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Health benefits of herbs and spices:  
Public Health

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# **Consumer trends and public health guidelines for culinary herbs and spices**

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## **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<sup>1</sup> 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 1.4grams per adult (declining with age from 4.2g in 19-24year olds, to 0.7g in those 65years and older), with only 3.1 percent of persons reported consuming this category of food items on the day of survey<sup>2</sup>. 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<sup>3</sup>.

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)<sup>4</sup>. However, increased use of herbs and spices as flavourings in foods is a major trend worldwide<sup>5</sup> with sales growth of 20-30% over the past five years in both the UK and the US<sup>6</sup>. 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<sup>7</sup>.

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<sup>8</sup>. 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<sup>9-11</sup>, 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<sup>12</sup> 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<sup>13</sup>. 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, tumeric, coriander, rosemary/thyme)<sup>14</sup>. 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<sup>12</sup>. 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<sup>13</sup>.

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<sup>15</sup> 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*”<sup>16</sup>. 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<sup>17</sup>.

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<sup>18</sup>. 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<sup>10</sup>, 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<sup>8</sup>**

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

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