)	126 (85.1%)	55 (84.6%)	0.922
Correctly identified the highest risk population for chronic hepatitis B in Australia, n (%)	44 (29.7%)	16 (24.6%)	0.447
Correctly identified serological result indicating chronic hepatitis B, n (%)	108 (73.0%)	51 (78.5%)	0.399
Answered all three knowledge-related questions correctly, n (%)	38 (25.7%)	13 (20.0%)	0.371
Average number of hepatitis B tests per week (self-reported), n (%)			
No test	43 (29.1%)	21 (32.3%)	0.407
1 test	35 (23.7%)	17 (26.2%)	
2–5 tests	53 (35.8%)	25 (38.5%)	
6–9 tests	10 (6.8%)	0	
≥10 tests	4 (2.7%)	1 (1.5%)	
Not reported	3 (2.0%)	1 (1.5%)	

CALD, culturally and linguistically diverse; GP, general practitioner

Table 2. Hepatitis B-related knowledge change before and after the intervention

Hepatitis B knowledge-related question	Correct answer	Number and proportion of participants correctly answering the question, n (%)		P value
		Before intervention (n = 65)	After intervention (n = 65)	
Which of the following population groups have the highest risk of developing chronic hepatitis B in Australia?	Culturally and linguistically diverse communities	55 (84.6%)	56 (86.2%)	0.811
Is treatment available for chronic hepatitis B?	Yes	16 (23.4%)	34 (53.1%)	<0.010
Which of the following serology results is indicative of chronic hepatitis B infection?	HBsAg positive, anti-HBc positive, anti-HBs negative	51 (78.1%)	48 (73.4%)	0.370
Answered all three knowledge-related questions correctly, n (%)		13 (18.8%)	26 (39.1%)	0.011

anti-HBc, hepatitis B core antibody; anti-HBs, hepatitis B surface antibody; HBsAg, hepatitis B surface antigen

Authors

Yinzong Xiao MBBS, MMed, PhD candidate, Burnet Institute, Vic; PhD candidate, Department of Medicine, University of Melbourne, Vic; PhD candidate, Department of Gastroenterology, St Vincent's Hospital, Vic

Caroline van Gemert MPH, MAppEpid, PhD, NHMRC, Early Career Research Fellow, Melbourne School of Population and Global Health, University of Melbourne, Vic; Senior Research Officer, Burnet Institute, Vic

Jess Howell MBBS (Hons), MSc (Epi), PGradDip (PH), PhD, FRACP, Postdoctoral Research Fellow, Burnet Institute, Vic; Adjunct Senior Research Fellow, Centre for Epidemiology and Preventive Medicine, Monash University, Vic; Gastroenterologist, Department of Medicine, St Vincent's Hospital, University of Melbourne, Vic

Emily Adamson BScSci, PGDip (Health Psychology), Health Promotion Program Manager, Burnet Institute, Vic

Vanessa Towell MPH, Director of programs, National Policy and Education Division, Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine, Qld

Benjamin C Cowie MBBS, PhD, FRACP, Director, WHO Collaborating Centre for Viral Hepatitis, Doherty Institute, Vic; Physician and Epidemiologist, Victorian Infectious Diseases Service, Royal Melbourne Hospital, Vic; Professor, University of Melbourne, Vic

Alex J Thompson MBBS (Hons), PhD, FRACP, Professor and Director of Gastroenterology, St Vincent's Hospital Melbourne, University of Melbourne, Vic

Margaret Hellard MBBS, FRACP, PhD, FAFPHM, Professor and Deputy Director, Burnet Institute, Vic; Head, Hepatitis Services, Department of Infectious Diseases, The Alfred Hospital, Vic; Adjunct Professor, Monash University, Vic; Adjunct Professor, University of Melbourne, Vic. margaret.hellard@burnet.edu.au

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correspondence ajgp@racgp.org.au