Health benefits of herbs and spices: the past, the present, the future - Public Health

P. G. Williams
University of Wollongong, peterw@uow.edu.au

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Abstract
Recommendations for intakes of food in the Australian Guide to Healthy Eating do not yet include suggested intakes of herbs and spices, although several dietary guidelines refer to their benefits. Future consideration should be given to including more explicit recommendations about the place of herbs and spices in a healthy diet.

Keywords
herbs, spices, dietary guidelines, public health

Disciplines
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Consumer trends and public health guidelines for culinary herbs and spices

Assoc Prof Peter Williams PhD FDAA

Consumption Trends
It is difficult to estimate the current level of consumption of culinary herbs and spices by Australians. The Australian Bureau of Statistics trend data on apparent consumption of foods do not include herbs and spices and results from the last National Nutrition Survey (NNS) in 1995 provide only limited information on consumption. The median daily intake of herbs, spices, seasonings and stock cubes combined was estimated to be 1.4 grams per adult (declining with age from 4.2g in 19-24 year olds, to 0.7g in those 65 years and older), with only 3.1 percent of persons reported consuming this category of food items on the day of survey. However the separate intakes of herbs and spices alone are not reported. The intake of males appeared to be higher than that of females, but the low values make it difficult to assess the significance of this difference. In New Zealand, the consumption of spices, estimated using import data, was 364g/year, or around 1g per day, a similar value to that reported in the NNS.

One comparison of spices used in representative vegetable and meat-based recipes from 36 different countries found Australia (with a mean of 3.4 spices per recipe) had a moderate level of usage compared to the international mean of 3.9 (ranging from 1.6 in Norway to 6.9 in Indonesia). However, increased use of herbs and spices as flavourings in foods is a major trend worldwide with sales growth of 20-30% over the past five years in both the UK and the US. It has been suggested that this trend is partly driven by demographics; as consumers age their palates can become more adventurous. Promotion can also be important: a recent UK advertisement in which Jamie Oliver encouraged consumers to experiment with nutmeg boosted sales of that spice four-fold.

Based on retail sales data, consumption of herbs and spices in Australia has increased in line with global trends and this is expected to continue. The market for local fresh-cut culinary herbs was estimated to be worth over $62 million per year in 2004 and continues to grow at 20% per annum. Information from major supermarket sales in 2003 estimates suggest that total retail sales of fresh herbs and spices were valued at $54 million, and a further $107 million for dried products. The sales volumes of fresh herbs are shown in Table 1.

Dietary guidelines and recommendations
Although there is increasing interest and research in the health-promoting and protective properties of herbs and spices, there are few authoritative recommendations about intake in existing national dietary guidelines. The first of the Australian guidelines for adults is: Enjoy a wide variety of nutritious foods and in the guidelines for older Australians a food variety checklist is given in an appendix, that includes the
recommendation to use herbs and spices regularly. The same tool has also been used as
the basis of a checklist to assess intakes of phytochemical-dense foods, and herbs and
spices make up 11 out of the 64 foods scored in the checklist (basil, oregano, mint,
dill/fennel, parsley, pepper, ginger, cumin, turmeric, coriander, rosemary/thyme). The
higher the score the more adequate the diet is suggested to be in phytochemicals,
however it is acknowledged that such food scores need to be further developed and are
not backed by any health outcome studies at this stage.

Two other Australian dietary guidelines refer to herbs and spices. In the background
chapter on choosing foods low in salt it is stated that among the recommended substitutes
for salt are ingredients such as curry spices, garlic and onion, and herbs. Secondly, the
Dietary Guidelines for Older Australians note particularly that age-related sensory loss of
smell and taste is common in older people, especially in those who take many
medications, and can have adverse effects on overall nutrient intake. Experimentation
with new flavourings such as herbs and spices is suggested to stimulate appetite and
support adequate overall intakes.

A few other countries have made similar recommendations about herbs and spices. In the
2005 revision of the Dietary Guidelines for Americans, the chapter on choosing a diet
moderate in salt and sodium recommends flavouring with herbs and spices and the
Irish dietary guidelines have similar advice. Perhaps the country with the most direct
recommendation about the health benefits for culinary herbs is Greece. Their dietary
guidelines not only refer to the usefulness of herbs as salt substitutes but also state:
“oregano, basil, thyme and other herbs grown in Greece are good sources of antioxidant
compounds.” This emphasis on the health-promoting properties of herbs is of interest
given research in Australia that has found that first generation Greek migrants display
35% lower mortality from cardiovascular and overall mortality than Australian-born
controls, despite high prevalence of risk factors such as obesity, smoking and sedentary
lifestyles. It has been suggested that one of the dietary factors contributing to this lower
mortality could be their high intake of antioxidant rich plant foods, including garlic and
herbs.

Despite the generally supportive statements in the dietary guidelines, the quantitative
recommendations for intakes of food in the Australian Guide to Healthy Eating from the
NH&MRC do not yet include suggested intakes of herbs and spices. Those
recommendations are based primarily on the aim of ensuring adequate intakes of
nutrients for which recommended dietary intakes have already been established and it is
probably too early for there to be more definitive recommendations about foods based on
their content of other phytochemicals. It should also be borne in mind that there are
possible adverse effects of some spices (such as chilli and peppers) if consumed in large
quantities, although this is unlikely to be a significant risk at normal levels of use. Thus
the apparent increasing consumption of culinary herbs and spices is certainly a welcome
trend that is worthy of closer monitoring, and in the future consideration should be given
to inclusion of more explicit recommendations about their place in a healthy diet.
Table 1. Major supermarket sales of fresh herbs and spices in Australia 2003

<table>
<thead>
<tr>
<th>Herb</th>
<th>Kilograms</th>
<th>Retail sales ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garlic</td>
<td>1,767,000</td>
<td>7,941,100</td>
</tr>
<tr>
<td>Ginger</td>
<td>592,900</td>
<td>7,259,900</td>
</tr>
<tr>
<td>Chilli</td>
<td>425,000</td>
<td>3,755,300</td>
</tr>
<tr>
<td>Basil</td>
<td>74,200</td>
<td>7,373,200</td>
</tr>
<tr>
<td>Coriander</td>
<td>73,900</td>
<td>8,860,600</td>
</tr>
<tr>
<td>Parsley</td>
<td>30,500</td>
<td>8,415,000</td>
</tr>
<tr>
<td>Mint</td>
<td>18,800</td>
<td>2,151,500</td>
</tr>
<tr>
<td>Chives</td>
<td>18,400</td>
<td>2,225,500</td>
</tr>
<tr>
<td>Lemon grass</td>
<td>17,400</td>
<td>950,300</td>
</tr>
<tr>
<td>Rosemary</td>
<td>15,200</td>
<td>1,169,700</td>
</tr>
<tr>
<td>Oregano</td>
<td>9,700</td>
<td>594,700</td>
</tr>
<tr>
<td>Dill</td>
<td>6,100</td>
<td>1,074,900</td>
</tr>
<tr>
<td>Thyme</td>
<td>3,600</td>
<td>693,300</td>
</tr>
<tr>
<td>Other</td>
<td>845,800</td>
<td>9,104,000</td>
</tr>
</tbody>
</table>
References

15. US Department of Agriculture (USDA) and Department of Health and Human Services(HHS), Dietary Guidelines for Americans 2005. Available at: www.healthierus.gov/dietaryguidelines.