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Breakfast intake and practices in Pacific Island women in New Zealand

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Abstract

Background/aim: Pacific people living in New Zealand have disproportionately high rates of obesity, leading to increased adverse health outcomes. A tendency to skip breakfast has been reported within this group. Skipping breakfast is linked to dietary deficiencies such as calcium and fibre, and an increased appetite later in the day. The aim of this study was to explore recorded and observed breakfast intake and practices in Pacific Island women aged 18-45 years of different body compositions in New Zealand. This included an extensive literature review on breakfast habits and the relationship with body composition and food groups.

Methods: In this cross-sectional study, Pacific women (18-45 years) completed a 5-day food record (FR) (n=146) and a videoed breakfast buffet (BB) (n=142). Body mass index (kg/m^2) was measured using the bioelectrical impedance analysis, categorising women in obese, overweight or normal weight BMI groups. Associations between body composition, nutrient intake, food choice and eating behaviours were investigated.

Results: From a nutrient perspective, all BMI groups had habitual intakes at the FR high in saturated fat, and low in dietary fibre and calcium. All BMI groups had significantly higher intakes at the BB compared with FR for energy, PUFA (g), carbohydrate (g), sugars, dietary fibre, riboflavin, vitamin B6 and calcium, and significantly lower intakes of cholesterol and protein (%). For food groups, servings of 'breads, cereals and grains', 'milk, dairy and alternatives', and 'discretionary foods' were all higher at the BB compared with the FR. Investigation into breakfast skipping found a significant difference in calcium intake between breakfast eating behaviour groups, with only breakfast eaters meeting breakfast recommendations (25% of NRV's).

Conclusion: The findings of this study provide valuable insight into Pacific women's breakfast eating habits. Nutrients and food choice differed significantly between BB and FR, which may indicate influential factors such as food availability and social influence. While the results did not suggest a significantly different intake of food groups or nutrients between BMI groups, this may provide future research opportunities to explore whether nutrients consumed and food choice at breakfast in Pacific women influence food intake later in the day, and whether there is an association with body composition. This study does highlight the role of public health intervention in emphasizing the importance of consuming breakfast high in whole

grains and dairy products to improve intakes of dietary fibre and calcium, and a lower saturated fat content of the meal for overall health benefits.

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Abbreviation List

AMDR	Acceptable Macronutrient Distribution Range
ANOVA	Analysis of Variance
BB	Breakfast Buffet
BIA	Bioelectrical Impedance Analysis
BMI	Body Mass Index
cm	Centimetres
EAR	Estimated Energy Requirements
FFQ	Food Frequency Questionnaire
FR	Food record
g	Grams
kg	Kilograms
kJ	Kilojoules
m	Metres
µg	Micrograms
mg	Milligrams
MUFA	Mono-unsaturated fatty acids
Normal	Normal BMI group (BMI 18.5-24.9)
NNS	2008/09 New Zealand Adult National Nutrition Survey
NRVs	Nutrient Reference Values
Obese	Obese BMI group (BMI \geq 30)
OECD	Organisation for Economic Cooperation and Development
Overweight	Overweight BMI group (BMI 25.0-29.9)
PROMISE study	Predictors linking Obesity and gut MicrobiomE
PUFA	Poly-unsaturated fatty acids
RDI	Recommended Daily Intake
SD	Standard deviation
WHO	World Health Organisation
%E	Percentage energy intake