Risk Perception among Travellers

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Background
The perception of risk may influence choices in travel destination, travel vaccines and behaviour during travel.

Objective
We tested the perception of different travel related risks, and if the risk perception could be correlated to education, gender, age and travel experience.

Methods
We used a questionnaire where 1263 person seeking pre-travel vaccination and advice during August-November 2016 at Oslo Travel clinic were asked to scale their fear or concern in five alternatives:
0: No – 1: A little – 2: Medium – 3: Very much – 4: Extreme.

The questionnaire was completed before the consultation, to avoid influence by the given information.

To test the power of our influence we gave the following information for one of the risks: "Japanese encephalitis attacks about one per million travellers. One in three who get the disease will die, and half of the survivors get sequelae. How scary is this?"

Results
Only 63 travellers refused to participate in the study, while 1200 (664 women, 523 men and 13 missing gender) filled the form.

Japanese encephalitis topped the list, possibly because the given information influenced the perception of the risk for this disease.

Astonishingly few were afraid of HIV infection, while a large proportion of the respondents were afraid of vaccine preventable diseases, which represent a very low risk in leisure travellers. Traffic accidents were correctly identified as a major risk during travel. Spider bites, although extremely rare in tourists, score higher than shark attacks (also extremely rare) and snake bites (which actually is a substantial health problem in poor countries) (Table 1).

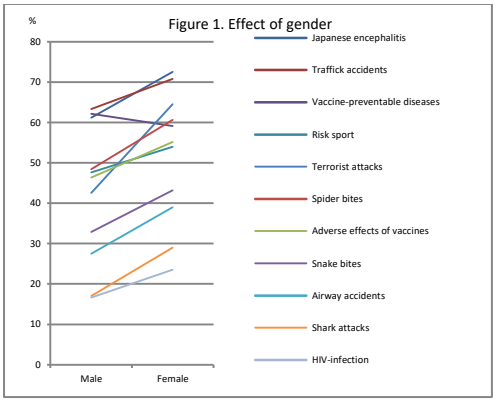
Gender seems to influence the risk perception: The women were generally more afraid of travel related risks than men (Figure 1). 64.5% of women were afraid of terrorist attacks vs. 42.5% of men ($P<0.001$). Those with an academic education seem to have a lower level of fear than those with a vocational education, as seen for shark attacks (Somers D for overall association=0.054 , $P=0.026$) and HIV infection (Somers D for overall association=-0.152 , $P=0.000$) (Figure 2). A higher age class reduces the risk feeling, except for the risk of diarrhoea: In travellers over 44 years only 10,5% and in travellers 15-24 years 34,7% were afraid of HIV (Somers D for overall association=0.082 , $P=0.004$). For shark attack the corresponding numbers were 10.7 and 35.2 (Somers D for overall association=-0.053 , $P=0.045$), for snake bites 36.8 and 46.4 (Somers D for overall association=-0.071 , $P=0.009$) and for Japanese encephalitis 60.6 and 75.1 (Somers D for overall association=-0.137, $P=0.000$) (Figure 3). First time travellers are more anxious than those who have travelled before. The fear of terrorism seems not to be reduced by repeated travelling (Figure 4).

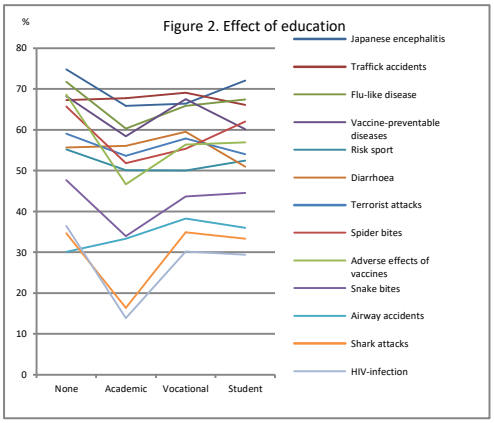
Conclusions
There is no linear relation between actual and perceived risk. For the Japanese encephalitis, it is likely that the availability and affect heuristics, may have overruled the information of the objectively very low risk of one per million.. Travel medicine has a challenge in educating people. Pre-travel advice should be based on risk assessment.

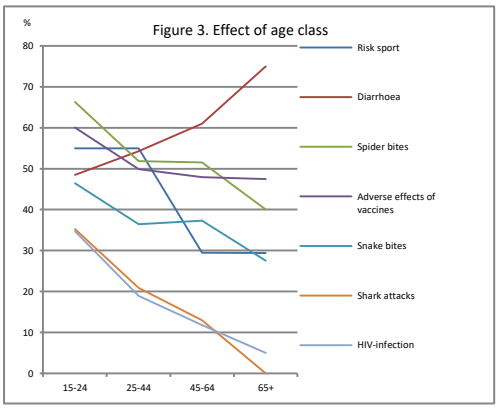
Our findings are in agreement with other studies of human risk perception.

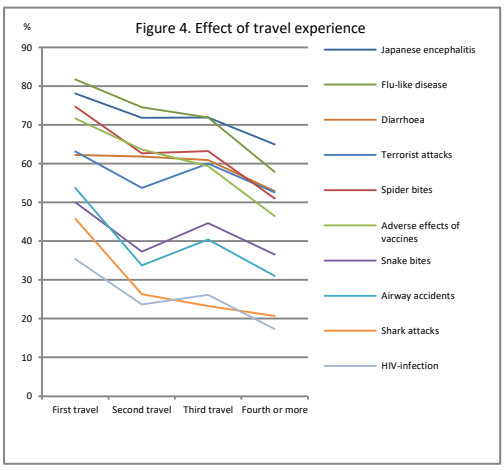
Table 1 Percentage of travellers scoring some degree of fear (1-4) for each travel risk, and average score among those who did. N=1200 (missing data are excluded):

Japanese encephalitis	67.6	1.8
Traffic accidents	67.3	1.5
Flu-like disease	63.1	1.5
Vaccine preventable diseases	60.5	1.5
Diarrhoea	55.6	1.6
Terrorist attacks	54.7	1.5
Spider bites	55.3	1.5
Adverse effects of vaccines	51.4	1.5
Snake bites	38.7	1.5
Airway accident	33.7	1.5
Shark attacks	23.5	1.6
HIV infection	20.5	1.7









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