

Microbiological Quality of Commercially Available Ready-to-Eat Meat Street Food Doner Kebab in Colombo District, Sri Lanka

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Abstract

Foodborne illnesses are a significant global concern and Doner kebab, a popular street food, which grilled meatloaf renowned for its diverse nutritional composition which is prone to microbial contamination. The present study aimed to determine the microbiological quality of street food, Doner kebab in the Colombo district, Sri Lanka. One hundred fifty (n = 150) Doner kebab samples were purchased randomly from three regions of the Colombo district including Aluthkade, Kibulawala, and Kailiza. The microorganisms were isolated and identified via conventional standard biochemical keys including Indole, MR-VP, Citrate, Motility, TSI, Urease, Bile, Oxidase, and Gram stain. The analysis was obtained from MicrosoftExcell 2010 and SPSS V23.0. Eight pathogenic bacterial species namely; *Klebsiella* spp. (13%), *Pseudomonas* spp. (07%), *Escherichia coli* (20%), *Enterobacter aerogenes* (20%), *Salmonella* spp. (20%), *Shigella* spp. (07%), *Vibrio* spp. (07%) and *Protease* spp. (07%) were identified. Among lactose-fermented microorganisms *Escherichia coli* (37%), *Enterobacter aerogenes* (25%), and *Klebsiella* spp. (38%) were detected while among non-lactose fermented microorganisms, highest percentage 44% of *Salmonella* spp. following equally 14% of *Shigella* spp., *Proteus* spp. *Vibrio* spp. and *Pseudomonas* spp. were detected. All three regions were contaminated with at least three types of microorganisms. Compared to the Aluthkade, Kalubowila (P = 0.020, $p < 0.05$), Aluthkade, Kalisa (P = 0.003, $p < 0.05$) and Kalubowila, Kalisa (P = 0.000, $p < 0.05$) showed a significant different in contamination. The highest significant *Escherichia coli* (40%) contamination was detected in Aluthkade while *Enterobacter aerogenes* (40%) and *Salmonella* spp. (40%) in Kailiza ($p < 0.05$) All three regions showed the highest pathogenic contamination thus, implementing measures to reduce the contaminations are important.

Keywords: *Pathogenic microorganism, Doner kebab, Bacterial contamination*