

SYNOPSIS

The food intake pattern, lifestyle and health status of a representative sample of 189 (M 94, F 95) Greek Melbournians and 104 (M 51, F 53) Spata Greeks aged 70 and over were studied. The Melbourne sample was compared to the Spata sample and to data on Anglo-Celtic Australians (National Health Survey, ABS 1989-90; Wahlqvist et al., in press; Horwath, 1987; Baghurst et al., 1987) to explore changes to these variables on migration. The effect of food and nutrients on later life status was also examined.

The subjects were randomly selected from the electoral rolls (Spata sample) and telephone directory (Melbourne sample). The response rate was high for both Spata (89%) and Melbourne (84%). However, the women aged 70-79 were slightly undersampled in Melbourne when compared to the wider Greek community aged 70+. Validation of the food frequency questionnaire also indicated that Greek women (especially if obese) tended to under-report food intake. Less than 50% of subjects agreed to have their blood tested, and therefore, biological measurements may not be representative of the wider elderly Greek community. These points need to be taken into account when interpreting the data.

OTHER PRINCIPAL FINDINGS WERE:

A. HEALTH, WELL-BEING & DISABILITY

1. *The Greek **men** in Melbourne and Spata had similarly good levels of **health and well-being**, with low reported rates of most diseases (especially heart disease and cancer), low levels of **disability and use of medications**. However, Spata men aged 70-79 appeared 'fitter' than Melbourne men due to more favourable biological measurements (lipids, skin ageing and body weight). Elderly Anglo-Celtic Australian men had better reported sense of well-being, similar levels of disability, heart disease and cancer, but poorer self-rated health.*
2. *Greek **women** were not as healthy as the Greek men, especially in Melbourne. They had more **health complaints**, poorer self-rated health, a greater degree of **disability** and lower sense of **well-being**. Melbourne women (especially aged 80+), did not appear as healthy as Spata women due to their higher rates of heart disease, arthritis, cancer, disability and use of medication. Nevertheless, they still reported a better sense of well-being and self-rated health than Spata women. Elderly Anglo-Celtic women had better reported sense of well-being, markedly less disability, equivalent levels of self-rated health and prevalence of diseases compared with Melbourne Greek women; diabetes prevalence was lower in Anglo-Celtics.*

B. LIFESTYLE

3. The level of **social activity** was low in both Spata and Melbourne. The men however, were more socially active than the women and the older subjects were less active than the younger subjects. Melbourne women were more socially active than Spata women. Elderly Anglo-Celtic Australians (especially women) were more socially active than the Melbourne Greeks
4. The level of **social networking or support** was high in both Spata and Melbourne. However, Melbourne elderly had a better social support system than Spata elderly. Elderly Anglo-Celtic Australians had a poorer social support system than Melbourne Greeks.
5. About 20% of the Greek men were currently **smoking** (at least 10 cigarettes daily) and 50% had stopped smoking; Greek women had never smoked. Elderly Anglo-Celtic Australian men have been reported to have a lower prevalence of smoking and the women a higher prevalence than elderly Greeks. A greater proportion of Spata elderly had a **siesta** daily compared with Melbourne Greeks and Anglo-Celtic elderly. **Exercise** levels were markedly higher in men compared with the women. Spata men (mainly aged 70-79) had the highest exercise level (due to farming activities), followed closely by Melbourne men (vegetable gardening). Melbourne women aged 70-79 reported a higher exercise level (mainly walking) than Spata women. Anglo-Celtic elderly have been reported to have markedly higher exercise levels (equivalent to Spata men) than Melbourne Greeks.

C. FOOD PATTERNS & FOOD BELIEFS

6. More than 90% of the elderly in Spata and Melbourne reported consuming a **cooked meal daily**. However, in Spata, the cooked meal was consumed for lunch and in Melbourne for dinner. **Religious fasts** involving the exclusion of animal foods, were more commonly practiced in Spata and by women aged 80+.
7. About 70% of elderly reported having access to **home grown produce**. A significantly greater proportion of Melbourne elderly (40%) reported relying solely on their backyard for most of their vegetable intake compared with Spata elderly (4%).
8. The **food and health beliefs** reported most frequently included the following: **'good' for health:** legumes, vegetables, yoghurt, religious fasts, moderate wine intake, small servings of food, food variety, wet/casseroled food, fish, bread, olive oil, herb teas, exercise, social activity, social support, laughter, sexual activity, napping, waking up early; **'bad' for health:** meat, smoking, late nights, stress, obesity, sweets, sugar, coffee, margarine, butter.

D. TRADITIONAL FOODS, MIGRATION AND DISTANT PAST FOOD INTAKE

9. The **traditional Mediterranean diet** (i.e circa 1960s) was reconstructed from the accounts given by elderly Greeks to comprise:
- a) plentiful fruits, vegetables, legumes (twice a week), bread (about 8 slices daily), pasta/rice (once a week) and nuts (weekly);
 - b) red meat (lamb) once a month and white meat (chicken) once a week;
 - c) fish once or twice a week;
 - d) white cheese (daily), milk (rarely), yoghurt and eggs a few times a week;
 - e) sweets on special occasions;
 - f) wine 2-4 glasses daily;
 - g) olive oil as principal fat, 2-4 tablespoons daily, butter rarely and
 - h) Greek coffee 1-2 cups daily (rarely instant coffee) & herb tea (rarely other tea)
10. Current consumption of '**traditional foods**' was low in both Spata and Melbourne due to the replacement of 'vegetarian style' dishes and bread with non-traditional meat dishes. Spata elderly consumed a greater variety of traditional foods than Melbourne elderly.
11. **Differences** in **absolute intake** of food items between Spata and Melbourne can be summarised as follows - Melbourne elderly had:

a lower intake of

fish, goat, pasta,
bread, feta cheese,
potatoes, cabbage,
egg plant, artichokes,
figs, stone fruit,
okra, wild greens,
water, wine, pickles,
olive oil, herb tea,
Greek coffee,
mixed vegetable dishes

a greater intake of

beef, chicken, milk,
breakfast cereals,
yellow cheese, lettuce,
cauliflower, broccoli,
carrot, capsicum, garlic,
onions, green beans,
spinach, silverbeet,
pumpkin, olives*,
legumes* (lentils, haricot),
vegetable & rice dishes*,
pies* (spinach/cheese/pasta),
bananas, tropical fruit,
apples, citrus fruit,
sugar products, beer,
fruit juice, icecream,
instant coffee, tea,
margarine, poly. oils

the same intake of

lamb, rabbit, yoghurt,
egg*, rice, chicory,
watermelon*, cantaloupe*,
cucumber*, tomatoes*,
zucchini*, grapes*

* The above are consistent with self-reported qualitative assessments of post migratory changes in diet, except foods marked with an '*' which were reported to have decreased on migration when compared with intake prior to the 2nd World War or premigration years.

E. FOOD GROUP INTAKE & FOOD VARIETY

12. Compared with Spata Greeks, Melbourne Greeks had:

a lower intake of
cereals,
fats/oils,
water, herb tea

a greater intake of
meat, milk, legumes,
vegetables, fruit juice,
tea, coffee

the same intake of
fish, cheese, yoghurt,
egg, fruit, alcohol

Absolute intake of plant and animal foods was higher in Melbourne. However, the plant to animal food ratio was more favourable in Spata (mainly men).

13. Compared with elderly Anglo-Celtic Australians, Melbourne Greeks:

had a lower intake of
eggs, carrots,
pumpkin, turnips,
brussel sprouts, nuts,
stone & tropical fruit,
breakfast cereals,
cakes, alcohol (beer)

had a greater intake of
fish, yoghurt, cheese,
vegetables, capsicum,
leafy greens, spinach,
tomato, onions/leeks,
okra, artichokes,
eggplant, green beans,
legumes, pasta, bread,
rice, fruit, figs,
citrus fruit, grapes,
watermelon, canataloupe,
olive oil, wine, water

had the same intake of
potato, broccoli,
cabbage, cauliflower

were approaching high intake
meat, milk,
sugar products,
instant coffee, tea

14. According to the **dietary guidelines**, Spata elderly were more likely to be consuming inadequate quantities of vegetables, milk & milk products. Elderly in both Spata and Melbourne were consuming adequate amounts of meat & meat alternatives, but inadequate quantities of fruit and cereals. Women were more likely to be consuming inadequate amounts of cereals and vegetables compared with the men.

15. **Total food variety** over a month was low in both centres compared with Anglo-Celtic Australians. Melbourne Greeks consumed a greater variety of foods (especially plant foods) compared with Spata elderly. A greater total food variety was associated with a greater intake of nutrients (especially vitamin C, carotene, retinol, fibre and potassium), and a greater intake of vegetables, fruit, legumes, fish, but less meat and cereals.

F. NUTRIENT INTAKE

16. Compared with Spata elderly, Melbourne elderly had:

a lower intake of
total carbohydrates,
complex carbohydrate

a greater intake of
simple carbohydrates,
fibre, protein,
polyunsaturated fat,
cholesterol, zinc,
potassium, phosphorus,
magnesium, carotene,
thiamin, niacin,
riboflavin, vitamin C

the same intake of
energy, total fat,
saturated & monounsaturated,
alcohol
sodium, calcium, iron
retinol

17. In terms of **dietary guidelines**, the diets of elderly Greeks were excessive in total fat and protein and inadequate in complex carbohydrates. The Melbourne Greeks had diets of higher vitamin and mineral density than Spata elderly. The diets of elderly Greeks in both centres did not meet the recommended nutrient

densities for thiamin & riboflavin (especially Spata), vitamin A (except Melbourne women), calcium, magnesium & zinc (especially Spata).

G. ANTHROPOMETRY & BIOLOGICAL MEASURES

18. A high proportion of elderly Greeks were **obese** (>30%) compared with elderly Anglo-Celtic Australians (<15%); women were more obese than the men and obesity was more prevalent in Melbourne Greeks (especially women) than Spata Greeks. Most study subjects had centrally distributed fat and women (especially in Melbourne) were more **abdominally obese** than the men. Spata men and Melbourne women aged 80+ appeared to be at risk of **protein energy malnutrition**.
19. Compared to Spata elderly, **total lymphocyte counts & % lymphocytes** were lower in Melbourne Greeks (mainly men), approaching the lower levels found in elderly Anglo-Celtic Australians. Iron status was good in most study subjects and **high storage iron** levels were more prevalent in Melbourne Greeks (especially men) than Spata Greeks, approaching the high levels found in elderly Anglo-Celtic Australians. **Folate status** was good in all study subjects; a high risk of deficiency for **vitamin B12** was found in about 8% of subjects; the **lipid profile** (serum cholesterol, triglycerides, LDL/HDL) of elderly Greeks was not as favourable as expected (except Spata men aged 70-79), but similar to that of elderly Anglo-Celtic Australians. Oxidised cholesterol was not measured.

H. FOOD AND NUTRIENT PREDICTORS OF LATER LIFE STATUS

20. A high absolute intake and variety of **legumes, vegetables and fruit and a low intake of meat (Spata only)**, were associated with better later life status (a composite score encompassing health, medications, memory, activities of daily living, social activity, social networks, exercise) in elderly Greeks. **A high intake and variety of fish were also associated with better later life status in Spata men only.** The high vegetable and fruit intake should probably include a variety of vegetables (especially tomatoes and onions) and fruits (especially grapes, watermelon and cantaloupe) in order to be of benefit in later life. Eating a variety of 'traditional' foods alone was not associated with better later life status.