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MICROBIOLOGICAL ASSESSMENT OF HOT MEAT MEALS SERVED BY SOME ALEXANDRIA RESTAURANTS

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6. SUMMARY

A total number of ninety samples of hot meat meals 30 each of scallop pane, hot meat with sauce and boiled meat with soup were collected from different Alexandria restaurants. The samples were directly transferred to the laboratory under complete aseptic conditions where they were examined microbiologically to determine the hygienic quality of hot meat meals.

The results revealed that:

-The mean value of mesophilic bacterial count cfu/g. in scallop pane samples was $1.52x10^3 \pm 2.6x10^2$ with a range of 7x10 to $6.5x10^3$, while in hot meat with sauce samples was $6.5x10^2 \pm 1.7x10^2$ with a range of 2x10 to $4.3x10^3$, and in boiled meat with soup samples was $9.1x10^2 \pm 1.7x10^2$ with a range of 3x10 to $4.6x10^3$ cfu/g, respectively.

-The mean value of thermophilic bacterial count cfu/g. in scallop pane samples was $1.3x10^2 \pm 2.7x10$ with a range of 2x10 to $5x10^2$, while in hot meat with sauce samples was $7.7x10 \pm 2.8x10$ with a range of 1x10 to $4.6x10^2$, and in boiled meat with soup samples was $5.1x10 \pm 1.4x10$ with a range of 1x10 to $2.2x10^2$ cfu/g. The respective incidence of total thermophilic bacterial count in the examined scallop pane, hot meat with sauce and boiled meat with soup were 66.7, 66.7 and 53.3%, respectively.

-The mean value of coliforms count MPN/g. in scallop pane samples was $3.1x10 \pm 1.2x10$ with a range of <10 to $2.1x10^2$, while in hot meat with sauce samples was $5.8x10 \pm 1.6x10$ with a range of <10 to $2.1x10^2$, and in boiled meat with soup samples was $1x10 \pm 0.1x10$ with a range of <10 to 2.8x10 MPN/g. The respective incidence of total coliform count in the examined scallop pane, hot meat with sauce and boiled meat with soup were 66.7, 70 and 76.7%, respectively.

-The respective incidence of *E.coli* in the examined scallop pane, hot meat with sauce and boiled meat with soup were 6.7, 0 and 3.3%.

-The mean value of Staphylococci count cfu/g. in scallop pane samples was $1.5x10^2$ ±3.9x10 with a range of 3x10 to $1x10^3$, while in hot meat with sauce samples was $1x10^2$±2.5x10 with a range of 2x10 to $4.4x10^2$, and in boiled meat with soup samples was 7.3x10±1.1x10 with a range of 1x10 to 2.2x10 cfu/g.The respective incidence of staphylococci count in the examined scallop pane, hot meat with sauce and boiled meat with soup were 93.3, 76.7 and 80%, respectively.

-The respective incidence of coagulase positive *S.aureus* in the examined scallop pane, hot meat with sauce and boiled meat with soup were 53.5, 26, and 37.5%.

-The mean value of mould count cfu/g. in scallop pane samples was 4.1x10±0.6x10 with a range of 1x10 to 9x10, while in hot meat with sauce samples was 2.3x10±0.4x10 with a range of 1x10 to 4x10, and in boiled meat with soup samples was 2.3x10± 0.4x10 with a range of 1x10 to 6x10 cfu/g.The respective incidence of total mould count in the examined scallop pane, hot meat with sauce and boiled meat with soup were 46.7, 40 and 46.7%, respectively.

-The incidence of isolated mould species from examined scallop pane samples were Penicillium spp. (33.3%), *Aspergillus niger* (26.7), Cladoporium spp. (6.7%), Mucor spp. (6.7%), Rhizobus spp. (3.3%).

-The incidence of isolated mould species from examined Hot meat with sauce samples were Penicillium spp. (16.7%), *Aspegillus niger* (3.3%), *Aspergillus flavus* (3.3%), *Aspergillus ochrecous* (3.3%), Cladosporium spp. (10%), Trichoderma spp. (13.3%), Mucor spp. (3.3%).

-The incidence of isolated mould species from examined boiled meat with soup samples were Penicillium spp. (30%), *Aspergillus niger* (3.3%), Cladosporium spp. (20%), Trichoderma spp. (3.3%), Rhizobus spp. (6.7%).

-The mean value of yeast count cfu/g. in scallop pane samples was $6.6x10^2 \pm 1.3x10^2$ with a range of 1x10 to $2.8x10^3$, while in hot meat with sauce samples was $4.5x10^2 \pm 8.1x10$ with a range of 2x10 to $1.8x10^3$, and in boiled meat with soup samples was $6.1x10^2 \pm 1.2x10^2$ with a range of 1x10 to $2x10^3$ cfu/g. The respective incidence of yeast count in the examined scallop pane, hot meat with sauce and boiled meat with soup were 83.3, 86.7 and 80%, respectively.

The public health hazard, suggestive measures and recommendations for the improvement of the quality of hot meat meals were discussed.