Journal of BTHA, Volume XII, 2008

A Structured Review of Publications in Travel Health Related Journals

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Abstract

Much importance is currently given to evidence based practice and patient management, which depends upon published, scientifically researched evidence. Many current medical practices do not however have a strong literature-supportive base.

This study endeavoured to establish the status of researched support for travel related medicine. The quantity and content of five journals were systematically analysed. Malaria, vaccine -preventable disease, infectious diseases and gastro-intestinal illness were the most frequent topics recorded in the review and research sections, with a preponderance of the first two. Other topics of considerable interest to the travel health professional were poorly represented, or completely neglected. The literature base for the practice of travel related medicine appears to be skewed, with a paucity of items important in management and determining good practice.

Objectives

To quantify and analyse the topic content of specialist and general professional journals, to determine their scope and relevance to the practice of evidencebased travel related medicine.

Introduction

Evidence-based medicine (EBM) applies evidence from scientific method to medical practice. It assesses the quality of evidence relevant to the risks and benefits in patient management. It is the conscientious, explicit and judicious use of current best evidence. EBM endeavours to clarify those parts of medical practice that are in principle, subject to scientific methods and to apply these methods to ensure the best of outcomes in medical treatment and management. The bed-rock of evidence-based medicine is the systematic review of evidence for particular treatments and management, from randomised control trials and other studies. The practice of evidence-based medicine requires integration of individual clinical expertise with the best available external clinical evidence provided by sound research.[1] General practitioner attitudes to EBM have been generally welcoming with most agreeing that it improves patient care.[2] Few doctors would care to say that their practice is not evidence based.[3]

Travel related medicine falls within the scope of EBM, with practitioners dependent upon publication and dissemination of research results and the personal assimilation of findings to promote best practice. Scientific, professional journals are prime sources of information for most doctors and nurses seeking enlightenment. In a small pilot study of family doctors[4]**,** most recorded that they regularly read the British Medical Journal and acknowledged the importance of research evidence in aiding decision making in patient management. The results inferred that they might also draw more on research publications in travel health consultation than in general

medical management. The capacity of travel-health focused journals to meet the demands of EBM has not been assessed.

Personal searches of the most frequently read journals on specific travel- health related topics of everyday importance in traveller's health management, e.g. pregnancy, diabetes and trauma, frequently reveal a paucity of research references. Journals may not be adequately covering the wide range of subjects associated with travel medicine. This may be cause for concern, as their research reports provide substance for reviews and educational texts. Travel health text books and guide-lines can be poorly referenced, provide dated references or, quote from obscure inaccessible journals. In the absence of researched evidence, the educative value of their text is diminished. Research publications provide authenticity and the evidence base for rational management which, added to clinical experience, can guide towards best practice. Without current best evidence, practice and management run the risk of becoming out of date, to patient detriment.[4]

Three predominant, scientific, peer-reviewed journals cater for travel medicine health professionals. The scope of their content and their provision of evidence based reports, relevant to the management of people presenting for travel health consultation, has yet to be explored. These journals, with the addition of the widely circulated *British Medical Journal* and *Lancet* were included in this study. This was a structured literature review of two decades of journal issues, with analysis of sections of their travel-health related contents. The time span covers the period travel medicine has developed as an independent discipline.

Method

The three principal journals covering the travel medicine field were accessed manually and on line via their websites. The Journal of Travel Medicine (JTM) is circulated to all members of the International Society of Travel Medicine, The British Travel Health Association Journal (BTHAJ) is sent to all members of the BTHA and Travel Medicine and Infectious Disease TMID) is an independent publication by Elsevier. Contents pages were analysed and 28 categories of title topic were identified in the referenced review and research sections.

All issues since the inception of the journals until September 2008 were analysed, categorised and the frequency of publication of each topic for each section was recorded. As peer reviewed journals the quality of each article was assumed.

Topic Categories

- Malaria
- Vaccines/ vaccine preventable disease
- Motion sickness
- Substance abuse
- Altitude medicine
- Risk assessment
- Travel related phobias
- Sporting activities
- Travel health insurance
- Health professional knowledge

- Public education
- Trauma
- Diabetes
- Pregnancy
- Travel clinics
- Gastro-intestinal disease
- Infectious diseases
- Travel related medical problems
- Parasitic infection
- Psychiatric/psychological problems
- Air travel
- Sexually transmitted disease
- Migrants
- Returned travellers
- Clinical management
- Elderly travellers
- Child travellers
- Sea travel

The British Medical Journal – general practice- (BMJ) is circulated to all British Medical Association members and 70% of GPs. it is regularly read by doctors and nurses and included in the investigation as a probable source of travel related medical articles[6] BMJ issues were accessed via the website and analysed as for the other journals, with citations in travel health related topics for the years 1988-2008 identified separately to ascertain their source e.g. correspondence, case report, feature, review, editorial or research. The Lancet was accessed through its website and the malaria citation section was analysed similarly. Key word search was also undertaken to confirm the trawl had identified all relevant papers. Results were categorised, tabulated and statistically analysed for occurrence, frequency and between journal comparisons.

Results

Table 1
Journal, Issues and Content

Journal	Years reviewed	Review/research papers (n)
J Travel Medicine	1994-2008	408
British Travel Health Association J	2000-2008	56
Travel Med and Infectious Disease	2003-2008	100
Brit. Med. J	1994-2009	49

Table 2

Category frequency-occurrence in publications	Topic	% of all publications	% reviews in all publications	Research reports % in all articles
1	Malaria	15	3	12
2	Vaccines/vaccine preventable disease	13	3	11
3	Infectious disease	8	2.9	4.8
4	Gastro-intestinal illness	6	1.1	4.9
5(a)	Parasitic infections	5	2.3	2.7
5(b)	Travel clinic	5	0.8	4.2
6	Air travel	4	2	2
7(a)	Travellers' knowledge and compliance	3	0.3	2.7 2.6
7(b)	Returned travellers	3	0.4	
8(a)	Mountain medicine	2	1.2	0.8
8(b)	Migrant	2	0.4	1.6
8(c)	Travel health risks	2	0.4	1.6
9(a)	Trauma	2	1	1
9(b)	Public education	2	0.3	1.7

Other categories:
Travel related health problems, travel health professional knowledge, psychiatric/psychological problems, sexually transmitted disease, sea travel ,sporting activities abroad and returned travellers were represented by only a few publications in each section. Diabetic, pregnant, elderly and child travellers, substance abuse, motion sickness and travel related phobias attracted no publications, and only a few reviews. Infectious disease and malaria were responsible for 42% of the publications and 33% of the research papers. Malaria papers were biased towards chemoprophylaxis with little input on bite protection in prevention.

Gastro-intestinal illness accounted for 6 % of the papers with only half of these relating to the common condition of travel related diarrhoea. Parasitic illness attracted an equal number of reviews and research reports. Although air travel attracted 4 % of the papers, there was only one research publication on traveller related thrombosis, a major concern for all air travellers

Other categories included parasitic infection, sea travel, trauma and health problem management, which had no research papers and only one or two reviews.

The *Lancet* carried enough articles on malaria for it to have its own website sub-section (citation) the only travel medicine topic represented.

The *Lancet* is published by Elsevier and its website allows access to specific topic selections one of which is malaria. Analysis of this topic in 5 years of issues from 2004-2008 was undertaken. The journal carries about 3 feature articles and 3 research reports each issue with occasional reviews.

Table 3
Analysis of citations from the British edical Journal

Frequency of occurrence	% Category	Number	Citations	% Reviews/research in category	% Research/review in section
1	Malaria	44	31	18	25
2	Vaccine preventable disease	35	24	14	20
3	Air travel	17	12	17	5
4	Sexually transmitted disease	15	10	13	0
5	Infectious disease	12	8	50	16
6(a)	Mountain medicine	8	6	77	50
6(b)	Gastrointestinal illness	8	6	25	55
7	Others	3	3		
	144	100			

There were 78 citations on malaria approximately 5% of all articles. 12% of citations were of interest in travel related medicine, with one specific to travellers. Pregnancy and malaria problems attracted 10 papers. 3% of the papers were reviews and 8% were research reports. The *Lancet* results again show a preponderance of malaria publications. The journal has a low GP readership, but its contents are often quoted in journals and the lay press.

Discussion
In this literature review of all issues of the three travel health focused journals and articles from the BMJ from 1988-2008, the most published topics were malaria, vaccines and vaccine preventable disease, appearing twice as often as the next two occurring topics, infectious diseases and gastro-intestinal illness.

One topic, malaria, dominated in occurrence with vaccine preventable disease a close second. Malaria and vaccine-preventable diseases are responsible for much global morbidity and mortality. Malaria prophylaxis and vaccination are also driving forces in motivating potential travellers to attend travel health clinics and they have brought

protection to many travellers. Many individualised travel health consultations involve malaria prophylaxis and vaccination. Their relevance and importance is not disputed, but is their preponderance in publications justified? The evidence base in regard to prophylaxis and vaccination is substantial, well established with consensus support. The majority of tourists are not however exposed to the related medical conditions. International travelers are however at high risk of contracting traveller's diarrhoea and non-vaccine preventable infection. The most likely adverse medical event to befall world wanderers is a cardio-vascular event, the exacerbation of chronic and predisposing illness or trauma, which demand the attention of researchers and require action by consulting travel health professionals. However these topics are inadequately represented in the publication list.

Potential travellers present with concerns regarding travellers thrombosis, travel related phobias , motion sickness and the possible effects of travel on pregnancy, diabetes and pre-existing conditions and sporting activities while abroad. Travel health professionals have to acquire and maintain a broad range of knowledge within the discipline. Prime practice objectives revolve round identification of health risk, illness prevention and the management of medical problems in travellers while outwith the UK and on their return home. Doctor and nurses professional needs depend on an evidence base of published material which seems poorly served by the literature. The overall content of travel medicine publications over the last decade has catered poorly for the health professional endeavoring to meet the demands of potential travellers. These go far beyond advice on prophylaxis and vaccination.

Disproportionate attention focuses on malaria and vaccine preventable disease. Only a third of travelers are vaccinated and the cost efficacy of some procedures have been questioned.[7] This contribution may be generated by a plentiful supply of research papers, perhaps determined by commercial and academic interests. Financial incentives may stimulate interest in certain areas, to the exclusion of conditions which attract less media and public attention. The disparity in reports might be explained by authors publishing their findings in specialist journals in other disciplines, but this is not supported by a trawl of the most frequently quoted journals in textbook references. Even if these were making up the shortfall, travel clinic doctors and nurses rarely read these publications and are not using them for the evidence base of their practice management.[4]

Editors and peer reviewers may be excluding submitted material from the range of rarely appearing topics. This has been shown to occur in regard to negative findings in highly regarded journals.[8] The rejection rate for the JTM has risen steadily over the years,[9] perhaps a reflection of poor quality, or an over-abundance of submissions, but this would not explain the large discrepancy. The almost total absence of research papers on important subjects such as traveller's thrombosis makes this an unlikely explanation. It would appear there is a dearth of reported research on many important topics in the travel medicine field.

Travellers diarrhoea for instance, the scourge of international travel[10] accounts for a mere half of the small number of gastro-intestinal papers published. The occurrence of research pieces on every other aspect of travel related medicine falls markedly after the first four most frequently appearing topics. Important subjects appear to have attracted little innovative research and their reviews have often a thin research base.

Risk identification, assessment and management, the bed-rock of travel health professional philosophy, are poorly served, with incidence and epidemiology of many conditions affecting the international traveller inadequately recorded.

Specific problems commonly affecting tourists are insufficiently addressed, with virtually no research papers on, pregnant, diabetic and child travellers, the effects of pre-existing disease, cardio vascular risk, motion sickness, and travel related phobias. A large number of the world-travelling public now travel extensively by sea on cruise ships. Many are elderly with pre-existing illness and many fall ill or are injured while on board,[11] but there is scant published research establishing morbidity and mortality for this cohort. The hard data, needed to establish best practice based on evidence for many groups of travellers, appears to be absent.

There is an obvious need for research over a wide range of topics embraced by travel medicine. Very common conditions affecting the tourist are poorly served by research, resulting in a paltry evidence base for practitioners guidance in decision-making. This lack needs to be addressed by all those working in the discipline. Editors should consider regular, extensive screening of the specialist literature from all other disciplines and abstracting and high-lighting the findings. A data base holding publications pertinent to the widest range of travel medicine interests should be established, as a one stop reference source for those seeking the evidence base to support their practice. College facilities, such as Faculty of Travel Medicine, RCPS. Glasgow, should consider establishing review groups modelled on the Scottish Intercollegiate Network (SIGN), to assess the quantity and quality of research in the field and use their findings to establish and define the evidence base for good practice in the discipline and encourage research in neglected topics.

Summary

Research and review articles on malaria and vaccine-preventable disease predominate in travel health focused journals.

Many common topics of importance to the health of the world traveller are poorly represented in journal literature.

The evidence for “best practice” of travel related medicine is poorly supported by published literature in discipline journals

There is a need for research on a wide range of travel medicine subjects

Published literature references on travel medicine should be collated from all published journals and be held in one database

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