Dietary Intake and Nutrition Knowledge of Physically Active Adolescents

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ABSTRACT

Additional nutrient demands are encountered during adolescence, the major period of growth during the human life cycle. In order that these demands are met and healthy eating habits established to lead into adulthood, it is vital to be able to accurately assess current dietary intake and nutrition knowledge levels of this population. There are very few studies that have assessed the dietary intake and level of nutrition knowledge of active adolescents.

The aim of this study was to assess the nutrition knowledge level, and dietary intake, of the subjects. A new nutrition knowledge questionnaire was developed and validated for this purpose. Dietary intake data was collected and compared to current dietary recommendations. This data was then used to investigate any link between nutrition knowledge level and dietary behaviour in the active adolescent subjects.

One hundred and twenty-four adolescents of ages 14-18 years were recruited for the study from schools and competitive sporting teams in the Auckland region. Participants completed the nutrition knowledge questionnaire and were requested to complete a three-day food diary (two weekdays, one weekend day) . Physical activity was recorded qualitatively by the subjects for the week in which dietary intake was measured. Body composition was assessed by calibrated digital scales and height measurement.

The nutrition knowledge of the active adolescents of this study was found to be poor, with a mean score of 55% achieved by the group. The interest of these subjects in sport was illustrated with a slightly higher nutrition knowledge score on the sport nutrition section of the questionnaire than the general nutrition section, 57% v 54%, $p<0.05$. The nutrition knowledge level of females was found to be significantly higher than males, 58% v 53%, $p<0.05$.

Forty-six of the subjects returned completed food diaries (respondant rate 37%). It was found that subjects underreported energy intake between 11-14%. The reported dietary intakes of macronutrients of the group met New Zealand and United States dietary recommendations. However, the reported

intakes of several micronutrients were found to be below these recommendations.

In the comparison of nutrition knowledge level and dietary intake of the subjects, no link was found between knowledge level and dietary behaviour.

The low level of nutrition knowledge of these subjects is consistent with previous studies of nutrition knowledge in adolescents. It highlights the need for further nutrition education during the adolescent period, especially for adolescents who are physically active . The underreported energy intake reflects previous study findings with the difference speculated to be primarily due to the inaccurate reporting of intake typified by this adolescent age group. The dietary intake of these adolescents met the majority of dietary intake recommendations, which may reflect the high socio-economic status and high interest in sport of the subjects. These may also be a factor in the lack of correlation between nutrition knowledge level and dietary behaviour found in this study.

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1 INTRODUCTION

Nutrition plays a particularly important role during the period of adolescence. There are high nutrient requirements created by the combined demands of growth, development, tissue maintenance, and physical activity. The World Health Organization defines adolescence as the interval from 10 to 19 years of age. (WHO 1995)

As well as affecting current health status, nutritional intake during adolescence is a determinant of long-term health. Lifelong eating behaviours can be developed during this period, as we could expect that most adolescents will have acquired sufficient knowledge for dietary decision-making by the end of their secondary schooling. For young people involved in competitive sports, the benefits of a nutritionally adequate diet supporting performance and health are widely recognized. This is particularly important now because participation in competitions is occurring at progressively younger ages.

A higher level of nutrition knowledge has been linked with healthier diets in some previous studies of adolescents. If physically active adolescents possess low levels of nutrition knowledge it could become a barrier to maintaining a dietary intake that is sufficient to support both growth and optimal exercise performance. (Cupisti 2002) There have been no previous studies in New Zealand which have assessed the nutrition knowledge level of active adolescents, and determined if there is any link between this knowledge level and dietary intake behaviour.