Evaluation of hygiene practices and food safety knowledge levels of workers at the fresh produce market in Doha, Qatar

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Food safety is a comprehensive effort between the food industry and regulatory organizations to reduce the rate of foodborne diseases by applying food safety standards. During food handling, biological hazards can be introduced into the food by infected handlers or through cross-contamination. The Wholesale Produce Market (WSPM) in Doha is the major market from which most of the food businesses and others obtain their fresh produce daily or weekly. Since there is no information on the food handling practices and food safety standards applied at the WSPM, this study was carried out to 1) evaluate the hygiene conditions and level of food safety knowledge of workers and 2) determine the effect of these factors (hygiene and handling practices) on the microbial quality of produce sold at this market. More than 120 workers, who are in direct contact with the fresh produce, were invited to participate in the study (N=120) in December 2015-January 2016. During the survey application, hand-swab samples and cloth photos of workers were collected. Additionally, several produce samples handled by these workers were collected to determine their microbial quality. The questionnaire revealed that none of the workers had any official training on safe produce handling practices. The major age interval of the workers was 31-40 years old (36.7%), only 37.5% of the workers had high-school degree. Almost 64.2% of them claimed to wash their hands 4-5 times per day. The hand-swabbing and fresh produce analyses confirmed that the market condition and the hygiene practices are deficient since pathogens, such as *Klebsiella pneumoniae*, *Enterococcus faecium*, *Staphylococcus spp.*, and *Bacillus circulans*, were identified. These results indicate that there is an urgent need to educate the workers on food safety and hygiene practices. In addition, these results should help food safety managers at the WSPM to adopt better control measures to prevent foodborne diseases associated with produce sold in this market.

Biography

Israa El-Nemr is a PhD student in the Department of Biological and Environmental Sciences, College of Arts and Sciences at Qatar University. She received her BSc and MSc degrees in Microbiology with a minor in Biochemistry and the second MSc degree in Environmental Sciences, all from Kuwait University. Her MSc research focused on environmental science issues, specifically on the use of oil degrading bacteria to combat oil pollution. She has published her MSc research findings in various refereed journals. She was recently awarded the Graduate Student Research Award (GSRA-funded by QNRF). Her current research work concentrates on food safety issues in Qatar.

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