

Antioxidant activity of three different preparations of fruit juices (ရဲယို)

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Noni (*Morinda citrifolia* L.) is among the traditional medicinal plants used as remedies in Myanmar. Nowadays, noni manufacturers produce various forms of noni fruit juice from ripe noni fruits as dietary supplements and herbal drugs in the market. These studies were determined to evaluate the *in vitro* antioxidant activity, total phenol content, ascorbic acid content and acute toxicity test of three different preparations of noni fruit juices: fresh expressed juice (EJ) and boiling juice (BJ). These three different preparations of noni fruit juice 4 µg / ml possess antioxidant activity and results of percent inhibition were shown 83.8% (EJ) , 72.3% (BJ) respectively compared with ascorbic acid by DPPH method. The total phenol content and ascorbic acid content in three types of noni fruit juices were determined to be in the range from 2.23 to 4.1 (mg /ml quercetin equivalent) and 0.48 to 1.12 (mg / ml ascorbic acid equivalent). During fermentation process of fermented juice there was 32.5% decrease in total phenol content , 31.3% decrease in ascorbic acid content and antioxidant activity decrease by 13.7%. In boiling juice, there was 45.6% and 57.1% decrease in total phenol concentration and ascorbic acid concentration and antioxidant activity decrease by 21.3%. Fresh expressed juice of noni fruit contains high amount of total phenol acid content with strong antioxidant activity. These three different preparations of noni fruit juices showed no lethal effect when tested for acute toxicity with the maximum doses of 67 ml /kg body weight on mice model (Human doses 42 ml /50 kg. The reduction of antioxidant activity of fermented juice and boiling juice due to lower contents of total phenol and ascorbic acid content . The lowering of these contents was due to

the effect of temperature and sunlight during the processing method of fruit juice .
For maintenance of the substantial oxidant properties of noni fruit, fresh express juice rather than fermented juice and boiling juice is recommended.