Enhancement of therapeutic properties of king coconut (*Cocos nucifera* var. aurantiaca) water by fermentation with 'tea fungus'

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Recent evidence suggests king coconut (*Cocos nucifera* var. aurantiaca) water to possess functional properties which are associated with many health benefits[1]. One objective of this study was to evaluate the antioxidant and starch hydrolase inhibitory properties of king coconut water. The second objective was to observe whether any demonstrated antioxidant and starch hydrolase inhibitory properties of king coconut water can be enhanced by fermentation with the kombucha 'tea fungus'. This is a symbiotic growth of acetic acid bacteria and osmophilic fungi strains in a thick jelly membrane which is cultured in sugared black tea[2].

Thus, pH, colour, viscosity, ethanol content, antioxidant activity, total phenolic content, ferulic and *p*-coumaric acid contents and starch hydrolase inhibitory activities were analyzed for 7 days in fermented and unfermented king coconut water samples. The fermented sample had a statistically significant decrease ($P < 0.05$) in pH. Colour values indicated the fermented beverage to increase in 'yellowness' over time. A statistically significant increase in total phenolic content and antioxidant activity ($P < 0.05$) was observed from day 1 onwards in the fermented sample. This was in correlation with the ferulic and *p*-coumaric acid contents. The starch hydrolase inhibitory activities in the fermented beverage had statistically significantly increased ($P < 0.05$) by day 7. The study was able to identify the enhancement of the antioxidant and starch hydrolase inhibitory potential of king coconut water through the addition of the 'tea fungus'. From a health and wellness perspective, the fermentation produced a novelty beverage with enhanced functional properties.

Funding provided for Chaminie B. Gunawardhana as research student through National Research Council of Sri Lanka, grant no. 14-13 is gratefully acknowledged.

References:

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