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A study of total viable count of microorganisms and specific microorganisms in four selected Arista and Asawa preparations

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Draksa Arista, Saraswatha Arista, Aravinda Asawa and Pippalyadi Asawa are Ayurvedic preparations used in the traditional system of medicine. Medicinal herbs are generally believed to be safe. However herb safety depends on many factors such as cultivation, harvest and collection. Also there is the possibility of adulteration and contamination during processing and manufacturing. Considering these facts the World Health Assembly (WHA) has emphasized the need for evaluating the microbial quality standards of medicinal plant products. The objectives of this study were to study the microbial load and specific microorganisms such as *Coliforms* and *Salmonella* in market samples of the above medicinal preparations. 75 different market samples were used. Pour plate and Spread plate techniques were used on nutrient agar and potato dextrose agar to study the microbial load. Tests were performed according to international standards ISO 9308-2-1990 (E). *Coliforms* were tested using test tubes of single strength MacConkey broth and Brilliant Green Bile Broth which contains a Durham tube. Tubes which showed acid and gas production were considered as positive for Coliforms. *Salmonella* was tested after enrichment process in buffered peptone and 1mL of this buffer peptone was transferred in to separate test tubes which contain 9 mL of Tetrathionate broth and Selenite broth and incubated at 37 °C for 48 hours. One loop of this broth was separately streaked on sterile Bismuthsulphite agar (B/S Agar) and Brilliant green agar (BG) plates. Black colonies on B/S-Agar and Pink colonies on B/G Agar were considered as positive for *Salmonella*. These colonies were re-streaked on nutrient agar plates and incubated for 24 hours and biochemically tested for *Salmonella*. Tests were repeated and Microbial load was statistically analyzed once results were confirmed. The range of the Microbial load observed in Pippalyadi Asawa and Aravinda Asawa were 1×10^0 to 1.6×10^4 for bacteria and 1×10^0 to 4.8×10^2 for fungi. Draksa Arista and Saraswatha Arista were exceeding the WHA limitations. None of the drug samples were positive for *Coliforms* or *Salmonella*. Although the drugs are not contaminated with pathogenic bacteria, the implementation of good manufacturing practices is essential to control the microbial load.

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