The Acceptability of Snack (Chin Chin) Produced from Composite Blends of Wheat, Acha, and Soy Flour Using Date as Sweetener.

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INTRODUCTION: Snack foods, which are typically considered convenience foods, have long been a staple of household diets and have made significant contributions to the economies of all countries (Lasekan and Akintola, 2002). Both industrialised and developing nations are experiencing high population growth and urbanisation, which is driving up demand for snacks (Ugwuanyi et al., 2020). For many consumers, snacks play a significant role in their daily intake of calories and nutrients (Awoyale et al., 2011). The acceptability of snack (ChinChin) produced from composite blends of wheat, acha, and soy flour using date as a Sweetener was investigated.

MATERIALS AND METHOD: The raw materials for this study (wheat, Acha, soybeans, and date palms) and the ingredients for chin chin (margarine, eggs, nutmeg, baking powder, vanilla, milk, salt, sugar, and vegetable oil) were purchased from Sayedero markets in Ilaro, Ogun State, Nigeria. The production techniques were modified from earlier research by Folohunso (2018), Okoye et al. (2008), Falola (2011), and Ndife et al. (2014). Sample A was composed of 100% wheat, Sample B 100% acha, Sample C 80% acha, 10% soybean, and 10% date, Sample D 70% acha, 20% soybean, and 10% date, and Sample E 60% acha, 30% soybean, and 10% date respectively. The proximate composition of the samples of chin-chin snacks was determined using standard methods described by AOAC. The results of the analysis were shown as mean ± standard deviation. The obtained results were subjected to an Analysis of Variance (ANOVA) using the Statistical Package for Social Sciences (SPSS version 20.0). The means were separated using Duncan's Multiple Range Test (DMRT). The significant difference was found at $P < 0.05$.

RESULTS AND DISCUSSION: Table 1: Proximate composition of the snack (Chinchin)

SAMPLES	MOISTURE CONTENTS (%)	CRUDE FAT (%)	TOTAL ASH (%)	CRUDE FIBRE (%)	CRUDE PROTEIN (%)	TOTAL CARBS (%)
A	11.74 ± 0.04^{d}	24.61 ± 0.01^{c}	1.43 ± 0.03^{a}	1.24 ± 0.02^{a}	24.83 ± 0.02^{e}	59.12 ± 0.09^{e}
B	3.67 ± 0.03^{e}	23.96 ± 0.02^{b}	1.45 ± 0.02^{a}	1.26 ± 0.14^{a}	11.96 ± 0.02^{a}	37.00 ± 0.01^{a}
C	3.22 ± 0.03^{a}	19.91 ± 0.02^{a}	2.69 ± 0.04^{b}	0.24 ± 0.03^{b}	15.22 ± 0.02^{b}	43.33 ± 0.09^{b}
D	6.09 ± 0.02^{b}	28.84 ± 0.03^{d}	2.70 ± 0.03^{b}	0.86 ± 0.04^{b}	18.44 ± 0.03^{c}	45.30 ± 0.06^{c}
E	9.07 ± 0.02^{c}	29.03 ± 0.04^{e}	2.86 ± 0.03^{c}	0.94 ± 0.03^{c}	24.83 ± 0.02^{e}	47.83 ± 0.11^{d}

Samples with different superscripts within the same column were significantly different ($p<0.05$).

Result reveals that samples A and C had the greatest and lowest moisture contents, respectively, ranging from 3.22% to 11.74%. Sample C had the lowest fat level, which varied from 19.91% to 29.03%. Sample B had the highest fibre content, which ranged from 0.24% to 1.26%. The largest levels of protein were found in Samples A and E, which ranged from 11.9% to 24.83%. Sample C is more shelf-stable and appropriate for diabetics due to its decreased moisture, lipid, and carbohydrate content, according to the proximate analysis.

CONCLUSION: This study suggests that date palm fruit flour and soybean flour can replace refined sugar and wheat flour in snacks, promoting nutritious and sustainable food products and supporting public health.