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Nutritional status of older Māori hospitalised due to infection

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Abstract

Background

Life expectancy amongst Māori is increasing and more Māori are expected to live into advanced age (80+ years). Māori have higher rates of morbidity and health disparities compared to non-Māori. Māori diets are seen to have high fat intakes and marginal intakes of zinc and selenium. Deficiencies in these minerals may have negative effects on immune status. Nutrition is a modifiable factor that may help to reduce the risk of infection. This study aims to look at the nutrient intake of Māori in advanced age (80+ years) and to investigate differences in energy and nutrient intakes of those hospitalised due to infection and not hospitalised.

Methods

There were 200 Māori participants in this study aged 80-90 years. Detailed nutritional information was collected using the 24 hour multiple-pass recall method on two separate days. FOODfiles was used to analyse nutrient intake. Selected International Classification of Disease (ICD) codes for infections were paired with National Health Index (NHI) numbers to identify participants who had been hospitalised over a two year period. Face to face interviews were conducted in the LiLACs NZ to obtain demographic, social and health information.

Results

Participants had a higher percentage of energy from fat intake (38%) compared to the NHMRC recommendations for adults (25-35%). Participants intakes were below the NHMRC recommendations for adults for calcium (47% vs 50%) and selenium (29% vs 37%) respectively. Only men had intakes below the NHMRC recommendations for zinc (28%) and vitamin E (24%).

A total of 18% of participants were hospitalised due to infection. The main type of infection was infection of the lower respiratory tract.

Participants who had been hospitalised were more likely to have smoked (p=0.013), been diagnosed with diabetes (p =0.05) and have chronic lung disease (p >0.001) and cardiovascular disease (p= 0.003). They also had a higher consumption of total fat (78.3g vs 64g) (p=0.05) and monounsaturated fat (28g vs 21g) (p=0.04). Those who had not been hospitalised versus those hospitalised had a higher percent of energy from protein (17% vs 15%) (p=0.009).
Conclusions

The nutritional intake of the older Māori participants was similar to New Zealanders aged 71 years and over reported in the National Nutrition Survey 2008/9. Participants tended to have inadequate intakes of calcium, selenium and vitamin E. Zinc intakes were inadequate only in men. Participants who had been hospitalised had a lower percentage of energy from protein compared to those not hospitalised. Protein may have a protective effect on the nutritional health of older Māori and this may reduce hospitalisation due to infection in this age group.
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## Glossary

### Māori Terms

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<thead>
<tr>
<th>Māori name</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>hākari</td>
<td>feast</td>
</tr>
<tr>
<td>hāngi</td>
<td>kai cooked in an earth oven</td>
</tr>
<tr>
<td>hapū</td>
<td>sub-tribe</td>
</tr>
<tr>
<td>haukāinga</td>
<td>people of the marae</td>
</tr>
<tr>
<td>Hauora</td>
<td>health care providers</td>
</tr>
<tr>
<td>hui</td>
<td>gatherings</td>
</tr>
<tr>
<td>ika</td>
<td>fish</td>
</tr>
<tr>
<td>iwi</td>
<td>tribe</td>
</tr>
<tr>
<td>kai</td>
<td>food</td>
</tr>
<tr>
<td>kaimoana</td>
<td>seafood</td>
</tr>
<tr>
<td>kaitiaki</td>
<td>protectors/guardians of the land</td>
</tr>
<tr>
<td>kuia</td>
<td>older women</td>
</tr>
<tr>
<td>kaumātua</td>
<td>older men</td>
</tr>
<tr>
<td>mana</td>
<td>honour/prestige</td>
</tr>
<tr>
<td>manaakitanga</td>
<td>ethical principle donating the importance of caring for others</td>
</tr>
<tr>
<td>manuhiri</td>
<td>visitors</td>
</tr>
<tr>
<td>marae</td>
<td>traditional meeting place</td>
</tr>
<tr>
<td>noa</td>
<td>unrestricted</td>
</tr>
<tr>
<td>Pākehā</td>
<td>New Zealand European</td>
</tr>
<tr>
<td>piko piko</td>
<td>sow thistle</td>
</tr>
<tr>
<td>powhiri</td>
<td>Welcome ceremony</td>
</tr>
<tr>
<td>pūhā</td>
<td>New Zealand spinach</td>
</tr>
<tr>
<td>Rēwena</td>
<td>Māori bread</td>
</tr>
<tr>
<td>Tapu</td>
<td>sacred</td>
</tr>
<tr>
<td>Tītī</td>
<td>muttonbird</td>
</tr>
<tr>
<td>whānau</td>
<td>family, usually inclusive of extended family</td>
</tr>
</tbody>
</table>