



Preliminary analysis of the dietary intake for New Zealand European and Pacific women from the PROMISE study

Predictors Linking Obesity and gut Microbiome (PROMISE)

1. Ministry of Health. 2018. Annual Data Explorer 2017/18: New Zealand Health Survey [Data File].
URL: https://minhealthnz.shinyapps.io/nz-health-survey-2017-18-annual-data-explorer/_w_eeef6317#!/explore-indicators

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CENTRE OF RESEARCH EXCELLENCE

Introduction

Diet is considered a key driver of obesity. Worldwide, New Zealand has one of the highest rates (32%) of obesity, especially among women (33.6%) [1].

Within New Zealand almost 1 in 3 adults are obese

Objective

To investigate the relationship between the dietary intake of New Zealand women in the PROMISE study, and how this relates to different body compositions and metabolic disease risk.

Method

Pacific (PI) and NZ European (NZE) women aged 18-45 years, with either: a body mass index (BMI kg/m²) that was normal (NB: 18.5 - 25kg/m²) or obese (OB: ≥30kg/m²), were recruited between July 2016 and September 2017 from the Auckland region.

Participants completed:

- 5-day non-consecutive estimated food record.
- Anthropometric measurements (e.g. weight, height, waist circumference).

Data analysis:

- Food records were reviewed in one on one interviews with participants by NZ registered dietitians.
- FoodWorks 9, and NZ FOODfiles 2016 were used for analysis of the food records.

Results

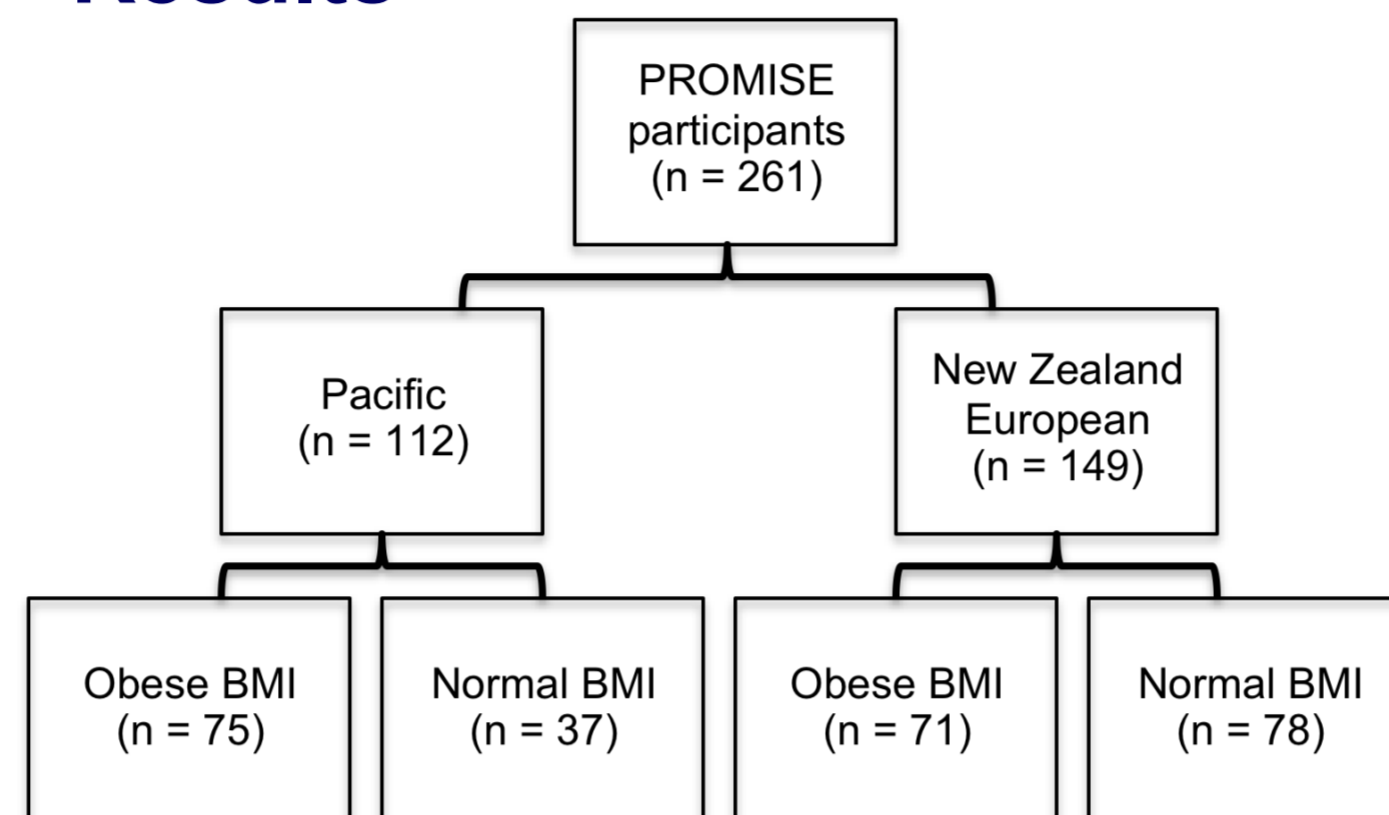


Figure 1: Outline of PROMISE population

There were no significant differences between the 4 groups in mean daily intake of energy (kJ), protein (g), total fat (g) or total sugar (g) (See **Figure 2**)

PI-NB and PI-OB consumed significantly more carbohydrate daily (214.85g and 212.93g, respectively) compared to NZE-OB (183.94g, p=0.015), and NZE-NB (177.39g, p<0.001).

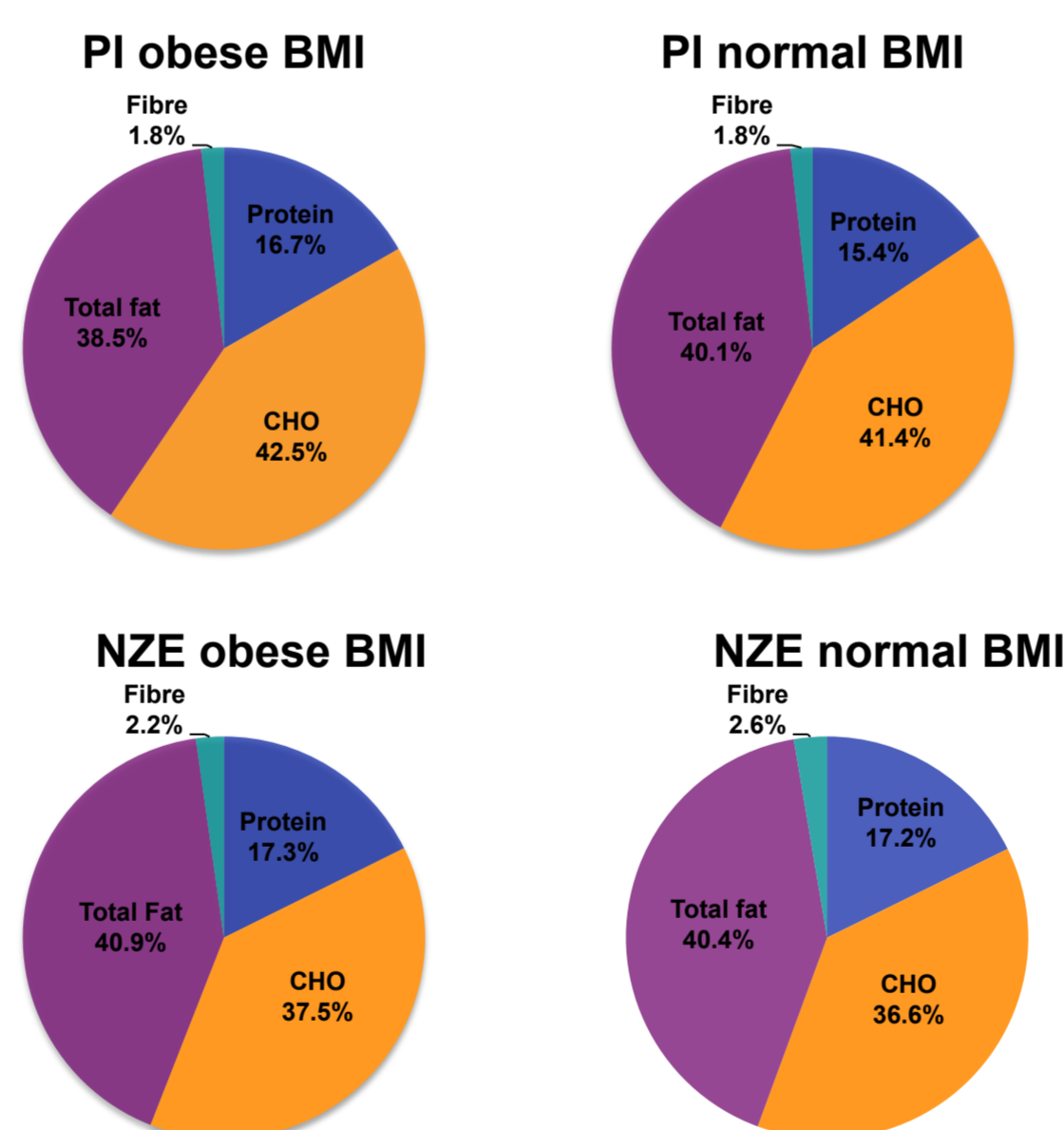


Figure 2: PI and NZE percentage of daily energy intake (kJ) from protein, total fat, carbohydrate (CHO) and dietary fibre

*kJ contribution of alcohol has not been included in Figure 2

NZE women had higher mean daily intake of caffeine (155.27mg vs 82.11mg) and alcohol (7.55g vs 2.91g) compared to PI women (p<0.001).

NZE-NB consumed significantly more dietary fibre (25.90g) daily compared to NZE-OB (22.10g, p=0.009), PI-OB (18.29g, p<0.001) and PI-NB (19.38g, p<0.001) (See **Figure 3**).

NZE-OB also consumed significantly more dietary fibre (g) in comparison to PI-OB (p<0.001) and PI-NB (p=0.012).

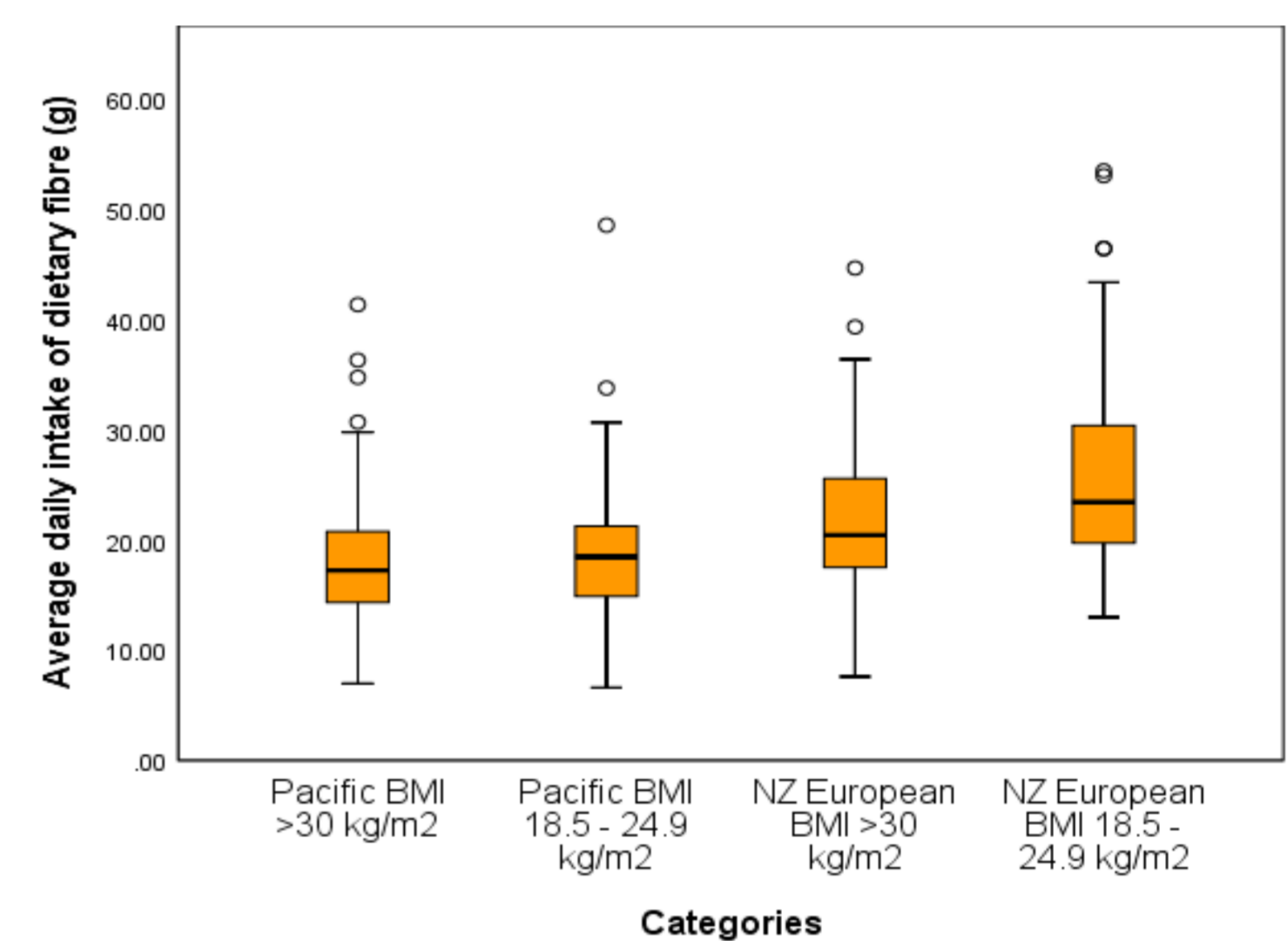


Figure 3: PI and NZE median daily intake of dietary fibre (g)

Conclusion

NZE had a significantly higher daily dietary fibre, and lower carbohydrate intake in comparison to PI women. All groups consumed below the recommended AMDR for daily carbohydrate intake, and exceeded the AMDR for total fat intake. Further analysis will explore the associations of these dietary intake behaviours with metabolic health outcomes.

Acceptable macronutrient distribution ranges (AMDR) for Pacific and New Zealand women stratified by BMI kg/m² categories

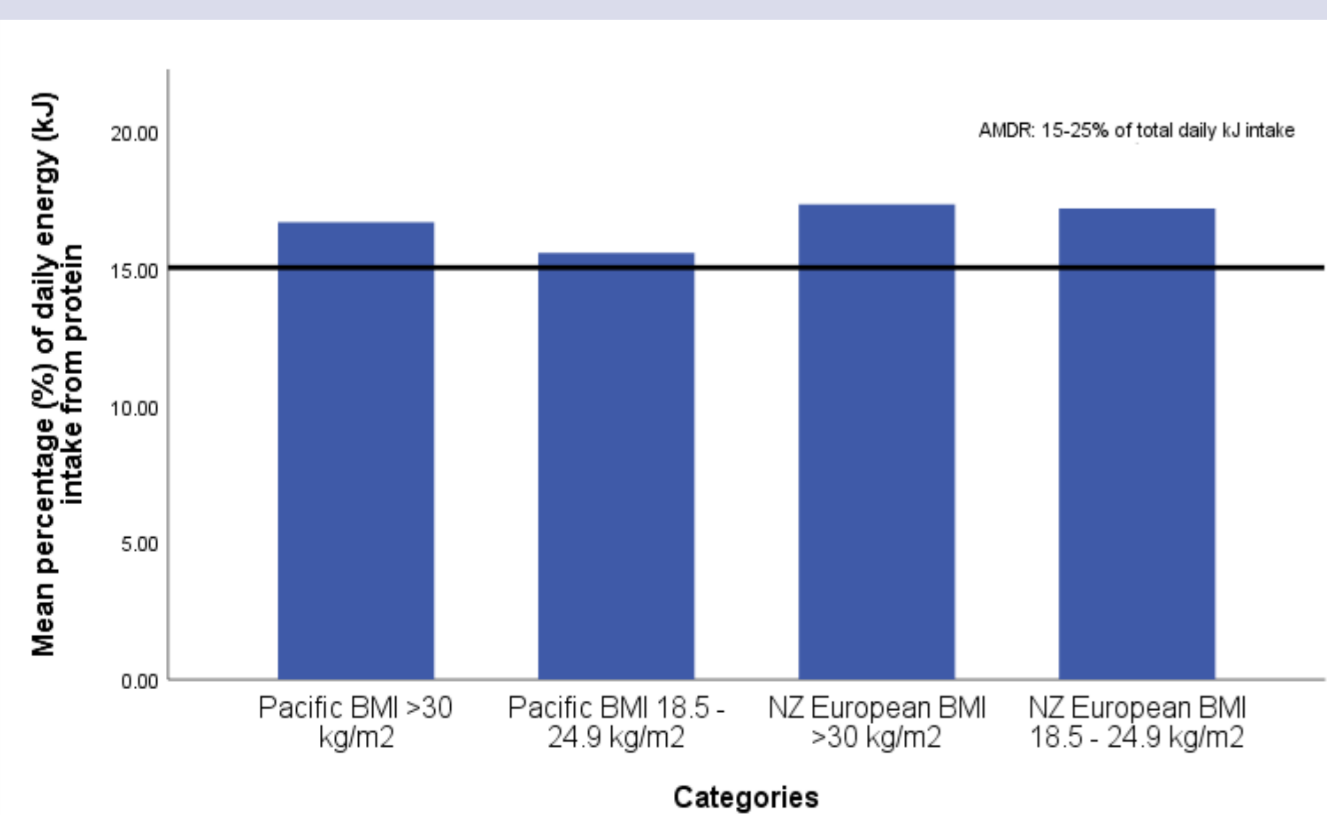


Figure 2a: Mean percentage of daily energy intake consumed from protein, with lower AMDR range indicated with black line (AMDR 15 - 25%)

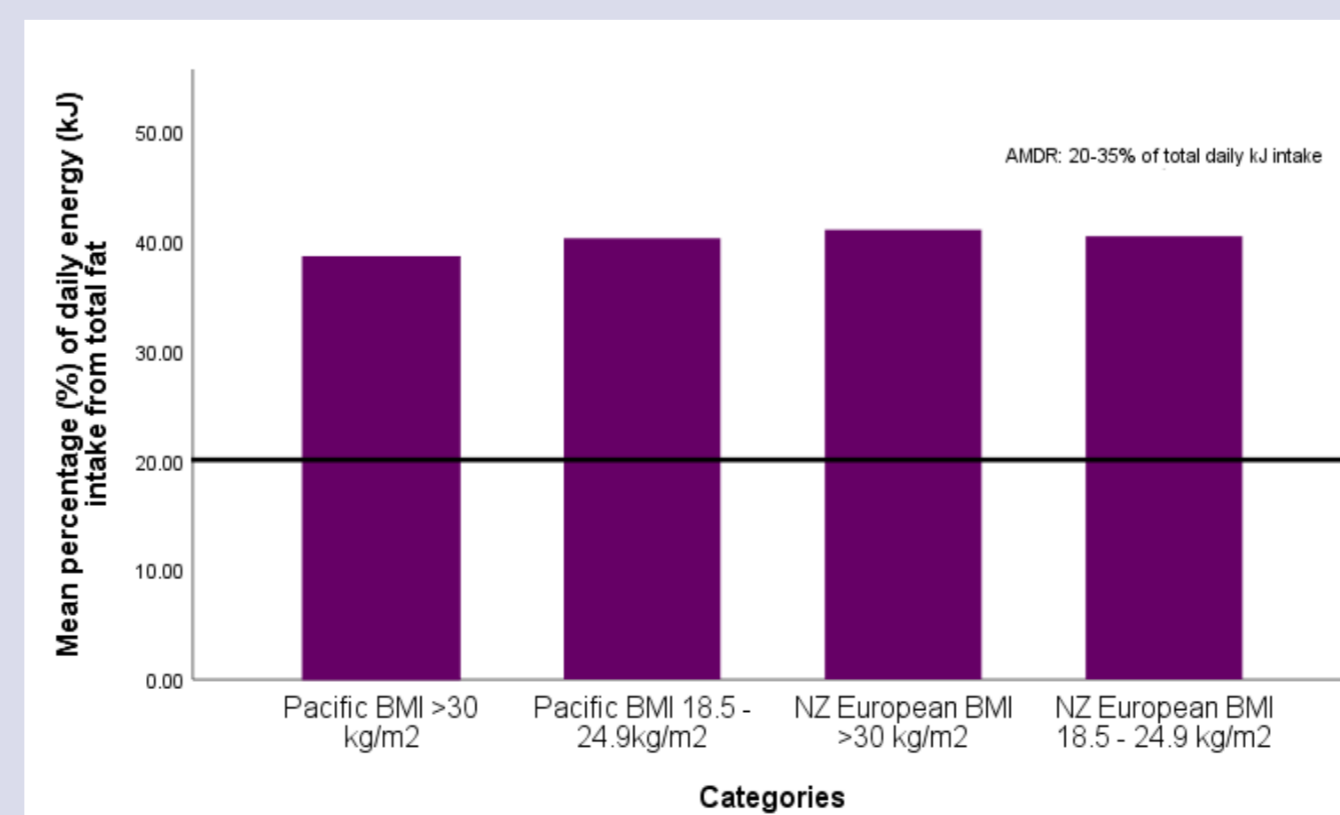


Figure 2b: Mean percentage of daily energy intake consumed from total fat, with lower AMDR range indicated with black line (AMDR 20 - 35%)

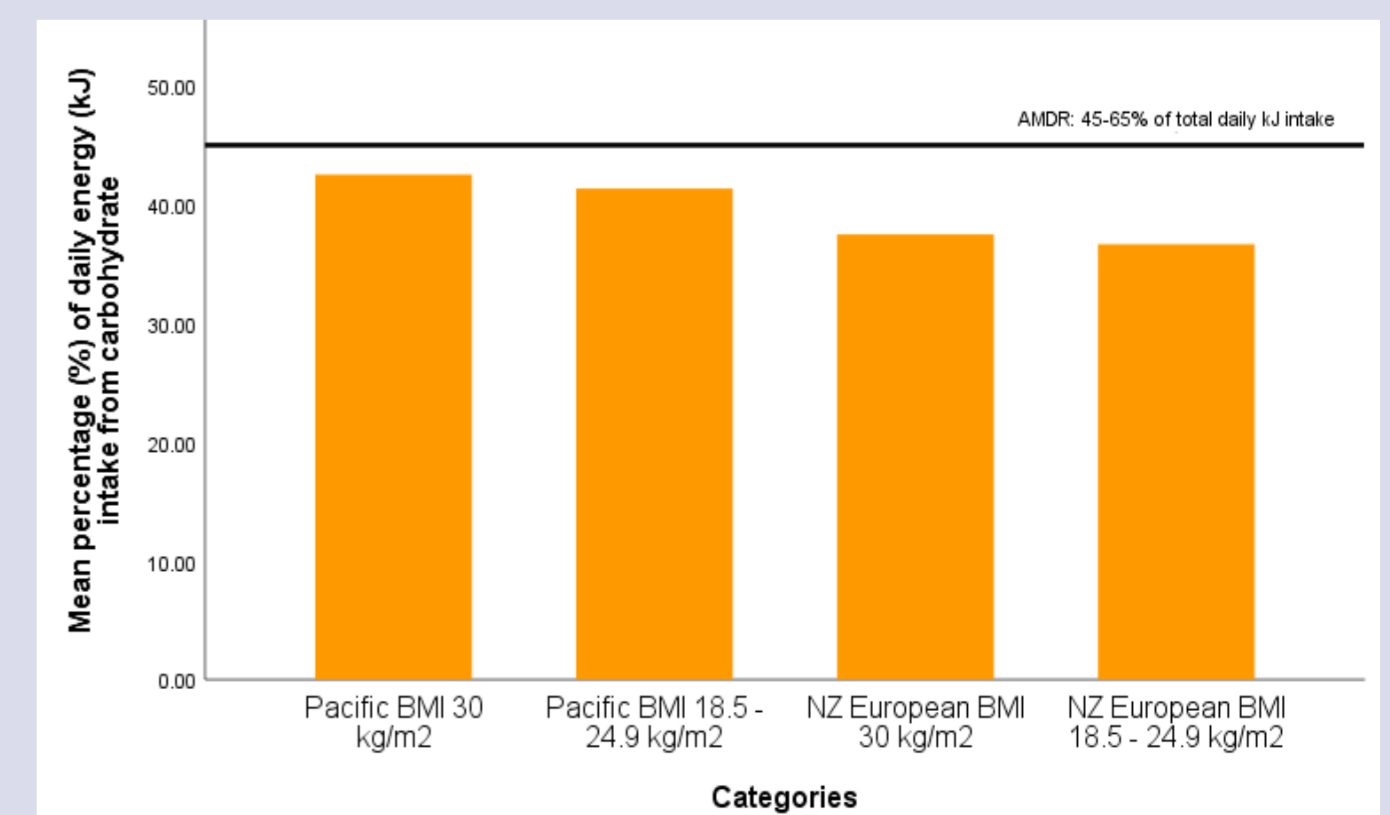


Figure 2c: Mean percentage of daily energy intake consumed from carbohydrate, with lower AMDR range indicated with black line (AMDR 45 - 65%)