Sociocultural characteristics of edible but underutilized plant species consumption in the region of Turkana - Kenya

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Background: Given the skewed nature of the world's food system, the effect of climate change, along with the hike in population growth, and the need to end hunger by 2030, a more comprehensive strategy is needed to resolve the challenge of food and nutrition security. One option purported to resolve the challenge of food insecurity, especially in food-sensitive communities is the diversification of food production through the use of neglected and underutilized crops. Although underutilized plant species have the potential to contribute to food and nutrition security, little is known about them and their potential is not fully exploited. To promote their full use, perception behind their consumption is thus important. The current study aims to investigate the socio-cultural factors that are assumed to underpin the consumption of four underutilized plant species in rural Kenya.

Method: Data were collected through a semi-structured questionnaire on a five-point Likert scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. The theory of planned behaviour (TPB) was applied as a model construct for the study. Data extraction through exploratory factor analysis was used for dimensionality detection on sixteen items designed to study the socio-cultural factors affecting the consumption of underutilized edible plant species in the study communities. Both thematic analysis and participative ranking methodology were deployed as empirical methods to answer the question about the most effective strategies to promote the utilization of the plant species. IBM – SPSS (V. 27), Microsoft Excel (edition – 2019), and "Factor Program" were employed as the main analytical tools for the study. Descriptive statistics through frequencies and percentages were performed. The study deployed an ordinal logistic regression (proportional odds) to explore the predictive potential of explanatory variables on the likelihood of migrating to a specific categorical group on consumption frequency (higher or lower). At a 95% confidence interval, $P < 0.05$ was considered statistically significant for the regression analysis.

Results: In total, there were eight variables that were classified as significant to influence the characteristics surrounding consumption. These were household income, taste, adequate nutrient, availability, culinary skills, distance, age, and perceived household income. Distance had a dual implication (effect and no effect) on consumption as seen for B. rotundifolia and L. lancifolia. Younger adults were more inclined to consume the species over older ones. Gender, educational status, cultural taboo, and cultural identity were not significant to mediate consumption. From the thematic analysis, to promote the consumption of the plant species, adequate agronomic knowledge, nutritional knowledge, and alternative use were seen as important. The use of chiefs and community elders was ranked highest as a channel to influence advocacy on consumption. As the most efficient approach to improve consumption, a one-on-one/house-to-house approach was revealed as the most effective option.

Conclusion: To effectively overcome the challenge of food and nutrition security in most food-sensitive areas, especially in Turkana (Kenya), factors such as household income, age, taste, health-promoting properties, distance to harvest species, availability of species, and culinary ability are an important consideration. Again, agronomic knowledge, alternative use of the species, and nutritional knowledge are recommended to be upscaled to influence consumption. Using community change agents (especially, chiefs, community elders, community health volunteers, and local personalities) and a "one-on-one" approach are important to induce consumption.

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