

RESEARCH

Travel health and pretravel preparation in the patient with inflammatory bowel disease

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ABSTRACT

Background and aims Foreign travel for people with inflammatory bowel disease (IBD) carries an increased risk of travel-related morbidity. There is limited research looking specifically at travel-associated health risks and travel preparation in patients with IBD. The aims of this study are to explore the experience of travel, pretravel preparation undertaken by the patient with IBD and examine IBD healthcare professionals' (HCP) confidence at providing travel advice and the content of that advice.

Methods A survey of patients with IBD attending an outpatient clinic with a separate online survey sent to IBD HCPs recruited using regional and international network databases.

Results A total of 132 patients with IBD, Crohn's disease (67/132, 51%), male (60/132, 45%) and 128 HCPs (IBD nurse specialist 113, 88%; IBD physician 15, 12%) completed the questionnaires. IBD affected travel to some extent in 62% (82/132) of patients, and 64% (84/132) had experienced an IBD flare, of whom 64% still travelled overseas during this time. Only 23% (31/132) travellers sought pretravel medical advice and 40% (53/132) obtained travel insurance. Forty-eight per cent of respondents on immunomodulator therapy were unaware of the need to avoid live vaccines. Twenty-seven per cent (34/128) of IBD HCPs are not confident at providing pretravel advice; vaccination advice (54%), obtaining travel insurance (61%) and healthcare abroad (78%) are the areas of most uncertainty.

Conclusions Patients do not seek adequate pretravel advice and consultations for those who do are often deficient. The majority of IBD professionals are not confident to provide comprehensive travel advice. Greater IBD-specific travel education and awareness is needed for both patients with IBD and professionals.

INTRODUCTION

Inflammatory bowel disease (IBD) and foreign travel is associated with an increased risk of travel-related morbidity caused through exacerbations of IBD, acquisition of infectious diseases endemic to the destination and availability of healthcare and medicines while abroad.^{1 2} Patients receiving immunosuppressive medication have an increased susceptibility to these infections in addition to an attenuated immune response to vaccinations.^{1 3–6} Detailed pretravel consultations and vaccinations are advised prior to travel to ensure travellers are armed with the appropriate education and resources to stay healthy during their journey.^{1 6–8} Despite guidelines specifying appropriate vaccination strategies for patients with IBD,¹ knowledge and provision of this information have been found to be poor, particularly vaccination for those on immunosuppressive medication.^{9–11}

There is a paucity of information for patients with IBD wishing to travel.^{12 13} Generic travel health websites^{14–16} provide information regarding risk assessment and management of vaccine-preventable diseases, but this can be confusing to navigate and interpret in relation to IBD-specific risk factors such as patients on immunomodulator therapy. No single resource is available to provide transparent, comprehensive, evidence-based information to adequately inform both patients and healthcare professionals (HCP) on IBD-specific travel issues.

There is limited research looking specifically at travel-associated health risks and health preparation in patients with IBD.^{2 17} No prior studies have examined this in conjunction with the IBD HCPs'

knowledge and provision of IBD-specific travel information. The aim of this study was to explore the patient's experience of travel with IBD including pre-travel preparation and to examine IBD HCPs' perception of IBD and travel, including knowledge and provision of IBD-specific travel health information in order to evaluate and improve the quality of pretravel advice.

MATERIALS AND METHODS

We distributed a paper questionnaire to 150 patients with IBD attending a London teaching hospital outpatient clinic from October 2013 to December 2013. A separate web-based survey was sent to IBD HCPs using regional IBD network contact lists and European Crohn's and Colitis Organisation network databases.

Survey design

Two separate, structured and anonymous questionnaires were developed and piloted on a sample of 10 patients with IBD and HCPs respectively (see online supplementary file). The self-administered patient survey was administered to consecutive patients attending the IBD clinic and contained 32 questions regarding demographics and disease characteristics as well as detailed travel questions regarding the last travel overseas, including experience of travelling with IBD, pretravel preparation undertaken and knowledge of travel-related health issues such as vaccinations and insurance. We enquired about the respondent's disease activity in the preceding 6 months and compared this with tendency to travel abroad during this time; flare of disease was classified as bowel frequency >5/day with blood and abdominal pain that required an alteration or escalation of medical therapy. Patients were asked about their travel destination according to continent visited, this was then classified according to the United Nations Human Development Index (HDI) of 2013.¹⁸ Continents predominantly containing countries with an HDI of <0.70 were considered to be developing. We hypothesised that respondents would be less likely to travel if they were currently experiencing or recovering from a flare of their IBD. The time frame of 6 months was chosen as it was felt that respondents would be able to recall their disease activity during this period.

IBD HCPs were asked to complete a web-based survey consisting of demographic information and questions regarding perceptions of IBD and travel, confidence at providing travel advice and the content of this advice.

Statistical analysis

Data were entered and analysed on a Microsoft Excel spreadsheet. Descriptive statistics were used to characterise the population and data.

Ethical consideration

As this was a review to inform service improvement for IBD-related travel health, formal ethical approval was not required.¹⁹

RESULTS

Patients

A total of 136 patients with IBD completed the questionnaire, but only 132 (97%) had travelled overseas in the past 5 years and were therefore included in the final analysis. Respondents' median age was 38 years (range 18–85 years); Crohn's disease (67/132, 51%); male (60/132, 45%); 91% response rate. At the time of the survey, 57% (75/132) were using a combination of single or dual immunomodulator therapy; of these 75, 15% were on corticosteroids, 42% thiopurine, 23% anti-tumour necrosis factor alpha (TNF) and 4% methotrexate. Thirty-seven per cent (49/132) had previously had IBD-related surgery. The demographic characteristics are shown in table 1. Patients were asked whether having IBD influenced their decision to travel abroad or their choice of destination. The majority reported IBD affected travel (62%, 82/132), and 61% (80/132) said IBD limited their choice of travel destination. Individuals taking immunomodulator medication reported that IBD limited travel more than those not on immunosuppression (63/75, 84% vs 19/38, 50%). Europe was the main destination for 52% of travellers, with 26% (34/132) visiting low-income or middle-income countries. Those who travelled to low-income or middle-income countries sought more pretravel advice (14/34, 41%) compared

Table 1 Patient demographics

Patient demographics	All	CD	UC	IBD type unknown
	132	65 (49%)	63 (48%)	4 (3%)
Gender				
Sex (male)	58 (44%)	29 (45%)	27 (43%)	2 (50%)
Age				
Median (range)	37 (18–85)	43 (18–79)	59 (18–85)	30 (26–82)
Flare in last 6 months				
No	52 (38%)	27 (40%)	24 (38%)	1 (20%)
Yes	80 (61%)	38 (58%)	39 (62%)	3 (75%)
Current medication				
5-ASA	79 (60%)	28 (43%)	50 (79%)	1 (25%)
Steroids	20 (15%)	8 (12%)	12 (19%)	0
Thiopurine	56 (42%)	29 (45%)	27 (43%)	0
Anti-TNF α	31 (23%)	25 (38%)	6 (10%)	0
Methotrexate	5 (4%)	4 (6%)	1 (2%)	0
Surgery				
Yes	49 (37%)	37 (57%)	11 (17%)	1 (25%)
Stoma	10 (8%)	5 (8%)	5 (8%)	0

ASA, aminosalicic acid (mesalazine); CD, crohn's disease; IBD, Inflammatory bowel disease; UC, ulcerative colitis.

with those who travelled to developed countries (17/98, 17%), particularly information regarding vaccinations, safety of their destination and advice specific to IBD (table 2). The majority of patients travelled for leisure (122/132, 92%). Median time since travel was 20 months (IQR 18–27). Twenty-one per cent (28/132) of individuals experienced an alteration in bowel habit that they thought was related to their IBD while overseas. Only 2/28 of those individuals had a confirmed infective cause for their symptoms and 50%

were not tested. Four per cent (5/132) of all respondents had been hospitalised for an IBD-related issue during their last trip overseas.

A total of 64% (84/132) respondents experienced a self-reported IBD flare in the 6 months prior to the review, of whom 64% (54/84) still travelled overseas during this time. Only 23% (31/132) travellers sought pretravel medical advice of any kind. Travel insurance that covered IBD was obtained by only 40% (53/132) of all patients, the majority of whom (70%, 37/53)

Table 2 Travel characteristics and pretravel preparation sought by patients with IBD on the most recent overseas trip

	All (n=132)	Travel to low-income or middle-income country* n=34	Travel to developed country* n=98
IBD limits overseas travel Yes (n%)	82 (62%)	22 (65%)	60 (61%)
IBD limits choice of destination Yes (n%)	80 (61%)	15 (44%)	65 (66%)
Purpose of travel			
Business/study	10 (8%)	4 (12%)	6 (6%)
Leisure/tourism	122 (92%)	30 (88%)	92 (94%)
New episode of diarrhoea during travel Yes (n%)	28 (21%)	8 (24%)	20 (21%)
Found to be infective? N=28			
Yes	2/28 (7%)	1 (3%)	1 (1%)
No	12/28 (43%)	4 (12%)	8 (8%)
Not tested	14/28 (50%)	3 (9%)	11 (11%)
Sought medical advice while abroad Yes (n%)	29 (22%)	9 (26%)	20 (21%)
Admission to hospital that was IBD related Yes (n%)	5 (4%)	1 (3%)	4 (4%)
Reason that IBD limits overseas travel n=82			
Vaccinations required	9 (11%)	2 (6%)	7 (7%)
Perceived problems obtaining medical care	26 (32%)	4 (12%)	22 (22%)
Obtaining insurance	11 (13%)	1 (3%)	10 (10%)
Concerns about medication	5 (6%)	0 (0%)	5 (5%)
Access to toilet facilities	58 (71%)	17 (50%)	41 (42%)
Concerns about sanitation	35 (43%)	7 (21%)	28 (29%)
Worries about contracting a bowel infection	32 (39%)	8 (24%)	24 (24%)
Concerns about diet	32 (39%)	7 (21%)	25 (26%)
Obtain pretravel advice Yes (n%)	31 (23%)	14 (41%)	17 (17%)
Sources of pretravel information n=31			
Internet	5 (16%)	0 (0%)	5 (5%)
General practitioner	15 (48%)	6 (18%)	9 (9%)
Travel clinic	5 (16%)	3 (9%)	2 (2%)
Patient organisation	8 (26%)	3 (9%)	5 (5%)
IBD clinic	15 (48%)	7 (21%)	8 (8%)
Leaflet/brochure	3 (10%)	1 (3%)	2 (2%)
Family/friend	2 (6%)	0 (0%)	2 (2%)
Type of information sought n=31			
Country-specific	7 (23%)	3 (9%)	4 (4%)
Vaccination	14 (45%)	8 (24%)	6 (6%)
Travel insurance	13 (42%)	3 (9%)	10 (10%)
IBD-specific	15 (48%)	6 (18%)	9 (9%)
Safety of destination	6 (19%)	5 (15%)	1 (1%)
Facilities of destination	3 (10%)	1 (3%)	2 (2%)
Local IBD centres at destination	5 (16%)	2 (6%)	3 (3%)

*Developing continents according to HDI:¹⁹ Central America, Africa, Asia, South East Asia, India. HDI, Human Development Index; IBD, Inflammatory bowel disease.

reported paying an increased premium. We did not ascertain whether this was because of their IBD or other cause. Individuals taking immunomodulator therapy sought more information regarding vaccinations (15% vs 8%) and travel insurance (52% vs 37%) compared with those not taking such medication. We also found that 48% (36/75) of respondents on immunomodulator therapy were unaware of the need to avoid live vaccines.

Healthcare professionals

A total of 128 IBD HCPs completed the questionnaire (IBD nurse specialist 113, 88%; IBD physician 15; 12%); the majority (66%) of respondents were from the UK (table 3). The survey was initially sent to 430 IBD nurses, asking them to cascade to their medical and nursing colleagues; therefore, it was not possible to calculate an accurate response rate. The majority of respondents (94; 73%) felt that having IBD would affect a patient's decision to travel overseas.

A total of 73% (82/113) of all IBD nurses felt confident to provide pretravel information to patients. Twenty-seven per cent (34/128) of HCP respondents do not feel confident at providing pretravel advice (91%, 31/34 of these were IBD nurse specialists; 9%, 3/34 were IBD physicians), with 82% (28/34) of all those stating they were not confident to provide advice referring to specialist travel centres.

The majority of all respondents were confident to provide general advice regarding infective travellers' diarrhoea, but only 55% (70/128) were confident on vaccinations and 39% (50/128) on travel insurance. The areas where IBD HCPs had most uncertainty were providing country-specific advice (66%

uncertain) and guidance on obtaining healthcare abroad in the event of a flare (78% uncertain).

DISCUSSION

This is the first study to examine patients' pretravel preparation in conjunction with HCPs' experience and confidence at providing this advice. The majority of patients with IBD feel their disease affects both travel in general and destination; however, surprisingly despite some concerns, patients still travel abroad even if they have suffered a recent flare and few seek prior expert medical advice.

Our study found that a quarter of all HCPs do not feel confident to provide pretravel advice to patients with IBD and of these, the vast majority would refer to a specialist centre for this information. Interestingly, similar findings were also seen in those who felt they had adequate knowledge to give such advice; with 80% also stating they would refer to a travel clinic or general practitioner rather than provide the information themselves. This suggests that HCPs are happy to provide IBD-specific travel information regarding medication and managing symptoms, but would refer to specialist travel clinics for destination-specific information such as vaccination and other travel health risks. The majority of the HCPs in our survey were IBD nurses from various countries within Europe, where there are recognised country-specific variances in role, title, salary and level of training of IBD nurses.²⁰ Outpatient visits to the IBD clinic average approximately three per year in the UK,²¹ with patients tending to have longer appointment times with the IBD nurse compared with the physician. This will impact on the content and detail of any discussions that take place during the appointment, particularly limiting the time available to discuss travel health.

With regard to vaccinations, we found that more than half of the patients receiving immunomodulator therapy are unaware that they should avoid live vaccines, and only 55% of HCPs reported being confident at giving vaccination advice. Low counselling rates for avoidance of live vaccines and inadequate understanding and knowledge of vaccinations have been cited in previous research.^{10 11 22} Possible explanations for this include HCPs' lack of awareness, ambiguity regarding who should assume responsibility for vaccine administration and concerns regarding safety and efficacy of vaccinations, including fear of vaccine-induced exacerbations of IBD.^{3-5 9-11} The European Crohn's and Colitis Organisation guidelines¹ recommend that travel consultations should be provided jointly by a gastroenterologist and expert travel clinic. Deficiencies in the advice provided by such clinics have been highlighted in previous research,¹⁷ which found 27% of patients were incorrectly given the yellow fever vaccination while receiving immunomodulator therapy. This highlights the

Table 3 Healthcare professional demographics

	All n=128	IBD nurse n=113	IBD physician n=15
Country of work			
UK	84 (66%)	72 (6%)	12 (80%)
Europe	38 (30%)	36 (32%)	2 (13%)
Australia, New Zealand and Canada	6 (4%)	5 (4%)	1 (7%)
Confidence at providing pretravel information			
Confident	94 (73%)	82 (73%)	12 (80%)
Not confident	34 (27%)	31 (27%)	3 (20%)
Types of information least confident to provide			
Country-specific advice	84 (66%)	71 (63%)	13 (87%)
Vaccinations	58 (45%)	50 (44%)	8 (53%)
Details of obtaining healthcare abroad	100 (78%)	90 (80%)	10 (67%)
General travel and IBD advice	14 (11%)	12 (11%)	2 (13%)
How to obtain travel health insurance	78 (61%)	65 (58%)	13 (87%)

IBD, Inflammatory bowel disease.

need for travel clinics to have increased vigilance when prescribing live vaccinations. In the UK, advice regarding travel health is sought mainly in primary care from dedicated travel clinics or GPs. Travel medicine is an emerging field, but not currently a speciality that is recognised in the UK.²³ There are several independent associations offering support and qualifications for those working in travel medicine, but to our knowledge, these are not compulsory.^{24–26} No national UK guideline exists specifically for pretravel advice, although recommendations for practice have been developed.^{27 28} This may impact on the quality and accessibility of travel advice and is an area that should be further explored to investigate the content and accuracy of information given by primary care or specialist travel clinics and whether they appropriately address the issues relevant to patients with IBD. This is an important finding from our research and suggests that improved awareness regarding the importance of obtaining and providing adequate pretravel consultations can potentially lead to prevention of infectious complications while travelling.

A minority of patients sought pretravel consultation and those who did were more likely to do so if they had, or were recovering from, a flare at the time of travel. A reason for our observed low rates of travel preparation could be explained if the destination had previously been visited and information sought prior to an earlier trip; this was not surveyed in the present study. Although vaccination, insurance and general advice regarding IBD were the main areas of interest in these patients, low numbers of patients in this group actually went on to obtain travel insurance to cover their IBD, meaning most are possibly underinsured or not insured. Travel insurance in the UK covers many aspects of travel, but there are often caveats for chronic disease, particularly if the traveller is under regular specialist follow-up. Obtaining adequate insurance can often be difficult and incur additional premiums, but travelling without adequate cover carries the risk of the individual incurring significant personal medical costs in the event of illness overseas.²⁹ It is worth noting that both vaccination and travel insurance advice are among the areas that HCPs in our study report feeling least confident to advise on. This demonstrates that there is ambiguity in the information patients seek and what HCPs feel confident to provide and that despite education and counselling, there are still barriers preventing patients from taking correct measures to protect themselves abroad. This again could be explained by inadequacies in the information given at the time of consultation, lack of knowledge regarding how to source adequate information such as travel insurance and external factors including increased premiums for those with pre-existing medical conditions, particularly when recovering from a period of illness.

Previous research found that generally patients with IBD travelling to low-income or middle-income countries are no more at risk of developing enteric infections compared with healthy counterparts, although many individuals with IBD would avoid these destinations for this reason.² We found similar results with most individuals citing concerns over toilet facilities, sanitation and greater risk of contracting enteric infections as the main reasons for avoiding particular destinations. Recent research has also linked journeys and flights at high altitude to an increased risk of IBD flare within 4 weeks of travel due to hypoxia-induced inflammation,³⁰ although further studies are needed in this field. Overseas travel is becoming more prevalent and forms part of maintaining a balanced quality of life. The overall impact of IBD and restrictions posed on daily life have been documented in a recent European survey³¹ and indicates that most individuals faced disruption in their daily life caused by the current status of their disease, but over half avoided cancelling or rescheduling plans. The availability of toilets remains one of the main concerns of individuals with IBD³¹ and is again mirrored in our findings.

There are several limitations to this study. First, the retrospective survey design may introduce recall bias regarding specific details of the respondents' last overseas trip. Similarly, we asked for the individual's self-reported disease activity within the last 6 months using a symptom-based assessment, but did not use standardised classification criteria. It is difficult, therefore, to define the onset of some symptoms as a definite relapse. The most recent episode of travel may not be representative of travel behaviour generally. For example, 10% of our sample travelled for business or study, meaning they may have had no option, but to travel during a flare of disease. Finally, the sample of HCPs who responded was likely to have included individuals with an interest or some knowledge in this subject and was skewed towards IBD nurses and therefore the results may not be generalised to other IBD professionals. The inclusion of a matched control group of healthy subjects would have helped to underline the burden of IBD in determining new symptoms when compared with the healthy traveller. Our study was conducted in a single-centre university hospital with a wide variety of socioeconomic groups and tertiary referrals from the surrounding areas, and therefore, our results could be generalised to the rest of the UK.

In conclusion, our findings suggest individuals with IBD do not always receive the recommended pretravel medical advice, including the need to avoid live vaccinations if immunosuppressed, and support the need for further research on travel behaviour in IBD. We suggest there is a need for greater IBD-specific travel education and awareness for both patients and HCPs in primary and secondary care.

Key messages

- ▶ Having a diagnosis of IBD limits travel for many patients.
- ▶ IBD patients should be encouraged to seek adequate pre-travel advice and signposted to relevant resources.
- ▶ Effective communication and joint travel consultations between the IBD team and travel health specialist are advised.
- ▶ Individuals receiving immunosuppressant medications should be adequately counselled regarding vaccinations, particularly the need to avoid 'live' vaccines.

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Contributors KG had the original conception and design of the work, acquisition, analysis and interpretation of data and is accountable for all aspects of the work. TS and JPM helped with the analysis and interpretation of data. CN, SW, MH and CM reviewed and edited the manuscript.

Competing interests None declared.

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