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Research paper

Advice to consult a general medical practitioner in Western Australia: could it be cancer?

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ABSTRACT

Background Many people will consult a medical practitioner about lower bowel symptoms, and the demand for access to general practitioners (GPs) is growing. We do not know if people recognise the symptoms of lower bowel cancer when advising others about the need to consult a doctor. A structured vignette survey was conducted in Western Australia.

Method Participants were recruited from the waiting rooms at five general practices. Respondents were invited to complete self-administered questionnaires containing nine vignettes chosen at random from a pool of 64 based on six clinical variables. Twenty-seven vignettes described high-risk bowel cancer scenarios. Respondents were asked if they would recommend a medical consultation for the case described and whether they believed the scenario was a cancer presentation. Logistic regression was used to estimate the independent effects of each variable on the respondent's judgement. Two-hundred and sixty-eight completed responses were collected over eight weeks.

Results The majority (61%) of respondents were female, aged 40 years and older. A history of rectal bleeding, six weeks of symptoms, and weight loss independently increased the odds of recommending a consultation with a medical practitioner by a factor of 7.64, 4.11 and 1.86, respectively. Most cases that were identified as cancer (75.2%) would not be classified as such on current research evidence. Factors that predict recognition of cancer presentations include rectal bleeding, weight loss and diarrhoea.

Conclusion Within the limitation of this study, respondents recommended that most symptomatic people present to their GP. However, we report no evidence that they recognised a cancer presentation, and duration of symptoms was not a significant variable in this regard. Cases that were identified as 'cancer' could not be classified as high risk on the available evidence.

Keywords: cancer, colorectal, survey, symptoms, vignettes

How this fits in with quality in primary care

What do we know?
The demand for appointments with medical practitioners is growing. Lower bowel symptoms are common.

What does this paper add?
In this survey, respondents recommended a consultation with a GP for lower bowel symptoms, and in more than one in four cases recommended an appointment 'today'. Cases that were identified as 'cancer' could not be classified as high risk on the available evidence.

Introduction

Over a year almost one in four people experience lower gastrointestinal symptoms, such as rectal bleeding and diarrhoea, in most developed countries.[1–3] It is reported that most people do not consult a doctor about such symptoms.[2,3] Nonetheless, the demand for appointments with medical practitioners is growing exponentially, and policy makers are struggling to keep up with provision of access to services and therefore to maintain quality within the context of a medical manpower crisis in countries like Australia.[4] Waiting lists for colonoscopy continue to grow, within the context of a national bowel screening programme. Therefore, there is an increasing need to understand the factors that influence patients to seek appointments with doctors, so that interventions are developed to ensure that medical practitioners are consulted appropriately. A recent study reported the close link between access to services and clinical outcomes in cerebrovascular disease.[5] It could be concluded that the most sustainable solution to the problem is not the provision of more services but to ensure that people with symptoms recognise when it is appropriate to seek help sooner rather than later.[6]

Although the general public is reported to recognise rectal bleeding as a sign of cancer, it is not clear whether people recognise the signs and symptoms of life-limiting illness, especially when the bleeding occurs in the context of other bowel symptoms.[7] This study investigates people's recognition of symptoms as warning signs for cancer, and hence relates to the 'cues for action' part of the health belief model. We have adopted an approach allied to clinical judgement analysis, which offers a quantitative method of probing the judgements of patients and identifying systematic differences in their perceptions of risk and benefit.[8] The technique includes the presentation of 'paper' cases. A major advantage of this methodology is allowing comparison of different respondents' behaviour over the same set of cases, and estimating the independent effects of specific information on a person's judgements.

The main aim of this study was to explore how a variety of clinical and demographic variables impact on the likelihood of people recommending a consultation with a general practitioner (GP) for lower bowel symptoms. The literature suggests that a few factors influence people's readiness to consult a doctor about bowel symptoms. However, these do not include age, sex, or social class, but are strongly correlated with the patient's perception that the symptoms indicate a serious condition, notably cancer.[9] Therefore, a secondary aim was to explore how the variables impact on the advice to seek an 'urgent' consultation. The final aim was to determine how the variables predicted which cases were deemed by the respondents to represent cancer presentations.

Method

Setting and recruitment

Local Western Australian divisions of general practices co-ordinated recruitment of practices to the study. Four general practices in the Central Wheatbelt region and one practice in Katanning, Western Australia, were willing to participate in recruitment.

Vignettes and randomisation

Study participants were presented with self-administered questionnaires incorporating 'vignettes' or short stories about people who were experiencing lower bowel symptoms. Each vignette was constructed with six clinical details and two possible variations including: age (35 or 65 years), sex, duration of symptoms (3 days or 6 weeks), rectal bleeding, weight loss and diarrhoea. Therefore, there were 64 (2^6) potential scenarios to cover each of the possible combinations. The vignettes described cases with symptoms of lower bowel disease. In theory, the life-like quality of the vignette style stimulates more meaningful and considered answers, which are more likely to be predictive of behaviour than surveys that do not offer the short story format.[10] The vignettes were presented to the sample in an 'incomplete-within-blocks' design, to reduce the number of vignettes presented to each respondent to nine.

Vignettes for 'cancer' patients were based on recognised symptoms of colorectal cancer.[11] The criteria used have been evaluated and suggest that greater than 5% of people with these symptoms will have colorectal cancer.[12] These were cases in which the sufferer was older than 60 years of age and had been experiencing symptoms of rectal bleeding and/or diarrhoea for many weeks. Twenty-seven of the 64 vignettes incorporated such cases. Therefore, each respondent was potentially presented with at least three scenarios in which an urgent consultation was warranted. For the purposes of this study, only these 'cancer' vignettes were considered to warrant an 'urgent' appointment with a GP. Each scenario was presented as a story as depicted in Box 1. They include common features of colorectal pathology previously identified as having the greatest clinical significance in a Delphi study of GPs and colorectal surgeons, and most are also highlighted as important in guidelines.[13,14]

Box 1 Example of vignette: elements in italic are the clinical explanatory variables

(*Mr/Mrs*) Mitchell is (*65/35*) years old and has been feeling unwell for the past (*6 weeks/3 days*). He (has/has not) lost some *weight* and (has/has not) had *diarrhoea*. He (has/has not) been passing any *blood* in his bowel motions. He does not have any other symptoms.

Questionnaire

Respondents were asked whether they would recommend the person consult with a medical practitioner, if they should consult today, within a week or within a month, whether they believed the person had cancer, and who else could help. The following demographic data were collected: age, sex, country of birth, ethnicity and length of time spent living in Australia. The survey was piloted with a small sample of lay and medical professional respondents to ensure face and content validity.

Sample size and statistical analysis

To obtain a power of 0.8 (alpha = 0.05), 138 respondents were required for binary logistic regression with 11 explanatory variables.[15] Logistic regression analysis was used to determine the relative importance of respondent demographic factors, and six clinical details with two possible variations including: age, sex, duration of symptoms, rectal bleeding, history of weight loss and diarrhoea, all of which may influence three outcome measures:

1 the decision to recommend a consultation with a GP
2 the decision to recommend a consultation with a GP within a week
3 identification of a vignette as likely or very likely to be a cancer presentation.

Results

Three-hundred and forty questionnaires were made available at the reception desk at the practices over eight weeks; 268 completed responses were collected. The majority of respondents were female (61%) and most had lived in Australia for more than 20 years (87%). The demographic characteristics are summarised in Table 1.

In most vignettes, where respondents expressed a view (2126/2412), they indicated that the patient, as described in the vignette, should consult with a GP, 88.4% (1879/2126). The majority, 76.6% (1658/2165), recommended a consultation within a week, and a significant proportion, 27.5% (596/2165), suggested an appointment 'today', i.e. that day. Respondents were also asked who else might be able to advise the patient in these circumstances. Apart from hospital specialists, the most frequently cited helpful health professionals were pharmacists (6.8%) and nurses (3%). The following variables were modelled to predict the decision to recommend an appointment with a GP or to recommend an appointment within one week and cases that were deemed likely or very likely to have cancer: age and sex of respondent, years lived in Australia, ethnicity, vignette details including: age (35 or 65 years), sex, duration of symptoms (3 days or 6 weeks), rectal bleeding, history of weight loss, and diarrhoea.

Table 1 Demographic data

Characteristic	*n*	%
Sex		
Male	78	29.1
Female	163	60.8
Missing	27	10.1
Ethnic origins		
Australian	209	78.0
Asian	5	1.9
Indigenous	7	2.6
European	30	11.1
Other	12	4.5
Missing	3	1.1
Years lived in Australia		
<5	8	3.0
5–10	4	1.5
10–15	4	1.5
15–20	13	4.9
20+	234	87.3
Missing data	5	1.8

Recommending a consultation with a general practitioner

Respondents older than 50 years of age and those who had lived in Australia for longer were more likely to recommend that the sufferer described in the vignette should consult a GP. Of the clinical details incorporated in the vignettes, longer duration of symptoms, rectal bleeding and weight loss were also more likely to lead to this suggestion. Table 2 displays the extent to which the variables influenced the outcome variable. Twenty per cent of the variability could be explained from these independent variables in the multivariate analysis (area under the receiver operating characteristic (ROC) curve = 0.83). Therefore, the accuracy of the model as a test for respondents' views could be described as 'good'. The sensitivity of the model was 99.2%, specificity 4.5%, positive predictive value 88.8% and negative predictive value 40.7%.[16]

Recommending a consultation with a general practitioner within one week

For the purposes of this study we classified the recommendation of an appointment within one week as a mark of significant concern about the patient described in the vignette. Once again, older respondents and those who had lived in Australia for longer periods were more likely to make such a recommendation. The most significant symptoms were rectal bleeding, diarrhoea, persistent symptoms and weight loss (Table 2). Sixteen percent of the variability could be explained from these independent variables (area under ROC curve = 0.77). Therefore, the accuracy of the model as a test for respondents' views in this respect was 'fair'. The sensitivity of the model was 96.6%, specificity 12.5%, positive predictive value 78.8% and negative predictive value 52.4%.

Identifying potential cancers

Respondents performed less well at identifying cancer explicitly. At least three out of the nine vignettes presented were cancer vignettes. In 14.2% of cancer vignettes, respondents were either unsure about when to consult, or failed to recommend a consultation in less than a month. They suggested that a patient might be suffering from 'cancer' in 15.7% of the cancer vignettes where an appointment with a GP was recommended within one week. In most (54.1%) vignettes, respondents were unsure of the chance that the symptoms were related to cancer. Cancer was suspected in 10.2% of all vignettes, but respondents only identified 14.3% of cancer vignettes as likely, or very likely, to be cancer. Most cases that were identified as cancer (75.2%) would not be classified as such on current medical guidelines. A greater number of years lived in Australia reduced the odds of a cancer vignette being recognised. Twelve per cent of the variability could be explained from these independent variables (area under ROC curve = 0.75). Therefore, the accuracy of the model as a test for respondents' views could be described as 'fair'. The sensitivity of the model was 19.9%, specificity 73%, positive predictive value 10.4% and negative predictive value 89.4%. The most significant symptoms were rectal bleeding, weight loss and diarrhoea (Table 2).

Discussion

In most cases, respondents recommended a consultation with a GP, and in more than one in four cases recommended an appointment 'today'. However, most vignettes that respondents identified as cancer scenarios could not be classified as high-risk cancer presentations on current evidence as incorporated in medical guidelines.[11] These findings echo previous research in Australia and the UK which suggested a variable knowledge of the common presentations of colorectal cancer.[17,18] Cockburn and colleagues suggested that the proportion of people consulting for lower bowel cancer symptoms has remained unchanged over several decades.[19] These data echo the findings of a recent systematic review of the literature from 1970 to 2003, which demonstrated patients' 'non-recognition'

Table 2 Results of logistic regression analysis

Outcome variable:	Consult a GP			Consult a GP within a week			Likely or very likely to be cancer		
Explanatory variables:	Odds ratio	95% confidence interval		Odds ratio	95% confidence interval		Odds ratio	95% confidence interval	
Respondent details									
Age (years)									
30–39	1.09	0.52	2.31	1.49	0.79	2.79	1.93	0.84	4.42
40–49	1.21	0.58	2.51	1.94	0.98	3.85	1.91	0.91	4.03
50–59	**2.80**	1.26	6.20	**2.71**	1.32	5.55	1.42	0.67	3.04
60+	**2.76**	1.11	6.89	**3.76**	1.46	9.65	1.77	0.66	4.71
Sex (M)	0.62	0.35	1.11	0.73	0.41	1.29	1.4	0.72	2.72
Years lived in Australia	**1.52**	1.09	2.11	**1.44**	1.08	1.94	**0.64**	0.45	0.91
Australian ethnicity	1.21	0.68	2.17	1.62	0.80	3.28	0.86	0.46	1.60
Vignette details									
Age (65 = 1)	1.16	0.85	1.58	1.14	0.87	1.49	1.26	0.93	1.70
Sex (M)	1.01	0.71	1.44	0.97	0.75	1.25	1.41	1.00	1.98
Duration (six weeks)	**4.11**	2.36	7.13	**1.91**	1.43	2.57	1.27	0.95	1.69
Rectal bleeding	**7.64**	4.61	12.68	**4.58**	3.32	6.32	**3.99**	2.60	6.13
Diarrhoea	1.20	0.86	1.67	**2.04**	1.58	2.63	**1.76**	1.26	2.46
Weight loss	**1.86**	1.36	2.55	**1.67**	1.31	2.12	**2.38**	1.72	3.29

Significant figures appear in bold

of colorectal cancer symptoms.[20] We estimate this to be just over 14% of high-risk scenarios. Brief episodes of rectal bleeding and diarrhoea are very common self-limiting symptoms. We suggest the need for more education to improve the recognition of significant colorectal symptoms in the community as a first step to ensuring timely consultations. At the same time, work needs to be done to ensure that those who can queue safely are not driven to create an unsustainable demand on stretched resources.

The respondents to this survey were a self-selecting group and we were able to confirm that they were reasonably representative only insofar as their demographics were consistent with those of consulting patients reported previously.[21] We acknowledge that leaving questionnaires for participants to peruse in a reception area opens the research to unquantifiable biases. In a future study with patients in general practice, it may be better to organise for questionnaires to be distributed by staff. This is also challenging within the context of a busy practice, and would introduce different biases, but would allow an estimation of response rates. Another limitation of the study was that we were only able to incorporate three symptoms and did not include other potentially significant factors that may have affected the decision to recommend a consultation, including local access to medical practitioners. The modest regression coefficients confirm that there may be other clinical or respondent characteristics that influence the decision to recommend consultation.

A follow-up study would need to include a robust theoretical framework. The theory of planned behaviour is one such framework. It posits that individual behaviour is driven by behavioural intentions, where behavioural intentions are a function of an individual's attitude toward the behaviour, the subjective norms surrounding the performance of the behaviour, and the individual's perception of the ease with which the behaviour can be performed (behavioural control). Attitude toward the behaviour is defined as the individual's positive or negative feelings about performing the behaviour.[22] Many of these parameters were not addressed in this pilot study.

Conclusions

Despite the evidence that the respondents did not know that some symptom profiles indicate a significant risk of cancer, respondents would still recommend that a person present to their GP. This is contrary to previous reports that people with lower bowel symptoms seldom consult practitioners. However, our respondents were hesitant or unable to suggest a diagnosis of cancer. If a solution to the increasing demand for appointments with doctors is greater public awareness of circumstances in which to avoid procrastination or instigate appropriate self-care, then much work remains to be done.

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ETHICS COMMITTEE

This study received ethics approval from HREC at the University of Western Australia (RA/4/1/1460). Return of the completed questionnaire was considered to be consent to participate in the survey.

PEER REVIEW

Not commissioned; externally peer reviewed.

CONFLICTS OF INTEREST

None.

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