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The standard of malaria prevention advice in UK primary care

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Summary *Objective:* To assess the range and quality of malaria prevention advice in the County of Bedfordshire, England. To compare standards of knowledge of nurses and GPs. To relate questionnaire performance to deprivation and percentage non-white population in the practice areas.
Design: A self-administered four A4 page questionnaire comprising 34 questions was sent to 92 general practices. Separate responses were requested from one doctor and one nurse within each practice.
Participants: Doctors and nurses from general practices in the county of Bedfordshire.
Setting: Primary care in an English County.
Results: For malaria prevention advice in the County of Bedfordshire, UK.
Nurses were more knowledgeable than GPs.
Group practices were more knowledgeable than single doctor practices.
The standard of knowledge for the same population of practices rose between 1997 and 2006.
Only a small percentage of practices used a protocol.
Practices in more deprived areas were less knowledgeable.
Practices in areas with a higher percentage non-white population were less knowledgeable.
Conclusions: Ethnic minority travellers visiting friends and relations have the greatest need for improved malaria prevention, yet appear to receive the worst prevention advice. Substantial improvement in delivery of advice is required.

Introduction

Malaria continues to be an important infection in the returning traveller. The United Kingdom has the second highest number of cases of imported malaria of all

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industrialised countries.[1] Each year between 1500 and 2000 cases of malaria are imported into the UK, resulting in between 4 and 16 deaths annually.[2] A consistent feature of malaria deaths in travellers to the UK is failure to take chemoprophylaxis. Reasons for this include lack of awareness of malaria risk, failure to seek pre-travel advice and fear of side effects from chemoprophylactic drugs.

Most malaria prevention advice is delivered in primary care, with only a minority of travellers seeking advice in specialist travel clinics. Thus, it is important that malaria prevention advice in primary care is delivered to a consistently high standard.

This study assessed doctors and nurses' knowledge of prophylactic advice in general practice in the county of Bedfordshire, England during 1997 and on follow up in 2006.

Methods

Objective

To assess the range and quality of malaria prevention advice in the County of Bedfordshire, England. To compare standards of knowledge of nurses and GPs. To relate questionnaire performance to deprivation and percentage non-white population in the practice areas.

Design

A self-administered four A4 page questionnaire comprising 34 questions was sent to 92 general practices. Separate responses were requested from one doctor and one nurse within each practice. The first mailing was in mid June 1997 and the second a month later. The same questionnaire was used on the same cohort of practices in June 2006 with a second mailing in August 2006. The questions sought information on how malaria prevention tablets were prescribed; knowledge on timing of chemoprophylaxis; whether or not mosquito bite prevention was given; whether or what advice was given on the risk of malaria on the traveller's return home; whether or not written information on drugs and anti-mosquito precautions was provided; and whether or not the practice had a protocol for advice on the prevention of malaria. Returned questionnaires were marked and points awarded for the right responses as defined by the UK malaria prevention guidelines which were current at the time of the study.[3,4] A maximum of 19 could be achieved if all questions were answered correctly and this score was used as the measure of quality of advice. Scores calculated for each practice and for each doctor and nurse were assessed against the percentage non-white population for the practice using data from the National Census for 1991 and for 2001 and against the Jarman index for the practice area. The Jarman index[5,6] is a primary care tool used to identify underprivileged areas and in this study was used as a proxy for deprivation. The score varies nationally from approximately minus 60 for the least underprivileged areas, to plus 70 for the most underprivileged areas. Bedfordshire was one of the four Family Practitioner Committee areas in which Jarman's original study was undertaken.[5]

Table 1 Response rate.

	1997	2006
Response rate from surgeries	80%	66%
Response rate from individuals	66%	48%
Response from doctors	40%	25%
Response from nurses	60%	72%
Single handed practices replied	56%	33%
Group Practices replied	90%	76%

Setting

Primary care in an English County.

Participants

The study population comprised doctors and nurses from 92 general practices in the county of Bedfordshire.

Main outcome measures

Performance against the UK standard for malaria prevention advice.

Results

Response rate

The overall response rate was lower in 2006 than in 1997 for all groups apart from nurses. Nurses had a consistently higher response rate than doctors. Group practices were much more likely to respond than single handed practices (Table 1).

The scores obtained by doctors and nurses were very similar in 1997 but had diverged by 2006, with nurses performing better. Group practices out-performed single practices to a small extent in 1997 and more markedly in 2006 (Table 2).

There was a low rate of use of a practice protocol for malaria prevention advice. In 1997, 18% of doctors and 25% of nurses used a protocol, and although by 2006 there had been an increase to 27% of doctors, the figure for nurses had fallen to 19%.

Table 2 Performance. Malaria prevention advice compared to the National Standard (defined as 100%).

Throughout the County	Mean score % in 1997	Mean score % in 2006
Doctors	57%	65%
Nurses	58%	74%
Group practices	59%	73%
Single handed practices	54%	58%