

Assessment of the degree of food poisoning and the bacterial contamination in different food substances from fast food restaurants around Al Haram Al Nabway in Al Madinah Al Monwarah.

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Abstract

This study was performed in order to determine the level of bacterial contamination in different food substances ($n=30$) which present from fast food restaurants around Al Haram Al Nabway in Al Madinah Al Monwarah. A total of 100 samples were collected from wrapping material of the food, outer surface of the sandwiches and food substances inside the sandwiches .

A total of 116 different bacteria were isolated, of which the most common was *Staphylococcus aureus* (77/100; 40%), followed by coagulase-negative staphylococci (24/100; 36%), diphtheroid bacilli (39/100; 26%), *Bacillus* spp. (14/100; 9.3%), and *Escherichia coli* (12/100; 8%). Poor hand hygiene was indicated by high levels of *S. aureus* and *E. coli* on samples taken from restaurant with which worker with bare hand and without gloves or just left side gloved hand. Although bacterial loads on gloved hand samples were found to be significantly lower ($p<0.05$) than ungloved hand samples, these loads were not within acceptable limits. These results show that the hands of food handlers are an important contamination source in this establishment. In this study, 145 bacterial isolates were from bare hand samples while 90 bacterial isolates were from left hand gloved samples ($p<0.05$). All of the food handlers were right-handed.

As a result, the poor hand hygiene, improper glove, lack of mouth and nose mask, unavailability of fresh washing water supply, contaminated food preparations surfaces use by the food handlers was emphasized and we concluded that the training in personal hygiene and food safety should be improved, and inexperienced personnel should not be employed in kitchens without being well trained. On the other hand, if glove use principles are performed correctly, it may be efficacious for decreasing of bacterial load on hands, particularly, establishments where hand hygiene control can not performed properly or inexperienced personnel are employed.

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