P-08
Prevalence of entomophagy-associated histamine toxicity: an internet-based survey

Summon Chomchai[1], Praphai Laoraksa[2], Prich Virojvatanakul[2], Parsimone Boonratana[2], Chulathida Chomchai[2]
[1]Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand
[2]Mahidol University International College, Mahidol University, Nakhon Pathom, Thailand

Objectives: Entomophagy, the practice of insect ingestion, is common in many regions of the world. Post-entomophagy allergic reactions have been reported in healthcare literature and in the news.(1) Moreover, the post-entomophagy allergic reactions are shown to be due to histamine toxicity. (2) Prevalence and risk factors of histamine toxicity secondary to insect consumption are currently unknown. This is a study to assess prevalence of post-entomophagy histamine toxicity and associated factors

Methods: This is a cross-sectional internet-based survey. People who have consumed insects were enrolled. Collected information included demographic data, the practice of entomophagy, allergic history and self-reported allergic reactions. Descriptive data are reported as median and interquartile range and frequency with percentage. Prevalence ratios with 95% confidence intervals (CI) are calculated for post-entomophagy allergic reaction and risk factors.

Results: During May to October 2017, 140 participants completed the survey. Median and range of age are 27 and 18-64 years. Forty-eight (34.3%) were male. Thirty-seven (26.4%) and 13 (9.3%) participants reported history of allergy and seafood allergy, respectively. Eighteen (12.9%; 95% CI 7.3 -18.4) participants were classified as post-entomophagy allergic reactions. Nine clusters of post-entomophagy allergic reactions were reported. Factors with significant association with allergic reactions were history of allergy and history of seafood allergy with prevalence ratios of 4.83 (CI 1.83-10.44) and 3.76 (CI 1.59-8.87), respectively.

Conclusion: The prevalence of allergic reactions after entomophagy is 12.9% . Clusters of people with post-entomophagy allergic symptoms are found. The cluster effects support previous findings that histamine toxicity is the mechanism behind the allergic reactions after insect consumption. History of allergy and seafood allergy are associated with post-entomophagy allergic reactions.

References:

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