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Evaluating a nutrition education component of the Ka Mau Te WEHI program.

A thesis presented in the partial fulfilment of the requirements for the degree of

Masters of Science
in
Nutrition and Dietetics

at Massey University, Albany
New Zealand

Greer Gibson
2017
Abstract

**Background:** New Zealand has high rates (32%) of obesity amongst the adult population; Māori (50.2%) and Pacific (68.7%) populations are most affected. Lifestyle interventions are effective in achieving weight loss, but are often expensive, whilst group and online lifestyle interventions are more cost effective.

**Objectives:** To develop and assess a component of the nutrition education content for the Internet team-based, incentivised behaviour change Ka Mau Te WEHI weight loss intervention for Māori and Pacific adults BMI ≥30 kg/m² at risk of or with T2DM and/or cardiovascular disease.

**Methods:** Three Internet team-based competitions were conducted in New Zealand’s North Island, with seven teams of up to seven participants (n=146) per region. The nutrition education was developed to address key eating behaviours associated with increased risk of weight gain and improve nutrition literacy. The education delivered through daily tips on the website and weekly challenges. Eating behaviours and nutrition literacy were assessed at baseline and six-months.

**Results:** Although 143 participants started the program; only 41.1% (n=60) completed it. Key eating behaviours changed; 18.3% decrease in drinking one or more sugar sweetened beverages/day, mean days eating fast food decreased by -1.7±2 days (p<0.001); mean days eating fruit +1±1.8 (p<0.001) and vegetables +0.8±2 (p=0.006) increased significantly. Weight loss was not significant between baseline and six months [-4.5±17.3kg (p=0.115)].

**Conclusion:** Although this program was attractive to the target population, a high dropout rate was evident and clinically significant weight loss was not achieved. Despite this, the innovative approach used for nutrition education led to significant dietary behaviour changes. Further research to improve retention and build on eating behaviour changes achieved in this at-risk population is warranted.

**Key words:** Māori, Pacific Islanders, weight loss, lifestyle intervention, obese.
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# Table of contents

List of tables ....................................................................................................................... v
List of figures ..................................................................................................................... vi
Abbreviations ................................................................................................................... vii

Chapter 1.0 Introduction .......................................................................................................................1
  1.1 Aim of this sub study .................................................................................................... 3
  1.2 Structure of thesis ........................................................................................................ 5
  1.3 Contribution of researchers ......................................................................................... 6
  References.......................................................................................................................... 7

Chapter 2.0 Literature review ..............................................................................................................10
  2.1 Introduction ............................................................................................................... 10
  2.2 Obesity ....................................................................................................................... 11
  2.3 Weight loss Interventions .......................................................................................... 15
  2.4 Lifestyle interventions for weight loss ....................................................................... 16
  2.5 Nutrition education to promote eating behaviour change ....................................... 25
  2.6 Cultural considerations for lifestyle interventions .................................................... 26
  2.7 Lifestyle interventions Māori and Pacific adults .................................................... 28
  2.8 Developing the nutrition education content ............................................................ 31
  2.9 Summary .................................................................................................................... 32
  References........................................................................................................................ 34

Chapter 3.0 Study manuscript .............................................................................................................43
  3.1 Abstract ...................................................................................................................... 43
  3.2 Introduction ............................................................................................................... 44
  3.3 Methods ..................................................................................................................... 45
  3.4 Results ........................................................................................................................ 53
  3.5 Discussion ................................................................................................................... 67
  References........................................................................................................................ 76

4.0 Conclusion and recommendations ................................................................................................83

Chapter 5.0 Appendices .......................................................................................................................90
  Appendix A. Supplementary methods ............................................................................. 90
  Appendix B. Supplementary results ................................................................................. 92
  Appendix C. Questionnaires and materials...................................................................... 99
List of tables

Table 1. Measuring obesity by BMI and waist circumference............................................. 11
Table 2. Summary of studies investigating combined lifestyle intervention for weight loss and obesity related chronic disease outcomes ........................................................... 17
Table 3. Summary of Randomised control trials investigating common dietary manipulations for weight loss............................................................................................... 19
Table 4. Summary of meta-analysis studies investigating the effect of common dietary interventions............................................................................................................... 22
Table 5. Lifestyle interventions for Māori and Pacific Islanders........................................ 29
Table 6. Daily tip topics and the relevant Ministry of Health guidelines. ......................... 48
Table 7. Research tools for the assessment of the study objectives.................................... 50
Table 8. Baseline participant demographics....................................................................... 54
Table 9. Weekly challenge topics and completion over time............................................. 55
Table 10. Change in eating behaviour from baseline to six months, compared to national guidelines.................................................................................................................... 61
Table 11. Anthropometry at baseline, two months and six months................................. 62
Table 12. Anthropometric change from baseline to six-months, males and females ....... 62
List of figures

Figure 1. Conceptual framework for behaviour change .......................................................... 14
Figure 2. Food and nutrition weekly challenges .................................................................. 49
Figure 3. Participant flow chart .......................................................................................... 53
Figure 4. Weekly challenge what type of food is it results .................................................. 56
Figure 5. Weekly challenge, reading food labels ................................................................. 57
Figure 6. Knowledge of food preparation at baseline and six months ................................ 58
Figure 7. Sugar sweetened beverage consumption baseline to six months ....................... 60
Figure 8. Change in food groups in the breakfast meal at baseline and six months ........... 60
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>AHEAD</td>
<td>Action for Health in Diabetes</td>
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<tr>
<td>ANS</td>
<td>New Zealand Adult Nutrition Survey</td>
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<tr>
<td>BMI</td>
<td>Body mass index</td>
</tr>
<tr>
<td>CVD</td>
<td>Cardiovascular disease</td>
</tr>
<tr>
<td>DASH</td>
<td>Dietary Approaches to Stop Hypertension</td>
</tr>
<tr>
<td>DPP</td>
<td>Diabetes Prevention Program</td>
</tr>
<tr>
<td>ILI</td>
<td>Intensive lifestyle intervention</td>
</tr>
<tr>
<td>Kg</td>
<td>Kilogram</td>
</tr>
<tr>
<td>MoH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>NHS</td>
<td>New Zealand Health survey</td>
</tr>
<tr>
<td>RCT</td>
<td>Randomised control trial</td>
</tr>
<tr>
<td>SD</td>
<td>Standard deviation</td>
</tr>
<tr>
<td>SES</td>
<td>Socioeconomic status</td>
</tr>
<tr>
<td>T2DM</td>
<td>Type two diabetes mellitus</td>
</tr>
<tr>
<td>USA</td>
<td>United states of America</td>
</tr>
<tr>
<td>WC</td>
<td>Waist circumference</td>
</tr>
<tr>
<td>WEHI</td>
<td>Weight loss and Healthy eating Intervention</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organisation</td>
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