Disponible en ligne sur
ScienceDirect
www.sciencedirect.com
Elsevier Masson France
EM|consulte
www.em-consulte.com
Médecine et maladies infectieuses
Médecine et maladies infectieuses 45 (2015) 222–228

Original article

Impact of advice given to travelers concerning the main infectious risks associated with traveling in the tropics☆

Impact des conseils aux voyageurs sur la connaissance des principaux risques infectieux liés au voyage en zone tropicale

C. Lestelle[a,b], S. Aymeric[b,c,d], Z. Maakaroun-Vermesse[a,e], A. Pouliquen[a], L. Bernard[a,b,e], J. Chandenier[a,b,f], L. Grammatico-Guillon[a,*,b,c,d]

[a] *Unité de consultation des voyageurs, CHRU de Tours, 2, boulevard Tonnellé, 37000 Tours cedex 1, France*
[b] *Université François-Rabelais, Tours, France*
[c] *Service d'information médicale, d'épidémiologie et d'économie de la santé, CHRU de Tours, Tours, France*
[d] *Équipe émergente 1, éducation éthique santé, université François-Rabelais, Tours, France*
[e] *Service de médecine interne et maladies infectieuses, CHRU de Tours, Tours, France*
[f] *Service de parasitologie-mycologie-médecine tropicale, CHRU de Tours, Tours, France*

Received 20 January 2015; received in revised form 2 April 2015; accepted 28 April 2015
Available online 27 May 2015

Abstract

Introduction. – The prevention of sanitary risks related to traveling in the tropics implies delivering a large amount of information to travelers. The objective of our study was to assess the knowledge acquired by travelers during a pre-travel consultation.

Methods. – A before and after study was conducted among 202 travelers having consulted at the Tours international vaccine center. We used self-administrated questionnaires (score out of 100 marks) concerning diet, hygiene, anti-vectorial prevention (AVP), and sexual-transmitted infections (STI). The scores obtained before and after consultation were compared globally and for each topic.

Results. – The travelers' global knowledge had improved after consultation (66.1 vs. 75.5%; $P<0.0001$) as well as for each topic. The most important improvement concerned hygiene (+12.5%; $P<0.0001$) and the lowest concerned STI (+5.8%; $P<0.0001$). The multivariate analysis revealed that not having searched for information before consulting was the main factor associated with global knowledge improvement ($P<0.0001$) (unplanned professional traveling compared to humanitarian mission prepared ahead of departure time). The recommendations for diet were less well acquired in travelers > 50 years of age than in those < 30 years of age ($P<0.002$).

Conclusion. – A specialized pre-travel consultation improves the travelers' knowledge for the main prevention measures but does not allow them to acquire all required knowledge. Taking into account the travelers' initial knowledge and their ability to learn could improve the impact of the pre-travel consultation.

Keywords: Travel medicine; Tropical infections; Prevention of infections

Résumé

Objectifs. – La prévention des risques sanitaires liés à un séjour en zone tropicale conduit à délivrer aux voyageurs une importante quantité d'informations. L'objectif de cette étude était d'évaluer les connaissances acquises par les voyageurs lors d'une consultation de médecine des voyages.

☆ Date and city of congress where the study was presented: Oral communication, JNI 2014, Bordeaux June 12, 2014. Poster, Journée Recherche Tours, Poitiers, Limoges 2014, Tours, December 5, 2014.

* Corresponding author.
E-mail address: leslie.guillon@univ-tours.fr (L. Grammatico-Guillon).

http://dx.doi.org/10.1016/j.medmal.2015.04.007
0399-077X/

Matériel et méthode. – Une étude avant-après a été menée. Les connaissances de 202 voyageurs portant sur l'alimentation, l'hygiène, les mesures anti-vectorielles et les infections sexuellement transmissibles ont été évaluées par auto-questionnaire (score sur 100 points) avant et après leur consultation en centre de vaccination internationale. Les résultats ont été comparés globalement et par thème.

Résultats. – Une amélioration des connaissances globales était retrouvée (66,1 versus 75,5 % ; $p < 0{,}001$) ainsi que dans chacun des thèmes abordés. L'amélioration était plus importante pour les questions sur l'hygiène (+12,5 % ; $p < 0{,}001$), et plus faible pour les infections sexuellement transmissibles (+5,8 % ; $p < 0{,}001$). En analyse multivariée, l'absence de recherche d'informations préalablement à la consultation était le principal facteur associé à l'amélioration des connaissances globales ($p < 0{,}001$) (voyage professionnel avec départ précipité vs humanitaires avec projet longue date). Les consignes alimentaires étaient moins bien assimilées chez les voyageurs de plus de 50 ans que chez les moins de 30 ans ($p < 0{,}002$).

Conclusion. – Une consultation spécialisée améliore les connaissances des voyageurs dans les principaux domaines de prévention sans leur permettre d'acquérir toutes les connaissances requises. Tenir compte des connaissances initiales et des capacités d'assimilation des voyageurs pourraient permettre d'améliorer l'impact de la consultation du voyage.

Mots clés : Médecine du voyage ; Infections tropicales ; Prévention des infections

1. Introduction

French citizens made 22 million trips abroad in 2012 [1]. Nearly 25% of these travels were to tropical areas exposing the traveler's health to variable risks depending on multiple factors (destination, accommodations, medical history, etc.) [2–7]. Health recommendations have become more accessible, especially via Internet. Nevertheless, the authors of several studies have reported that a great number of travelers to the tropics were insufficiently aware of the risks they were exposed to and just over 50% searched for documentation before their departure [8–13]. Other authors reported that compliance with preventive actions that were their only protection against tropical diseases was closely related to the level of information received [14–17] via the perceived risk felt [14]. The hypothesis was that awareness of risks would allow their control by the informed traveler. Properly informing travelers is therefore a public health issue that should be managed by healthcare professionals, mainly physicians. It is currently common to delegate tasks, and in this case it is necessary to involve nurses, who are in other countries, the mainstay of medical consultations dedicated to traveling [18]. Indeed, despite the diversity of available sources, consultation with a physician is still the favorite method of information for travelers, and considered to be the most reliable [4]. Furthermore, the WHO recommends a medical consultation, 4 to 8 weeks prior to departure, for every traveler to tropical areas. This consultation, besides the administration of vaccines and prescription of malaria chemoprophylaxis, has for aim to raise the traveler's awareness of the risks they will face and teach them how to protect themselves effectively. Physicians have only one consultation to deliver critical information to the traveler so that he will understand the risks involved, despite the complexity of parameters to be taken into account and the prevention of many diseases. Physicians are unaware of the real impact of this consultation on information acquired by travelers.

The objective of the study was to evaluate the knowledge acquired by travelers, during this medical consultation before their departure to a tropical area, concerning the prevention of major infectious risks. The risk factors for an inadequate understanding of advice were identified.

2. Method

We conducted a 4-week study in the Tours University Hospital Traveler's Consultation Unit (TCU) between November and December 2011, to obtain a representative sample of the population consulting in the TCU. There are 5000 consultations per year at the TCU. Three family practitioners and 4 hospital physicians run the consultations; they are all trained in travel medicine with a specific inter-university degree. We included all future adult travelers ($\geq$ 18 years of age) consulting in the unit before departure to a risk area, excluding people having difficulty reading or understanding French. The travelers' knowledge was assessed with an anonymous self-administered questionnaire that they had to complete individually before the consultation and immediately after [Supplementary data, Addendum 1]. The consultations lasted between 15 and 30 minutes and were conducted individually or in groups (for couples or families). During the consultation, the physicians recorded the information related to the stay, the vaccination status and medical history of travelers; they then gave oral health advice tailored to the risks, and administered vaccines when necessary. Recommendation forms were also handed out. The physicians had access to an updated computer database to help them out (*Edison® software*); they did not have access to the traveler's answers to the initial questionnaire.

The knowledge assessment questionnaire covered 4 themes chosen from preventive health recommendations for travelers issued by the High Council for Public Health: food, hygiene, vector protection, and sexually transmitted infections (STIs) [19]. Each questionnaire included 60 closed questions and 3 possible answers: "true, false, or does not know." The questions were distributed as follows: 18 questions on diet, 10 on hygiene, 19 on vector protection, and 13 on STIs. Their formulation and the choice of themes were submitted for approval and validation to all TCU physicians. One point was awarded for every correct answer, zero otherwise. The questionnaires given before the consultation were accompanied by a standardized individual information form, designed to collect demographic data (age, gender, occupation, travel experience) and information on travel conditions (destination, length of stay, accommodations, purpose of travel), and a questionnaire on their traveler's attitude