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Bacteriological analysis of egg based-Kottu rotti in selected eateries in Kesbewa, Colombo, Sri Lanka

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Due to changing needs of urban life, a high demand for ready to eat foods prevails among urban dwellers. Evidently, food borne diseases resulting from ingestion of pathogenic bacteria or toxins are on the rise, causing a threat to public health in urban areas. This research was focused on quantitative and qualitative benchmarking of general hygienic condition and two major foodborne pathogens in a popular ready-to-eat food, "egg based-Kottu rotti" against existing local/ international guidelines. Kottu rotti is a famous fast food in Sri Lanka, which is made using Godambara roti, vegetables, eggs and/or meat and spices. Twenty-four Kottu rotti preparing eateries in Kesbewa area of Colombo district were selected for the study. Kottu rotti samples obtained from those 24 eateries were microbiologically analysed as per the SLSI standard criteria. Total Plate Count (TPC) and foodborne pathogens; Staphylococcus aureus Count (SAC) and Salmonella, were tested as hygiene indicators. Since microbiological guidelines for Ready- toeat food (RTE) are not yet available in Sri Lanka, our results were compared against the guidelines from New Zealand (NZ) and Hong Kong (HK). Out of 22 test samples, only one had "Unsatisfactory" food quality when compared TPC levels with NZ microbial guideline limits. There were 5 samples with "Marginal" quality and rest of the 16 samples were of "Satisfactory" microbiological quality according to the NZ microbiological guidelines. Out of the results of 22 test samples, only one was "Unsatisfactory" food quality when compared with HK microbial guideline limits. There were 18 samples in the "Borderline" quality and only 3 samples indicated "Satisfactory" microbiological quality according to the HK microbiological guidelines. Salmonella was absent in all tested samples. When SAC count compared with NZ guideline, out of 24 successful test results 3 potentially hazardous, 1 unsatisfactory, 3 marginal and 17 in the satisfactory level recorded. Compared with HK guidelines, 3 unsatisfactory, 6 borderline and 15 satisfactory level samples were detected. Post-processing contaminations due to improper storage conditions and poor sanitary practices can be described as major reasons for the unsatisfactory quality of processed foods. Therefore, it is recommended that an effective food quality control services are an essential requirement to ensure a safe and properly prepared food supply to protect the consumers from unsafe and unhealthy food.

Keywords: Egg Kottu rotti, Staphylococcus aureus, Salmonella, TPC, SAC Ready-to-eat food