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The Victorian hepatitis C education program for GPs

An evaluation

Background
An evaluation of a Victorian hepatitis C virus (HCV) education program for general practitioners conducted in 2005–2006 randomly surveyed 1000 Victorian GPs about key areas of HCV management.

Methods
General practitioners were sent a baseline survey before commencement of the General Practice Victoria (GPV) HCV program and a feedback brochure upon program completion. A follow up survey then assessed their knowledge of HCV management.

Results
The surveys were completed by 524/1000 GPs: 87 reported completing the GPV program and 116 reported reading the feedback brochure. The survey responses remained unchanged following the GPV program. General practitioners who reported reading the feedback brochure were more likely to correctly identify the local incidence of HCV, risk and prognosis of chronic infection, risk of vertical transmission and be aware of treatment issues.

Discussion
In view of the increasing importance of HCV and better treatment options, ongoing innovative programs are essential to improve HCV management by GPs.

Hepatitis C virus (HCV) is an increasingly important cause of morbidity and mortality in Australia with 197 000 people estimated to be living with chronic HCV infection in 2005.[1] Around 75% of patients with HCV will develop chronic infection with 7% progressing to cirrhosis after 20 years.[2]

General practitioners are often the first point of contact for patients with chronic HCV as many may be asymptomatic or only complain of nonspecific tiredness.[2] In Victoria, around 56% of the 3020 new HCV diagnoses made in 2005 were made by GPs.[3,4] As the national prevalence of chronic HCV in 2015 is predicted to reach more than 230 000 cases and as treatment options improve, GPs are likely to see more people with HCV.[1] Despite the importance of GPs in HCV management, previous lsurveys of GPs found more than half of respondents felt they needed to improve their knowledge of HCV management and 33% did not feel well informed about HCV.[5–7]

In response to these identified needs, General Practice Victoria (GPV) conducted a HCV education program for GPs between 2005–2006. Within the same period, the Burnet Institute undertook a case scenario style education program. We assessed the impact of these two programs that aimed to improve GPs' knowledge and management of patients with HCV.

Methods

GP education programs

The GPV program was run by individual Victorian general practice divisions and coordinated by General Practice Victoria. All GPs in Victoria were sent a two page written HCV summary from their general practice division.[8] In addition, 17 (of the 30) general practice divisions conducted free, 2 hour, face-to-face education sessions for GPs. The objectives of the GPV program were to improve the GPs' understanding of the epidemiology of HCV, identification of risk factors, initiation of screening and provision of appropriate pre- and post-test counselling and clinical management of HCV.

An additional educational intervention, a HCV feedback brochure (HCVFB), was offered to survey participants. This intervention, originally conceived as part of the evaluation, involved the distribution of written materials to the GPs that included the correct answers to the baseline survey 5 months after the baseline survey process.

Evaluation

The Burnet Institute evaluated the GPV program on behalf of General Practice Victoria and the Department of Human Services. A draft survey was piloted on 20 GPs. One thousand Victorian GPs, randomly selected from more than 5300 Victorian GPs listed on the Australasian Medical Publishing Company database, were surveyed to compare their HCV knowledge and management practices before (baseline survey) and after (follow up survey) the education programs. Completion of the GPV program was defined as attendance at a division HCV education session or having read the GPV HCV information. General practitioners were also classified according to whether or not they had read the HCVFB.

The self administered, paper based surveys contained mainly case scenario type questions with Likert scale responses exploring the GPs' knowledge of HCV management. The correct responses to the surveys followed current Australian guidelines for the management of HCV.[1,2,8–10] Nonresponders to the surveys were sent at least one reminder.

General practitioners that completed both surveys were offered accreditation points toward The Royal Australian College of General Practitioners QA&CPD Program. The evaluation received ethics approval from the Department of Human Services in August 2005.

Analysis

We used logistic models to perform matched comparisons of the responses, taking into consideration the age and gender of the GPs, the frequency they tested for HCV or had patients diagnosed with HCV. Data were analysed using Intercooled Stata software V. 9.2; *p* values less than 0.05 were considered significant.

Results

Response rate

The surveys were completed by 524 (52%) out of 1000 GPs contacted and 271 (27%) GPs had responded to both surveys (439 GPs completed the baseline survey and 356 completed the follow up survey). Aside from higher response rate from female than male GPs, responders had similar demographic characteristics as nonresponders (*Table 1*). Respondents reported testing a median of one patient for HCV in the week before completing the surveys and having one patient diagnosed with HCV in the previous year.

Baseline survey

Table 2 summarises the survey results. A third of GPs knew the estimated national incidence of HCV. Most respondents said that they would offer HCV testing for patients who reported the common risk factors. On the other hand, 61% stated they would recommend HCV testing in patients who gave a history of unprotected sex; although, 85% reported that the risk of sexual transmission of HCV is low in such a situation. Under half of the GPs correctly reported the low risk of vertical transmission of HCV.

A third of the GPs were aware of the long term risks of chronic HCV infection and the associated severe complications. Many GPs reported they would discuss the likelihood of positive results with patients at pretest counselling. In addition, 71% knew that polymerase chain reaction (PCR) testing for HCV best identifies people who may have spontaneously eradicated the infection.

Around a third of GPs were aware of the success rate of combination treatment with pegylated interferon and ribavirin for chronic HCV and that the treatment may cause depression. About a third of GPs would refer patients who test HCV antibody and PCR positive to hepatitis specialists; 46% of GPs reported they would only refer patients with persistently abnormal alanine aminotransferase (ALT) level.

Table 1. Demographics of GPs by survey response

	All GPs contacted		Baseline and follow up survey completion status	
	Responders n=524	**Nonresponders n=476**	**Both surveys n=271**	**Single survey n=253**
Gender				
Female	209 (40%)	147 (31%)	107 (39%)	102 (40%)
Male	315 (60%)	329 (69%)	164 (61%)	151 (60%)
p value*	0.003		0.85	
Median age				
Years (range)	50 (29–86)	48 (27–90)	49 (29–86)	50 (30–85)
p value*	0.26		0.41	
Practising in rural region				
n	286 (55%)	263 (55%)	143 (53%)	143 (57%)
p value*	0.83		0.39	

* *p* value of difference in proportion between responders and nonresponders OR responders to both surveys and single survey only

Table 2. Management of HCV in general practice: baseline and follow up survey comparison

Knowledge surveyed	Number of positive responses		Comparison between baseline and follow up surveys n=271	
			Odds ratio* (95% CI)	
	Baseline survey n=439	Follow up survey n=356	Effect of the GPV program	Effect of the HCV feedback brochure
Would perform HCV testing if patient reports the following risk factors:				
•history of injecting drug use	434 (99%)	355 (100%)	Collinear†	Collinear†
•history of tattooing/body piercing	408 (93%)	343 (96%)	1.31 (0.23–7.42)	1.24 (0.26–6.03)
•history of imprisonment	393 (90%)	342 (96%)	1.95 (0.33–11.42)	1.95 (0.33–13.44)
•came from Africa, Eastern Mediterranean, or Southeast Asia	303 (69%)	278 (78%)	1.36 (0.56–3.30)	1.11 (0.53–2.33)
Would not perform HCV testing if patient reports history of unprotected sexual intercourse	150 (34%)	142 (40%)	1.20 (0.59–2.44)	0.60 (0.32–1.11)
Incidence of HCV in Australia is 6000–13 000 cases/year	145 (33%)	143 (40%)	1.64 (0.79–3.43)	5.69 (2.84–11.38)‡
75% of people with HCV will develop chronic infection	123 (28%)	147 (41%)	1.60 (0.80–3.20)	2.64 (1.42–4.91)‡
After 20 years without treatment, 5–20% of HCV patients will develop hepatic cirrhosis	166 (38%)	187 (53%)	1.87 (0.95–3.70)	2.39 (1.31–4.36)‡
The risk of vertical transmission of HCV is <6–7%	180 (41%)	220 (62%)	1.72 (0.76–3.92)	2.72 (1.36–5.46)‡
The risk of HCV transmission through breastfeeding is negligible	330 (75%)	313 (88%)	1.58 (0.40–6.28)	1.15 (0.39–3.43)
Discusses likely test results with patients as part of HCV pretest counselling	260 (59%)	237 (67%)	1.69 (0.71–4.06)	1.40 (0.67–2.96)
Presence of positive anti-HCV antibody may not protect against re-infection	313 (71%)	274 (77%)	1.98 (0.93–4.19)	1.00 (0.53–1.88)
HCV PCR testing identifies those that have eradicated the infection	140 (32%)	182 (51%)	2.10 (0.80–5.54)	1.48 (0.66–3.33)
50–80% of patients treated with pegylated interferon and ribavirin successfully clear HCV	89 (20%)	127 (36%)	1.98 (1.00–3.92)	1.78 (0.99–3.23)
PBS subsidised treatment can be accessed without liver biopsy and abnormal ALT levels. Depression is a possible treatment side effect	162 (37%)	264 (74%)	1.41 (0.73–2.73)	2.89 (1.59–5.24)‡
Refer patients who are anti-HCV antibody and HCV PCR test positive to specialist clinics	145 (33%)	143 (40%)	1.78 (0.80–3.98)	1.03 (0.52–2.02)

* Adjusted for age, gender, frequency of HCV diagnosis and GPV HCV program or HCV feedback brochure; † = all/almost all GPs in the baseline (269/271) and follow up (271/271) surveys would test patients who report history of injecting drug use; ‡ $p<0.05$

Survey results following the education programs

Table 3 shows education program participation by the 271 GPs who responded to both the baseline and follow up surveys. Most GPs would already conduct HCV testing in patients that present with the common known risk factors for HCV and neither the GPV HCV program nor the HCVFB changed the screening pattern (*Table 2*).

The GPV HCV program did not appear to improve the knowledge of HCV management of the surveyed GPs. However, GPs who reported reading the HCVFB were more likely to correctly identify the risk of vertical transmission, the incidence of HCV, the risks of chronic infection and development of hepatic cirrhosis without treatment and the criteria for Pharmaceutical Benefits Scheme (PBS) subsidised treatment and side effects of HCV treatment in the follow up than the baseline survey (*Table 2*).

Discussion

The evaluation identified substantial deficiencies in general HCV knowledge and clinical management practices among GPs in Victoria. Based on a comparison between the baseline and follow up surveys there was no evidence that participation in the GPV program was associated with improvements in knowledge and practices. On the other hand, there were some improvements following the Burnet Institute feedback/case scenario style program.

The baseline survey showed most GPs could generally identify risk factors for HCV despite a few suboptimal areas of knowledge. First, many GPs were unaware of the low risk of vertical transmission of HCV and that breastfeeding by HCV PCR positive mothers is considered safe unless the nipples are bleeding or cracked.[9–12] Second, although most GPs correctly stated that HCV was not easily transmitted sexually, many routinely included HCV testing as part of screening for sexually transmissible infections. Encouragingly, despite no legislative requirement in Victoria to provide pretest counselling for HCV (unlike HIV), most GPs reported they would discuss the likely HCV test results during pretest counselling.

As has been shown previously,[6] few GPs were aware of the high success rate of HCV treatment and the eligibility criteria for

Table 3. Participation in the GP education programs by responders to both baseline and follow up surveys

Education program	Number reported completing education program (n=271)
GPV program	
• Face-to-face HCV education session	21 (8%)
• GPV HCV information	54 (20%)
• Face-to-face HCV education session or GPV HCV information	68 (25%)
• Face-to-face HCV education session and GPV HCV information	7 (3%)
HCV feedback brochure	95 (35%)

PBS subsidised treatment. Consistent with earlier studies,[13,14] only about half of GPs reported they would refer patients who are HCV PCR positive to specialist liver clinics, despite recommendations to this effect.[5] Most GPs cannot prescribe HCV treatment; however, GPs should be able to provide patients with accurate HCV management information to ensure patients are well placed to take advantage of broadening treatment options.

The evaluation highlighted the difficulty in successfully delivering a HCV specific education program to primary care practitioners. Even among GPs who had completed both the baseline and follow up surveys, less than a third had completed the GPV program or read the HCVFB. A study in the United Kingdom also found GPs still had insufficient knowledge of HCV following a targeted education campaign.[15]

The HCVFB seemed to be better at improving specific areas of knowledge and practices among the GPs. This simple strategy, based on a clinical scenario before and after the distribution of a concise summary of the salient points of HCV management, required minimal participation time and may have been more clinically relevant.

Limitations of this study

This evaluation was limited to self reported practice of the GPs. However, our findings were consistent with previous surveys of GPs[5–7] and patients living with HCV.[13,14] One limitation was our surveys achieved only a moderate response rate and only a small percentage of GPs reported participating in the GPV HCV program. The responders also possibly had better knowledge of or stronger interests in HCV related issues than nonresponders.

Conclusion

Our evaluation suggests many GPs in Victoria would benefit from further education activities to address all areas of primary care prevention and management of HCV. Previous studies have shown GPs are receptive to further HCV education.[5–7] The challenge is to get GPs to undertake HCV training in a setting of competing education priorities and where many GPs have limited recognition of the disease prevalence and improvement in treatment outcomes.

Implications for general practice

- GPs can identify most of the common risk factors for HCV to initiate screening.
- Sexual or vertical transmission of HCV is uncommon.
- Many GPs are unaware of the long term effects of chronic HCV infection.
- Few GPs are aware of the eligibility criteria for PBS subsidised treatment and the effectiveness of treatment.
- Few GPs refer HCV PCR positive patients to specialist liver clinics.
- Some GPs would like further HCV education; however, successful education strategies need to be concise, ongoing and innovative.

Conflict of interest: none declared.

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