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A study of total viable count of micro organisms, and specific microorganisms in Ayurvedic compound preparation of *Chandra Kalka*

B M Nageeb[1 *], S Widanapathirana [2] and A P G Amarasinghe [3]
[1]*Department of Microbiology,University of Kelaniya, Kelaniya*
[2]*Department of Microbiology,University of Kelaniya, Kelaniya*
[3]*Institute of Indigenous Medicine University of Colombo, Rajagiriya*

Chandra kalka is a popular Ayurvedic medical preparation containing mainly plant materials. All such materials contain natural inherent microbial flora and further contamination may occur during preparation. Considering these facts the World Health Assembly in its resolutions WHA-31:33, 40:33, and 42:43 has emphasized the need to ensure the microbial quality standard of medicinal plant products. *Chandra Kalka* is being used in therapeutics for over several hundred years, in respiratory tract disease conditions. The main objective of this study was to enumerate the total viable count of bacteria, fungi and the specific microorganisms such as *Coliforms* and *Salmonella* in this drug. Fifteen market samples of five manufactures were studied. Three different samples of each manufacture with different manufacturing dates were selected for the study. Nutrient agar and Potato Dextrose agar were used as common culture media for counting bacteria and fungi, respectively. Routine sterilization processes were followed to sterilize the culture media and Glassware . 0.1 gram of the above drug was dissolved in 10ml of sterile distilled water and three dilutions of 10^{-1}, 10^{-2}, 10^{-3} were made. 0.1ml of these solutions was used to study the microbial load . Pour plate and spread plate techniques were used to culture bacteria and fungi. Microbial counts were taken after 24 and 72 hours. It was assumed that each colony was formed by a single organism. Testing for organisms Coliform was done with single strength MacConkey broth using most probable number technique. Test for Salmonella was performed according to the International Standards. The same procedures were repeated three times to confirm the colony count and the presence of specific microorganisms. The results obtained in this study indicate the presence of bacteria and fungi in this preparation. None of the drug samples was positive for Coliforms or *Salmonella*. According to the limits adapted from the provisional guide lines established by World Health Assembly, the microbial colony counts observed in this study were within the limits acceptable by W.H.A. (.Aerobic bacteria ,maximum 10^{-5} per gram; yeast and moulds, maximum 10^{-3} per gram ;*Escherichia coli,* maximum 10 per gram; Other enterobacteria maximum 10^{-3} per gram; *Salmonella* none). These results were statistically analyzed by using student T- test. Mean of the colony count was not significant at 0.05.There was no difference of standard mean of the colony count and sample colony count. These results scientifically evaluated that the samples tested have been prepared according to the microbial quality standards and are microbiologically safe.

*bmnageeb@yahoo.com Tel: 011-2669791