Abstract

Fast-foods have become very popular among the urban communities of Sri Lanka due to their busy life style. Most types of fast-foods are not thoroughly cooked as the traditional preparations and this can lead to the spread of food-borne diseases . The microbiological quality of fast-foods has not been previously studied in Sri Lanka.

The objective of the present study is to assess the microbiological quality of fast-food items containing meats, and compare with the Sri Lanka Standard for such items.

A total of 63 samples were examined over a one year period for the presence of indicators of faecal contamination of fast-foods (Coliforms and E.coli) and specific pathogens *Salmonella*, *Staphylococcus aureus* and *E.coli O157: H7*.

Beef, chicken and pork preparations from fast-food restaurants in Colombo city and other areas were obtained. Standard methods specified by the Sri Lanka Standards were used in detecting indicators of faecal contamination *Salmonella* and *Staphylococcus aureus* except *E.coli O157:H7*. Sorbitol MacConkey Agar was used as the selective medium for isolation of *E.coli O157:H7*. The isolates were subjected to biochemical tests and the suspicious colonies were confirmed by the serology. For confirmation of pathogenic *Staphylococcus aureus* rabbit plasma serum was used. *E .coli O157:H7* was confirmed using latex agglutination test.

Among 17 beef samples , 07 (18.7 %) samples were positive for *Salmonella*. Among 25 chicken samples 09 (36 %) samples were positive for *Salmonella* . In pork 11 samples 03 (27. 3 %) were positive for *Salmonella*.

Among 27 beef samples, 06 (18.7 %) samples were positive for *Staphylococcus aureus*. Among 25 chicken samples 05 (20 %) samples were positive for *Staphylococcus aureus*. In 11 pork samples 04 (37.4 %) samples were positive for *Staphylococcus aureus*.

Among 27 beef samples 02 (7.4 %) samples were positive for *E.coli O157:H7*. *E.coli O157:H7* was absent in other samples.

Restaurant wise, class 1 restaurant was found to have 10 % of *Salmonella*, 15 % for *Staphyloccocus aureus* and absent for *E.coli O157:H7*.
In class 2 restaurants, 22.72 % of *Salmonella* and 18.18 % of *Staphyloccocus aureus* were present , and *E.coliO157:H7* was absent.
In class 3 restaurants, 42.85 % of *Salmonella* and 33.33 % of *Staphylococcus aureus* were present , and *E.coliO157:H7* was present in beef samples.

The above results indicate that *E.coli O157:H7* mainly exist in beef products. Pork samples were found to be having a high percentage of positive for *Staphylococcus aureus*. Chicken samples had a high percentage for *Salmonella*.

The results indicate that most samples of fast-food subjected to microbiological examination in the present study did not conform to the Sri Lanka Standards for cooked meat products.