
Preliminary evaluation of *Morinda citrifolia* (Noni), *Vitis vinifera* (Grapes) and *Citrus sinensis* (Sweet Orange) blended liquid formulation

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Abstract

Morinda citrifolia (Indian Mulberry or Noni) juice is most popular around the world for its nutraceuticals and high therapeutic values. The nutritional and therapeutic properties of *Vitis Vinifera* (Grapes) fruits have already been known since ancient times. Grapes contain many phenolic compounds and aromatic acid in multiple parts of the plant. The botanical name of orange is *Citrus sinensis* and an orange has over 170 different phytochemicals and more than 60 flavonoids that provide with a host of health benefits. The oranges have a juicy pulp that customers like for its medicinal, dietary, and sensory qualities. This study focused on preliminary studies in developing a liquid formulation using noni, grapes and oranges and to investigate phytochemical and physiological parameters. Noni fruits and grapes were blended with orange juice in selected concentrations after a pilot study to develop the final liquid formulation. The results of qualitative phytochemical analysis detected the presence of alkaloids, glycosides, saponins, flavonoids, terpenoids, anthraquinones, phenols, and tannins. The pH values of the formulation recorded in triplicates for 6 weeks at 26.5 ± 0.1 °C were 3.6 - 1.75 which was gradually decreasing. Brix acid ratio was 95% and total dissolved solids was 84.03%, which implies that the fruit juice contains a significant amount of simple sugars. Organoleptic properties such as color, odour and taste observed by an untrained sensory panel were compared and proved to be different from the initial formulation after 6 weeks kept at room temperature. The pH value and the further development of the selected sample must be done at a controlled temperature and required standards. Further tests are necessary considering the recommendations of Sri Lanka standards for RTS fruit beverages.

Keywords: *Formulation, Noni, Morinda citrifolia*