

Preliminary study on total sugar concentrations and energy values of selected herbal pharmaceuticals

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The quantitative quality controlling and standardization methods have taken an important place in the Ayurveda pharmaceutical industry. Alcoholic beverages such as *Asava* and *Arishta* have been used as herbal wines, appetizers and stimulants. Fruits, medicinal herbs and cane sugar are the main ingredients of this preparations and natural fermentation is being used as the manufacturing process. Levels of alcohols, acetic acid and pH of selected *Asava* and *Arishta* have been recorded previously and estimation of the total sugar levels and energy values were done in this study.

Randomly selected twenty two samples of twenty one brands of *Ashvagandharishta* and *Aravindasava* were randomly collected island wide and used for the study.

Ten microlitres of each sample were diluted to 100 ml with distilled water and 1 ml of 5% phenol solution and 5 cm³ of conc. H₂SO₄ were added to a 1 ml of the diluted solution. The mixture was kept to develop the colour, absorbance was recorded at 470 nm wavelength and the concentration of the total sugar was calculated using a standard curve.

Concentrations of the total sugar of the tested brands of *Ashvagandharishta* vary with a maximum of 730.0 ± 17.3 mg ml⁻¹ and a minimum of 280.0 ± 17.3 mg ml⁻¹. These values were 836.7 ± 11.55 mg ml⁻¹ and 186.7 ± 11.6 mg ml⁻¹ respectively for *Aravindasava*.

The type of sugar produced at the end of process, for both samples, was assumed as glucose. The energy values were calculated using the method given in Champe P.C and Harvey R.A (1994). The energy values vary from 0.274 kCal ml⁻¹ to 1.230 kCal ml⁻¹ for *Aravindasava* and 0.411 kCal ml⁻¹ to 1.073 kCal ml⁻¹ for *Ashvagandarista*.

These high energy values of *Asava* and *Arista* indicate that these could be used as an energy source for tiredness. The results prove scientifically the statement given in Ayurveda "the alcoholic beverages are effective treatments for tiredness".