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A microbiological study of an Ayurvedic compound preparation Dasamoola Arista with a view to defining an acceptable microbial quality standard

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The Indigenous system of medicine has been practiced successfully over several thousand years. The basic ingredients of indigenous medicine are plant materials. These materials contain natural inherent microbial flora and also may become contaminate during processing. Considering these facts the World Health Assembly in its resolutions WHA-31:33, 40:33, and 42:43 has emphasized the need for the microbial quality standard of medicinal plant products. Dasamoola Arista, has been used in therapeutics for several centuries. The objectives of this study were to enumerate the total viable count of bacteria, fungi and specific microorganisms such as Coliforms and *Salmonella* in the market samples of this drug. Fourteen different market samples were subjected to this study. Nutrient agar and Potato Dextrose agar were used as culture media. Pour plate and Spread plate techniques were used to study the microbial load in dilution series up to 10⁻³. Microbial counts on Nutrient agar and Potato dextrose agar were taken after 24 hours and 72 hours. Tests for Coliforms and Salmonella were done according to International standards. Coliform test was performed by MPN method using single strength MacConkey broth. *Salmonella* was tested after an enrichment process in buffered peptone. 0.1ml of this peptone was transferred to test tubes of Tetrathionate and Selenite broth separately and Incubated at 37 °C for 48 hours. These broths were streaked on Bismuthsulphiteagar (B/S.Agar) and Brilliantgreenbile agar(BGB) Black colonies on B/S-Agar and Pink colonies on BGB Agar were considered as positive for *Salmonella*. These colonies were bio chemically tested for *salmonella*. All tests were repeated thrice and results were confirmed. The microbial load observed in this study was with in the limits of the WHA. The Colony count for Bacteria was in between 10x10 to 10x68. Fungi Colony count was in between 1x10 to 36x 10. The biochemical tests revealed that the Bacteria present in this preparation was *Bacillus firmus*. None of the drug samples were positive for Coliforms or *Salmonella*. These results revealed that these tested samples were microbiologically safe and up to the microbial quality standard.

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