

**Nutritional status of the adult Victorian cystic fibrosis population**

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Dietary recommendations for cystic fibrosis (CF) patients have changed considerably over the past 10-15 years. Fat intake is no longer restricted and energy intake is recommended to be 120% of the Recommended Daily Intake (RDI) for normal healthy Australians [1]. The nutritional status of adult CF patients at the Alfred Hospital was assessed prior to the changes in nutritional management. The aims of the present study were to determine if the altered nutritional management has resulted in an improvement in the nutritional status of the adult CF population since the previous study (15 years ago), and to assess whether dietary recommendations are being adhered to.

A random sample of 36 adult CF patients (21 males, 15 females) was selected from the Alfred Hospital CF Unit database. Subjects' height and weight were measured, and a seven-day food diary was completed to ascertain dietary intake. The table shows the data that has been collected to date compared with the results of the previous study.

|                 | Males <sup>1</sup> |              | P-value <sup>2</sup> | Females <sup>1</sup> |             | P-value <sup>2</sup> |
|-----------------|--------------------|--------------|----------------------|----------------------|-------------|----------------------|
|                 | Present (n=21)     | Past (n=25)  |                      | Present (n=15)       | Past (n=19) |                      |
| Age (years)     | 28.5 (5.9)         | 26.3 (8.7)   | 0.344                | 27.5 (6.5)           | 24.6 (3.3)  | 0.137                |
| Weight (kg)     | 66.6 (11.1)        | 55.8 (11.4)  | 0.0023               | 58.5 (8.1)           | 46.7 (9.2)  | 0.0006               |
| Height (cm)     | 174.7 (6.7)        | 168.2 (8.3)  | 0.006                | 161.8 (7.6)          | 157.3 (6.6) | 0.078                |
| BMI             | 21.8 (2.8)         | 19.3 (3.0)   | 0.006                | 22.3 (2.6)           | 18.6 (3.1)  | 0.001                |
| Energy (kJ)     | 11860 (2250)       | 10873 (4182) | 0.498                | 10500 (3443)         | 8194 (1626) | 0.039                |
| Fat (g)         | 113 (25)           | 92 (41)      | 0.149                | 89 (45)              | 70 (18)     | 0.156                |
| Protein (g)     | 116 (23)           | 122 (60)     | 0.751                | 96 (28)              | 81 (24)     | 0.184                |
| Carbohydrate(g) | 323 (66)           | 348 (121)    | 0.559                | 325 (112)            | 253 (70)    | 0.071                |

<sup>1</sup>mean (standard deviation)

<sup>2</sup>P-value as determined by unpaired T-test

Analysis of preliminary data revealed that weight, height and BMI of both males and females in the current study were significantly taller compared with the results of 15 years ago. Despite the improvement in nutritional status, the energy intake of females was the only significant dietary change compared with the previous study. However, both males and females had energy intakes that met the recommended 120% of RDI calculated to be 11.5 MJ and 10.8 MJ for males and females respectively (using the Schofield equation, mean body weight and activity level of 1.4). Percentage energy obtained from fat was 35.25 and 31.4% for males and females respectively. Hence males met the recommendations of 35-40% energy from fat [1] whereas females failed to do so. These findings suggest that the nutritional status of adult CF patients has improved and that energy recommendations are being met. However in females the percentage energy from fat was below current recommendations, indicating that other components of the diet are responsible for the improvement in energy intake.

1. Hodson ME and Geddes DM, Cystic Fibrosis. 1 ed. London: Chapman & Hall, 1995:384-5.