

increased the possibility of having a pre-travel health advice in 194% (95% CI 120–293%), men had 17% pre-travel health advice less than women (95% CI 7–26%), and to know that they would visit more than one city in Peru before Cuzco increased the possibility of having a pre-travel health advice in 25% (95% CI 4–49%), adjusted to age, residence time, trips in the last six months, antecedents of travelling to risky zones and gastric illness.

Conclusion: The possibility of having a pre-travel health advice is increased if the tourist came from a LRZ, the female sex of the tourist and to know that they would visit more than one city in Peru before going to Cuzco.

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Alimentary hygienic risk behaviors in tourists who visit a country inside a high-risk area for traveler's diarrhea

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Introduction: Peru is considered a high risk area for traveler's diarrhea (TD), with incidence rates around 40%. Sometimes, tourists have alimentary hygienic risks behaviors (AHRB), that increase the risk of gastro-intestinal illness during their stay. The factors that are associated are destination, accommodations, traveler's age and the exposure to food/water contaminated. However, few studies have approached AHRB in people who travel to South America.

Objectives: To evaluate the AHRB in tourists that visited a country cataloged as a high-risk area for TD.

Methods: Secondary data from an auto applied survey to 1914 tourists (age range 18–88 years old) who visited Cuzco in January-February 2012 were used. Eight AHRB variables were considered quantitatively: eating at markets, unpeeled fruit, raw vegetables, eat in buffets, with cold sauces, iced drinks, tap water and not washing hands before eating.

Results: On average, tourists committed 2.6 risk behaviors (SD = 1.6, range 0–7), there were no differences by residence in a risk area for TD ($p = 0.239$). In the analysis with generalized linear models adjusted for all variables, we found that there is an increased risk of TD on those who incurred AHRB by 9% (95% CI 2–17%). Furthermore, it was found that men had a higher probability, 9% (95% CI 2–16%), of incurring AHRB compared with women. Also, it was found that the increase in one year of age, in tourists, decrease their AHRB by 1%.

Conclusion: It was found that the TD, age and gender are related to the probability of incurring AHRB. Tourists who live in developed countries have similar amounts of AHRB that those from developing countries.

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Travelers' diarrhea: a comparison between foreign tourists and travelers visiting friends and family in Cusco, Peru

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Introduction: Travelers' diarrhea (TD) is the most common illness affecting the 80 million travelers visiting high risk areas every

year. Well known risk factors include country of destination, eating behaviors and type of travel. Little is known about the differences in incidence and risk factors for TD between foreign tourists and Peruvian travelers visiting family and friends (PVFR).

Objectives: To compare the incidence and risk factors for TD between foreign tourists and PVFR.

Methods: Adult tourists from the United States and Canada and PVFR residing in the United States or Canada for a minimum of 6 months were included. A self-administered survey was distributed to participants while waiting at the departures lounge of Cusco's International Airport. Information on personal and travel demographics, risky eating habits and TD symptoms was collected.

Results: Forty six PVFR (mean age 37.8±13.3 years, male gender 32%, mean stay in Peru 3.1±3.6 days) and 383 foreign tourists (mean age 41.2±17.7 years, male gender 53%, mean stay in Peru 2.7±3 days) were included. While PVFR were more likely to stay at family homes or hostels ($p = 0.03$) and to eat at family homes or street vendors ($p < 0.01$) than foreign tourists, the later were more likely to seek for physicians' pre-travel advice ($p < 0.01$). One quarter of foreign tourists had TD compared to 43% of PVFR ($p < 0.01$, χ^2 test). Being a PVFR increased the risk for TD 82% (95%CI: 21–172%) and every extra day of stay in Peru increased the risk for TD 5% (95%CI 1–10%).

Conclusion: PVFR are more likely to adopt risky behaviors and had TD more often than foreign tourists. Being a PVFR and staying longer in Peru increased the likelihood of TD.

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Trends in morbidity due to snakebites in Risaralda, Colombia, 2007–2009

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Introduction: Snakebites still continue to be a significant cause of morbidity in many developing countries in Africa, Asia and Latin America. In this region, excepting Brazil, few countries are undertaking surveillance studies to assess the trends in the occurrence of snakebites and its burden in the population.

Objectives: To assess the number and rates of incidence of snakebite in an ecoregion of Colombia (Risaralda department) where no previous studies on this have been made. In this study we evaluate trends in morbidity between 2007 and 2009. Incidence rates were calculated based on official population estimates for each municipality of the department. Risaralda has 14 municipalities totaling a population of 919,656 people for 2009 (ranging from 6,344 in Balboa municipality up to 454,495 in Pereira, the capital municipality).

Methods: Epidemiological data for this study were retrieved from the records of the Secretary of Health of Risaralda after the collection from each of the municipalities through the epidemiological surveillance system (SIVIGILA). Using these data, we analyzed the epidemiological impact of snakebites in each municipality during the study period.

Results: During the study period, there were 126 reports of snakebites (median per year of 43, ranging from 29 to 54). Cumulated incidence rate of snakebites for the period was 13.78 cases/100,000pop; ranging from 2.7 to 243.95 cases/100,000pop. As expected the most rural and undeveloped municipality (Pueblo Rico) registered the high number of cases (30) and incidence rate (243.95/100,000pop). Pereira, the capital municipality, having the high proportion of urban population, registered 26 cases for an incidence rate of 5.75 cases/100,000pop. During the study period only one death was registered (for a mortality rate of 1.09/1,000,000pop for the department). Snake species involved in Risaralda are: *Micrurus dumerilii*, *M. mipartitus*, *Bothrops asper*, and *Lachesis muta*.

Conclusion: Snake envenomations are an important cause of injury in endemic areas of Colombia as in many American countries. Surveillance of envenomations is essential for establishing guidelines, planning therapeutic supplies, and training medical staff on snakebite treatment, as well as assessing risk zones for travelers.