Etaf G Abu Samaan et al., J Nutr Food Sci 2019, Volume 9
DOI: 10.4172/2155-9600-C5-101

Production of functional marshmallow candy using honey, fruit concentrates, cow's milk and aqueous hibiscus extract

Etaf G Abu Samaan[1] and Maher M Al-Dabbas[2]
University of Jordan, Jordan

Statement of the problem: This study was conducted to obtain the best formulation in marshmallow production from cow`s milk, honey, aqueous hibiscus extract and strawberry concentrates, by partial substitution of table sugar (sucrose) and glucose syrup to improve its functional properties and to study the effect of modifications on textural and sensory analyses in comparison with the control. Methodology and theoretical orientation: The improvement in the functionality of the modified marshmallows (M-MMn; n=1,2,.. etc.) was measured by analyzing total phenolic and flavonoid contents, and antioxidant activities, in comparison with the control. Textural analysis was also performed to study the influence of added ingredients on the texture of modified marshmallows in comparison with the control. Sensory analysis was conducted to evaluate consumer acceptance. Statistical analysis was performed and significant differences at $P<0.05$ were considered significant. Findings: The modified marshmallow shown to have lower moisture content than the control. The use of functional ingredients to produce modified marshmallow could increase the total phenolic and flavonoid contents in comparison with the control. The modified marshmallow exhibited very strong antioxidant activities using DPPH (1,1-Diphenyl- 2-Picrylhydazyl) assay especially at very high concentrations (M- MM5 and M-MM6). The hardness values for all treatments were not significantly different ($P < 0.05$) from the control, except for the M- MM1 and the M-MM6. Sensory attributes of modified marshmallow showed higher consumers acceptance and satisfaction for the M-MM4 than control and the M-MM2. Conclusions and Significance: It is possible to produce modified marshmallow with functional properties by partial substitution with sucrose and glucose syrup in moderate fortification in response to consumer acceptance. Recommendations: The production of marshmallow or candies using natural products has an outstanding future and can improve health of the target group.

Biography

Etaf Abu Samaan is a wellness counselor in a healthcare center in UAE with an experience of more than two years in evaluation and counseling in improving the health and wellbeing for different categories of the community in accordance to their age, gender, physical activity, health history, and other parameters. Masters graduated (2015) from University of Jordan in Food Science and Technology and from Mutah University in Bachelors of Nutrition and Food Processing (2013). On Sep, 2018 was certified as an International Trainer from American-Canadian Board. Her vision is to improve the idea of healthy eating patterns by choosing functional foods to limit the current wide spreaded health issues by developing foods with functional properties using certain natural foods or food components from our local markets and to enhance its nutritional values with consumer satisfaction and acceptance.