Dietary intake assessments by FSANZ: validation of National Nutrition Survey data

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Background

FSANZ undertakes dietary intake assessments for nutrients as part of food standards development. Data on foods people have consumed is collected with short patterns of levels of nutrients in individual foods. The most recent food consumption data for individuals are from the 1995 National Nutrition Survey (NNS) for Australia and the 1995 NNS and the 1996 Single Source Survey (NSS) for New Zealand. This data is used in the development of food standards and to determine whether nutrient intakes are likely to meet or exceed tolerable upper intake levels. The ability to reflect potential changes in consumption patterns since 1995/97 is limited. To address the limitation, FSANZ developed NNS data, where required, using more recent information on food consumption. The validation of NNS data for assessing Trans fatty acids (TFA) intake in a recent FSANZ risk assessment has been used as an example (Food Standards Australia New Zealand, 2003).

Objectives

To determine whether food consumption patterns have changed markedly since the NNS data were collected and, therefore, whether predicted TFA intake determined in a recent risk assessment based on the NNS data were valid.

Design

Data on food consumption obtained from the 1995/97 NNS were compared with more recent Single Source (SS) data as a means of examining changes in food consumption. The main limitations of the NNS data were their age (i.e. more than 10 years old) and inability to reflect potential changes in consumption patterns since 1995/97. To address these limitations, FSANZ used NHIS data, when required, using more recent information on food consumption. The validation of the NNS data for assessing TFA intake in a recent FSANZ risk assessment has been used as an example (Food Standards Australia New Zealand, 2003).

Comparing data from different surveys

The comparison of data from different surveys is to be undertaken with care due to the different methodologies used. Different types of data were available from the 1995 NNS and Single Source Survey on the proportions of the Australian and New Zealand populations consuming different types of foods. These data are outlined in Table 1. Comparing food consumption data surveys available for Australia and New Zealand

| Data Type       | Design                                      | Australia 1995 | New Zealand 1995 | Single Source 1996 | 2006 current
|-----------------|---------------------------------------------|----------------|-------------------|-------------------|----------------
| Daily Consumption | <1 day consumption by participants who consumed item |✓ |✓ |✓ |
| Frequency of use of a food | Usual frequency of use of a food |✓ |✓ |X |
| Usual frequency of use of a food | Usual frequency of use of a food |✓ |✓ |X |
| Usual frequency of use of a food | Usual frequency of use of a food |✓ |✓ |X |
| Usual frequency of use of a food | Usual frequency of use of a food |✓ |✓ |X |

Other food consumption surveys were not available and this analysis assessed milk, fats and oils, breads, spreads, cheese, yoghurt and potato chips consumption patterns.

Results

Milk

Figure 2: Proportion of the Australian population aged 14 years and above consuming milk 1995 and 2006

Conclusion

The trend towards a lower proportion of the population consuming full milk and increased proportion consuming low or no fat milk may result in a lower TFA intake from natural sources that predates using 1995 data.

Fat spreads

The proportion of the New Zealand population aged 16 years and above consuming milk, fat and oils has remained fairly stable (decrease of 10%) since 1997.

Cheese

The proportion of the New Zealand population aged 15-16 years and above consuming cheese has remained fairly stable (decrease of 12%) since 1997.

Yoghurt

The proportion of the Australian population aged 19-20 years and above consuming yoghurt has increased slightly approximately 37% since 1996.

Conclusion

The use of 1995 yoghurt consumption data may underestimate current consumption however any changes in yoghurt consumption patterns is likely to result in only small changes to the estimated TFA intake since yoghurt is only a minor contributor to TFA intake.

Savoury snacks

The use of 1995 savoury snack consumption data may underestimate current consumption but any changes in savoury snack consumption patterns is likely to result in only small changes to the estimated TFA intake since savoury snacks only a minor contributor to TFA intake.

Conclusions

The accuracy of the NNS data in assessing Trans fatty acid intake is dependent on the method used to derive the data. The accuracy of the NNS data is dependent on the method used to derive the data. The higher proportion of the population consuming cheese was due to cheese being an occasionally consumed food, and therefore more likely to be reported as consumed in a survey of longer duration. In determining the proportion of a population who consume certain foods, the proportion of consumers is less likely to be influenced by the duration of the survey.

Conclusions

The proportion of the New Zealand population aged 15-16 years and above consuming fat spreads has remained fairly stable (decrease of 10%) since 1997.

Notes:

1. 1995 data: % who consumed in last 7 days (24-hr recall). "All milk" includes full, low and no fat plain and flavoured milk.
2. 2006 data: % who consumed in last 7 days (Single Source). Data from Jan-Jun. "Fat spreads" includes butter and margarine.
3. The proportion of the New Zealand population aged 16 years and above consuming cheese was due to cheese being an occasionally consumed food, and therefore more likely to be reported as consumed in a survey of longer duration. In determining the proportion of a population who consume certain foods, the proportion of consumers is less likely to be influenced by the duration of the survey.

Conclusion

The proportion of the Australian population aged 15-16 years and above consuming cheese has increased by approximately 20% and the proportion consuming low/no fat milk has increased by approximately 30%.

Conclusions

The proportion of the Australian population aged 15-16 years and above consuming chocolate has increased by approximately 30%.

References