

Evaluating Microbial Contamination in South Asian Street Food and Hygiene Practices in Uttara, Dhaka

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Abstract

Street foods such as fuchka, chotpoti and jhalmuri are the main parts of the street food diet in Bangladesh, especially Dhaka due to their affordability and cultural popularity. The people of Bangladesh consume these foods almost daily irrespective of their socio-economic status and although they are popular and relatively cheaper, they are frequently linked to foodborne illness because of the unsafe use of water and poor hygiene practice during preparation and serving. This paper assessed street-food vendor hygiene practices and examined their association with gastrointestinal symptoms among consumers in densely populated neighbourhoods of Uttara, Dhaka (Sector 11, Sector 13, Sector 7, and Sector 3) where vendors were mostly found. Using a mixed-methods design, we surveyed 150 street-food consumers to collect data on their thoughts on the hygiene practice, their recent consumption and the symptoms experienced by them within 24-72 hours of having street food. Alongside, we conducted a semi-structured interviews with 25 vendors and applied a structured observational hygiene checklist covering handwashing, utensil cleanliness, food covering and source of water. In summary, the statistics showed hygiene patterns and symptom occurrences, and chi-square tests assessed associations between hygiene ratings and reported illness. The findings showed that most consumers perceived vendor hygiene as poor and nearly all reported at least one gastrointestinal symptom, with stomach pain and diarrhoea as the most common. Observations indicated that over half of the vendors fell into the poor-hygiene category and vendors' self-reported hygiene consistently exceeded observed practices (especially for handwashing and protective barriers). A significant association was found between hygiene level and reported diarrhoea (χ^2 , $df=2$; $p<0.001$), suggesting that poor vendor hygiene is linked to increase in consumer health risk. The study has contributed to the current knowledge by combining the results of consumer health with the practices of the vendors and providing evidence-based solutions to reduce consumer health risk while preserving the economic importance of street food in Bangladesh.