DEVELOPMENT AND ASSESSMENT OF SOME TRADITIONAL FOODS

By

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ABSTRACT

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There are many traditional foods In Egypt; kishk is one of the traditional food products in Upper Egypt. Also, noodles are easy of cooking, handling and low cost for consumers. Therefore, this work was carried out to produce modified kishk samples by using camel milk, soy milk and cheese whey with blending ratio, and samples were formed in chips kishk form. While, functional noodles were prepared by incorporation varying blends (0, 20, 40, 60 and 80%) of rice flour in replacement of wheat flour. Modified kishk samples were evaluated for their proximate composition, minerals content, scavenging activity, physical parameters, microbial analysis and sensory evaluation during storage period for three months. On the other hand, noodle samples were evaluated for cooking quality characteristics, scavenging activity and sensory properties.

The proximate composition for modified kishk samples, revealed that the moisture content of kishk prepared from camel milk was increased with increasing the replaced levels of camel milk. The ash content was the highest in samples contained camel milk at levels of 75 and 100%. While, the kishk prepared from cheese whey showed that its moisture content was higher as compared with control sample. Increasing the addition of whey cheese lead to increased the protein, ash and crude fiber contents. Also, the moisture content of kishk prepared from soy milk was higher compared with the control. While, the highest values were observed for samples prepared using 50 and 75% of soy milk as a replacer. On the other hand, proximate composition of kishk chips prepared from the best ratio of different sources and fortified with some species observed several changes in their chemical composition. Minerals

content in traditional and modified kishk samples were in the ranges of P (3.34:35.49), Mg (4.55:67.21), Ca (2.57:26.99), Fe (6.46:145.72) and Zn (2.17:31.17) ppm. The pH value and acidity (%) of kishk samples during storage period were significantly affected ($p<0.05$). The antioxidant activity for kishk samples at zero time ranged from 24.83 to 59.04%, and after 3 months from 13.30 to 43.15%. The overall acceptability showed that all kishk samples were accepted at zero time. While, after three months the samples that prepared from camel milk at ratios of 25% and 50% were the most preferable samples, followed by samples contained 25% and 50%, which cheese whey keep their sensory properties during storage. The results of bacterial count (TBC) in kishk samples were observed in safety range. No differences were observed between yeast and molds count in kishk samples at interval storage period.

The proximate composition of uncooked noodles varied significantly, with increasing rice flour level that replaced wheat flour, gradual decreases in moisture, ash, crude fiber and protein contents in noodle pastes were occurred, their values ranged between 4.02-5.33%; 1.11-5.22%, 0.65-0.82% and 8.51-12.81%, respectively. However, increases in fats, total carbohydrates and energy value were take place ranging between 4.62-8.91 %, 71.11-76.74% and 377.64 - 421.43 kcal/100g, respectively. The antioxidant activity ranged between 22.2% for wheat based noodle (100% wheat flour) and 36.8% for sample containing 80% rice flour as scavenging activity for free radicals. The overall acceptability of wheat-based noodles 100% WF received maximum scores for their sensory preferable attributes. While, in others blended flour noodles, the noodles incorporated with up to 40% rice flour received the same acceptability as wheat-based noodle. The cooking quality characteristics differed significantly in the noodle samples; the cooking time, ranged between 6.5 and 10.3 minutes, it was more in wheat-based noodles than noodles from rice flour. Cooking loss; water absorption percent; cooked weight and swelling index values ranged from 0.1 to 0.6%, 137.1 to 231.6%, 23.74 to 33.24 g/g and 3.20 to 5.38 %,

respectively; which revealed that a significant hindered was occurred in the functional paste properties and cooking quality parameters with increasing the level rice flour in noodles. The study indicated that, noodle made from mixtures of rice and wheat flour revealed that the best preferable cooking quality and sensory characteristics were observed at blending ratio 40 : 60% rice flour : wheat flour. These findings enhance the utilization of non- traditional flours like rice flour for noodles production with high nutritional value.

Keywords: Kishk**,** camel milk, soy milk, cheese whey , noodles, rice flour, wheat flour, proximate composition, mineral content, scavenging activity, physical parameters, microbial analysis, cooking quality, sensory evaluation

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