JINNAH UNIVERSITY FOR WOMEN
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Development of Nutraceutical Baked Tortilla Chips by the Incorporation of Composite Flour Supplemented with Moringa & Tomato Peel

Ayesha Maqsood, Ayesha Shahzad, Asra Mahmood, Hifza Arif, Fiza Afzal and Miss Aiman Butt

ABSTRACT

Nutrient-dense food products play a vital role in our modern world, offering a pathway to improved health and overall well-being. The formulation is driven by the intention to provide individuals with significant nutritional advantages. Tortilla chips are a unique blend of nutrients and bioactive substances, promoting not just good health but also a well-balanced lifestyle. This surging demand for nutritious snacks is a global trend, with the aim of creating delicious and filling options. In this context, the development of tortilla chips fortified with composite flours, moringa leaf, and tomato peel has emerged as an innovative approach. The primary goal is to create snacks rich in phytonutrients, which can be satiating and enjoyable. The incorporation of these composite flours in various ratios not only enhances the physiochemical characteristics and texture of the tortilla chips but also elevates their sensory qualities. Furthermore, this formulation goes beyond taste and texture. It significantly boosts the overall antioxidant activity of the product, making it a source of essential vitamins and minerals, including vitamins A, C, E, K, and the B-complex group. These nutritional elements hold the potential to positively impact the health of individuals in multiple ways. It's important to note that this concept is currently in the test stage, with a target audience spanning all age groups, from children to the elderly.

OBJECTIVES

1. Aim of this Research to utilize the Byproduct of Tomato (Tomato Peel) to increase nutritional profile of snacks.
2. To provide awareness about the high nutritional value of moringa leaf and tomato peel.
3. To reduce food waste and promote sustainable practice in food industry.
4. To provide appealing color to the snacks in cost effective way.
5. Healthy snacks option for people who have limited access to variety of food.

METHOD

Mix ingredients

↓

Rest Dough

↓

Shape dough

↓

Dough ball proof

↓

Roll out dough balls

↓

Bake (40min)

↓

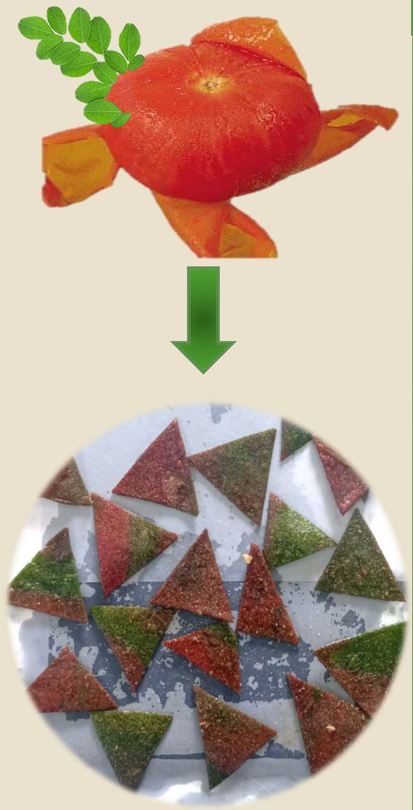
Cool tortilla

↓

Store in plastic bags

INTRODUCTION

The global demand for snacks has grown beyond basic dietary needs, leading to the rise of nutraceuticals. These products offer value-added benefits and are valued for their ability to improve nutritional deficiencies and promote a healthy lifestyle. Nutraceutical food items, such as nutritional supplements, meals, or drinks, have been developed to address consumer demands for healthier snack options. Tortilla chips, a popular and convenient snack, are in high demand due to their low sodium, fat, and calorie content. Tomato peel, a byproduct of tomatoes, is often disregarded due to its abundance of phytonutrients and antioxidants. This study explores the potential of using tomato peel and moringa leaves in tortilla chips to increase their nutritional value and accessibility. Moringa oleifera, a nutrient-dense plant with anti-viral, anti-fungal, and anti-abortifacient properties, can treat various illnesses, including anemia, by replacing iron supplements. Moringa oleifera is recommended by the World Health Organization as a treatment for malnutrition. Tomato peels, rich in carotenoids, carbohydrates, dietary fiber, amino acids, vitamins B and C, are often neglected, leading to food waste. Corn and foxtail millet are also significant players in nutraceutical food, providing special nutritional advantages. Foxtail millet is an abundant source of protein, fiber, minerals, and phytochemicals, while maize has been linked to increased immunity to chronic diseases and better digestive tract health. By incorporating these healthy ingredients into tortilla chips, the food industry can provide a more nutritious and appealing snack option for consumers.



CONCLUSION

In general, this study intends to transform the snack market by adding composite flours with tomato peel and moringa leaves to tortilla chips, which will enhance their nutritional value. In doing so, it simultaneously responds to the changing customer need for snacks that provide more than just a short-lasting enjoyment and supports sustainability, food waste reduction, and the development of healthier alternatives. The future it imagines is one in which food improve general wellbeing in addition to satisfaction.

REFERENCES

- Basuony, El, et al. "Studies on production of different snack blends." Menoufia Journal of Food and Dairy Sciences 8.8 (2023): 73-74.
- Gomes, Flavia dos Santos, et al. "Processing tomato waste as a potential bioactive compounds source: phenolic compounds, antioxidant capacity and bioacessibility studies." Ciência Rural 52 (2021).
- Kayacier, Ahmed, and Rakesh K. Singh. "Textural properties of baked tortilla chips." LWT-Food Science and Technology 36.5 (2003): 463-466.
- Zungu, Nozipho. Assessing the nutritional quality and consumer acceptability of moringa oleifera leaf powder (molp)-based snacks for improved children's food and nutrition security. Diss. 2017.