Nutritional Profiling and Comparative Proximate Analysis of Rice Varieties Available in Karachi

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ABSTRACT

Introduction: Rice is consider as a major staple food for large number of population globally. Especially in South Asia it is a major and important part of the diet. Folks in Karachi, Pakistan consumes extensively large amount of rice. Large varieties of rice are available in local markets of Karachi. The different varieties of rice possess different qualities and nutritive values (Ashraf *et al*., 2017). Proximate analysis of these varieties help to understand its composition which matters for industry and health (Hamid & Tanweer, 2021).

Aim and Objective: The aim of the study is to perform proximate analysis including protein, carbohydrate and fat content, ash and moisture content of four distinct rice varieties available in local market of Karachi to find their suitability for different culinary and health related benefits.

Method: Four commonly available and widely used rice varieties available in local market of Karachi including Basmati, Irri 6, Super Basmati and Sella were selected for the study. Proximate analysis including moisture content, fat, protein, fiber and ash content was carried using previously describe validated procedures. All the assays were performed using conventional laboratory techniques (Lopus, 2024) (Naveed *et al*., 2023).

Result: The results of present study showed significant differences between the rice varieties. Basmati and super Basmati rice showed elevated amount of carbohydrate content respectively. Irri-6 depicted comparatively high protein content. However, Sella possess low fat content. Moisture content of all four varieties were comparable, with marginal differences. For ash contents, Sella Basmati and Super Basmati showed higher values.

Discussion: The present study demonstrate the rice nutritional values differ in varieties. This may be the better way to choose the variety according to dietary and health consequences. For example, people who want to consume more protein might pick Irri-6 or other types with a greater protein level, while people who are following an energy-dense diet might choose Basmati or other varieties with a higher carbohydrate content. Furthermore, the difference in fat and ash content make it apparent that the specific types of rice required to fulfill the daily recommended dietary allowance. It is important for both producer and consumer to select specific variety of rice for nutritive and processing purpose (Tegegne *et al*., 2020).

Conclusion: This study offers important new information about the nutritional characteristics of the various types of rice that are sold in the local market in Karachi. Customers can make well-informed decisions based on their dietary preferences and health needs by knowing the proximate makeup of these types. Understanding how these rice varieties integrate into a balanced diet may be improved by more research into other quality characteristics like the glycemic index and cooking qualities.

Keywords: Internet of Things, Smart Healthcare, Aging Assistance.

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