Rabies Risk and Compliance with Pre-travel Rabies Advice
A prospective cohort study

No conflict of interest
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Fee for travel health training: Sanofi Pasteur, GSK
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Contribution to research: none

This presentation
1. Background
2. Methods
3. Results
4. Conclusions

Background
Increasing need for Post Exposure Prophylaxis:
- Travelers have to be educated on rabies
- High risk travelers need pre-travel vaccination

Do travelers comply with our recommendations?
Who exactly are high risk travelers?

Parties involved
- Several public health authorities
- Leiden University Medical Center

Funding: Netherlands Organization for Health Research and Development

Prospective Cohort Study
Retrospective Case – Control Study
Cost Evaluation Study

Methods
Travel clinic visitors to high risk destinations
3 Travel Clinics:
- GOD Utrecht: Ate Pijlak
- GOD West Brabant: Godelief van den Hoogen
- GOD Hart voor Brabant: Mieke Croucks

Inclusion: September 2017 - May 2018
Web based questionnaire 1 week after return
Study objectives

1. Incidence of rabies exposure
   Exposure = category II or III injury

2. Compliance with recommendations
   - to stay away from possibly rabid animals
   - to seek medical advice in case of exposure

Participants

- 980 participants (response 38%)
- 50% destination Asia
- median age 35
- median trip duration 17 days

Incidence of exposure

1% bitten or scratched by a potentially rabid animal

Incidence per age group:

- < 15 y: 6%
- 16 – 25 y: 3%
- 26 – 35y: 2%
- > 35 y: 0

Not enough cases to determine predictors of exposure

Compliance with advice to stay away from animals

59% ≤ 1 arm's length of a dog, cat, monkey or bat

On local markets, in wildlife parks, while hiking or in monkey temples

Reasons for proximity: own behavior

- 29% stroked it
- 24% entered its territory
- 12% fed it
- 13% was curious
- 9% played with it
- 3% took care of it

Compliance with advice to stay away is low

Reasons for proximity: independent of own behavior

- 56% it simply came to me
- 15% it wanted my food
- 12% it was not possible to avoid it

Difficult to stay away from animals
Multivariate logistic regression: predictors of proximity

Trip > 60 days  OR 14.1
Age 0-15 years  OR 5.1
Monkey park  OR 4.7
Hiking > 1 day  OR 2.3
High education  OR 2.1
Touched animal previous trip  OR 2.1

Multivariate logistic regression: protective predictor

Business trip: OR 0.4

Destination, biking, gender, ethnicity, VFR, pet owner, fear or loving animals, visit of local market, wildlife park or cave = no independent predictors

Compliance with advice to seek immediate medical help

45% did not seek medical help after exposure!

Conclusions

1. Rabies exposure is high, despite pre-travel advice
2. (Young) Travelers do not comply well with rabies recommendations
3. High risk = young age - long trip duration - monkey park visit

Thank you for your attention!