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Studies on growth of certain micro-organisms in reconstituted infant foods

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Baby food, breast milk and infant formula are foods unique to the child care environment. Each must be handling safety to prevent food borne disease. Breast milk is the best source of nutrient, antimicrobials and other protective substance for infants. Like breast milk, infant formula is not a sterile product. During the drying process, pathogen can be sub lethally injured, meaning that the damage to the cell is minimal, so the cell can recover. Some bacteria can be multiply when the powdered infant formula is reconstitute. The present study was based on the microbiological examination of reconstituted infant foods and 100 samples were collected from different locations of Meerut district in the year 2009-10. There are eight brands of infant milk food and three brands of infant weaning food which were collected within a month of manufacture and subjected to microbiological examination and all collected samples were analyzed at 37°C and 7°C on holding time 01, 2, 3, 4 and 5 hours in the laboratory. The total bacterial count multiplied rapidly and there was a 2 folds increase in their counts at 37°C within 5 hours. Similar trend was noted in *B.cereus* while, indicated on almost 3 folds increase. The coliform multiplied most rapidly and there was a 2 folds increase in their count at 37°C within 5 hours. The growth pattern of staphylococci was, however, different. Although an appreciable increase was noted in the beginning a phase of decline was found after subsequent holding at 37°C. The population of staphylococci was static at 7°C. On the other hand no significant change was observed at 7°C within 5 hours. During the current study, representative samples of infant weaning foods were reconstituted kept at 37°C and 7°C. On examination, it was found that *B.cereus*, which indicated an almost 4 folds increase. Similar trend was noted in coliform, multiplied most rapidly and there was a 2 folds increase was observed at 37°C. However, no significant increase in their counts at 7°C within 5 hours. Although staphylococci counts increased appreciably in the beginning, a phase of decline was noted after subsequent holding at 37°C. The population of staphylococci was static at refrigeration temperature (7°C). The study suggests that prepared infant feed should not be stored even for small duration because holding of prepared feed will endanger the health of such delicate consumers. Only freshly prepared feed should be given to the infant to achieve healthy feeding practices

Key Words : Baby food, Time, Storage, Weaning foods, Temperature, Micro-organism

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