Sensory and nutritional evaluation of health drink for adolescent girls using underutilized foods

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A health drink was prepared by using whey water, pearl millet, broccoli leaf powder, banana and jaggery at three different levels i.e. S₁ with 5g pearl millet, 2.5g broccoli leaf powder, 50g banana, 10g jaggery and 82.5 ml whey water, S₂ with 5g pearl millet, 3g broccoli leaf powder, 50g banana, 10g jaggery and 82.5 ml whey water and S₃ with 5g pearl millet, 3.5g broccoli leaf powder, 50g banana, 10g jaggery and 82.5 ml whey water. The developed health drink was organoleptically evaluated by a panel of judges and students by using nine-point hedonic scale. Both the panels gave the highest overall acceptability scores to the S₁ level. The most acceptable level was chemically analyzed for proximate composition, available carbohydrates, vitamins and minerals and anti nutritional factors by using standard methods. Hundred milligram of developed drink was analyzed for proximate composition showed that it had 61.43g of moisture, 2.9g of crude protein, 0.4g of crude fat, 1.2g of crude fibre, 2.2g of ash, 31.87g of carbohydrates and provided 142.68 Kcal of energy. Developed health drink had 21.7g total soluble sugars, 7.9g of reducing sugars, 13.8g of non-reducing sugars and 9.8g of starch. The concentration of minerals iron and calcium in the drink was 2.96 mg and 167 mg, respectively. The concentration of vitamins, ascorbic acid and β-carotene was 5.6 mg and 1568 µg, respectively. The amount of total phenols, oxalates and phytin phosphorus in the drink was 18.2 mg, 22.5 mg and 32.68 mg, respectively.

Key Words: Adolescent girls, Banana, Broccoli leaves, Health drink, Jaggery, Pearl millet, Whey water