Dietary behavior among young people in southern Sri Lanka: implications for sustainable diet

Abstract

Chronic diseases have become a major threat to health of young people, and poor dietary habits are found to be one of the major modifiable risk factors of such chronic diseases. A cross sectional survey was conducted in a sample of 386 young people aged between 16-24 years, in Southern Sri Lanka, using an interviewer-administered questionnaire to describe their dietary habits according to gender, ethnicity and family income. Of the total, 198 (51.3%) were women and the mean age was 20.64 years (SD±2.18). Of the total, 78.8% were Sinhalese, 5.2% were Tamils and 16% were Muslims. Thirty three percent (33%) of men and 22.7% of women reported eating fast foods at least three days per week (χ²=5.058, p<0.025), nine percent (9%) of men and 4% of women reported consuming canned food at least three days per week (χ²=3.984, p=0.046), and thirty (30%) percent of men and 17.7% of women reported consuming snacks at least three days per week (χ²=7.85, p=0.005). Overall, fruit and vegetable consumption rates were similar in the two groups; about 70% of participants reported consuming fruits and vegetables at least three days per week. Age and family income seem to be positively related to healthy dietary habits.

Although, Tamils seem to consume more vegetables and Muslims seem to consume more fruits, no significant ethnic differences of vegetable and fruit intake were found. Of the total, 56.4% of men and 76.3% of women reported that they would pay a considerable attention to the nutrient content of the food when choosing a food item to eat (p<0.05). Thus, in this agricultural society, young men are more likely than young women to have unhealthy dietary habits. Gender specific public health dietary interventions that have taken into consideration the vital determinants of sustainable diet such as food choice, body image and affordability are needed to enhance health and economic prosperity of young people in Southern Sri Lanka.

Keywords: dietary behavior, young people, gender, sustainable diet

Introduction

What people eat is known to be one of the key factors that influence their health.1 Dietary habits contribute to an overall health and well-being of young people, especially for their growth and cognitive development. Studies have shown that risk factors of chronic disease conditions such as overweight, obesity and high levels of serum cholesterol start in early youth.1,2 Thus, if young people eat healthy foods they can avoid developing chronic diseases as they age.3 Dietary habits of young people is found to be a multidimensional public health issue that encompasses socio-cultural beliefs about foods, affordability and availability of healthy foods, body image and eating disorders.4,5 Even though the relationship between diet and health is clear, and many countries have introduced and implemented health promotion campaigns for healthier eating, most young peoples’ dietary habits are poor.4,5 Diet and food preferences of young people are largely determined by social, economic, environmental and cultural factors than by their concern for health.3,5

Although traditional Sri Lankan diet contains plenty of vegetables and rise, dietary behaviors1 of Sri Lankan’s have been changed drastically during the last few decades as a result of socio-cultural, epidemiological, demographic and economical transitions occurred in the country during that period.4,6 Studies have shown that gender influences young peoples’ eating habits and their beliefs about food.1,4 Young women are more likely than men to diet and maintain an adequate weight for height.7 A study conducted on sex differences in eating habits on a sample of university undergraduates in USA found that women have a higher tendency than men to have low fat (19.3% versus 7.6%, p<.05) and vegetarian diets (4.4% versus 0%, p<.05).8 Another study conducted in the USA indicated that a higher percentage of men than women reporting eating at fast food restaurants.9 A study conducted in Japan showed a gender difference of irregular breakfast consumption in high school children,10 and in this study the investigators have observed that students who had knowledge of regional agricultural and livestock products were more likely to consume breakfast regularly.

Promotion of sustainable diet, a diet that is nutritionally adequate, economically affordable and having low environmental impact, has gained health professionals’ attention in the recent years as a holistic public health nutrition strategy that would assist to overcome diet related health and environmental adverse consequences in future generations.11,12 Thus, in addition to health and well-being dimension of dietary behavior of young people, recent research in public health nutrition have highlighted the need of understanding eco-friendly, culture sensitive and sustainable diets in young people.13,14 It was found that social and gender inequalities, and economic hardships experienced by young people in middle and low-income countries would make them vulnerable to poor dietary habits and food insecurity.1,12,16 There is a severe shortage of scientifically sound information on dietary habits and the determinants of sustainable diets in young people in Sri Lanka. Scientific data on dietary habits and related epidemiological, socio-cultural and environmental factors are imperative to develop and successfully implement public health strategies to promote healthy and sustainable dietary behaviors in...
young people. This study aimed at examining how gender, income and ethnicity are related to dietary behavior in a sample of young people in Southern Sri Lanka.

**Methodology**

The target population of the study was young people in Southern Sri Lanka. A cross sectional study was conducted in Southern Sri Lanka using a sample of 386 participants aged between 16 to 24 years. Two stage cluster sampling was used to select participants. Interviewer administered questionnaire was used as the data collection instrument. Content validity of the questionnaire was evaluated by a panel of public health experts. Responses given by the participants to 6 questions on food habits and 2 questions on respondents' beliefs and concerns regarding nutritious food were analyzed. Questions were measured in a 5 point likert scale. For example, for the question “For how many days during the past 7 days have you had consumed vegetables?”, the response categories were “never”, “one or two days”, “three or four days”, “five or six days”, and “almost every day”. Descriptive statistics and bivariate analysis were performed using SPSS version 15. Chi square test was used and significant level was considered as 5%. Ethical approval for the study was obtained from the Ethical Review Committee at the Faculty of Medicine, University of Ruhuna, and Galle.

**Results and discussion**

Among the participants 198 (51.3%) were women. Mean age of the participants was 20.64 (SD±2.18). Participants represented all major ethnic groups (i.e. Sinhala, Tamil and Muslim) in the country and the majority (78.5%) was Sinhalese. Thirty three percent (33.0%) of men and 22.7% of women reported eating fast foods at least three days per week (χ²=5.058, p=0.025). Nine percent (9%) of men and 4% of women reported consuming canned food at least three days per week (χ²=3.984, p=0.046). Thirty percent (30%) of men and 17.7% of women reported consuming snacks at least three days per week (χ²=7.85, p=0.005). Although a higher percentage of young men (52.1%) compared to young women (46.5%) reported consuming sweets at least three days per week, no significant difference was found. A higher percentage of women compared to men reported consuming vegetables (77.3% versus 68.6%) and fruits (71.2% versus 66.5%) at least three days per week, but no significant differences were found. Further analysis of consumption rates of vegetables however, indicated that a slightly higher percentage of men compared to women reported consuming vegetables (38.1% versus 37.2%, p=0.85) at least five days per week. Further, the proportion of women who reported consuming fruits at least 5 days per week was higher than that of men (38.7% versus 30.7%, p=0.090).

About 36.9% Sinhalese (n=306), 45.0% of Tamil (n=20) and 38.7% of Muslims (n=62) reported that they would consume vegetables 5 or more days per week. Also 33.0% of Sinhalese 25.0% of Tamils and 46.8% of Muslims reported that they would consume fruits 5 or more days per week. Although a higher percentage of Tamils seems to have higher rates of vegetable intake and a higher percentage of Muslims seems to have higher rates of fruit intake, no significant ethnic differences of vegetable and fruit intake were found. It is observed that in young men consumption rates of vegetables and fruits increase with increasing age during their teenage years, but after that such rates seems to be remain somewhat constant (Table 1). In women, during their teenage years vegetable consumption seems to be increasing with increasing age but after the age of 20 such rates seems to be lower than that was observed in their teenage years. Women’s fruit consumption rates in their 20’s seem to be lower than that of rates observed during their teenage years.

**Table 1** Percentage of the participants who consume vegetable and fruits 5 or more days per week by gender

| Gender | Consume vegetables 5 or more days per week | Consume fruits 5 or more days per week |
|--------|--------------------------------------------|----------------------------------------|
| Men    |                                            |                                        |
| 17 years (n=9) | 11.80% | 11.10% |
| 18 years (n=35) | 34.30% | 31.40% |
| 19 years (n=25) | 36.00% | 28.00% |
| ≥ 20 Years (n=120) | 41.70% | 34.20% |
| Women  |                                            |                                        |
| 17 years (n=7) | 28.60% | 47.10% |
| 18 years (n=37) | 29.70% | 40.50% |
| 19 years (n=23) | 47.80% | 52.20% |
| ≥ 20 Years (n=132) | 37.90% | 34.80% |

Overall, food consumption patterns and frequency seem to differ between young men and women. Men were more likely than women to consume unhealthy foods such as fast foods and snacks. Twenty eight percent (28%) of young men and 40% of young women said that they were concerned about the quality and content of the foods that they consume (χ²=9.314, p=0.009). When choosing a food item to eat, 20% of men and 11% of women reported that their main concern is the taste of the food while 16.5% of men and 16.2% of women reported that the nutrient content of the food is their main concern. About 40% of young men and 60% of young women said that they consider both the taste and the nutrient content of the food that they choose to eat (χ²=8.56, p=0.008). About 23% of men and 12% of women reported that they do not consider any special factors as important when choosing a food item to eat (χ²=9.314, p=0.009). Thus, it seems that young women were more likely to consider healthfulness of their diet compared to young men.

In both young men and women, those in higher income brackets seem to consume vegetable and fruits more frequently than young people in lower income brackets (Figure 1). Frequency of fruit consumption is considerably low in young men, and economic hardships seem to aggravate this poor dietary behavior in them.

**Figure 1** Percentage (and 95% CI) of subjects who consume vegetables and fruits 5 or more days per week by income category and gender.
Discussion

Healthy dietary habits of children and young people are essential to achieve better health outcomes and economic stability in their later life. Culture-sensitive, affordable, eco-friendly and diversified food items should be available for young people to consume which in turn would assist the country to have healthy populations. The present study indicated that a significant proportion of both young men and women in Southern Sri Lanka are having unhealthy dietary behaviors. Further, as seen in similar studies conducted in other countries, gender difference of dietary behavior is observed in our sample. Young men seem to be more vulnerable than young women to experience poor dietary behaviors because young men reported consuming vegetables and fruits less frequently and fast foods and snacks more frequently than young women. Findings of a study conducted by De Silva et al. in Sri Lanka indicated that women tend to consume more cereals, fruits and vegetables compared to men, and men tend to consume more sweets than women, supporting our assertions with regard to gender differences in dietary behavior.

Unhealthy dietary habits lead young people to become obese and subsequently obesity would put them at risk of developing depression, suicidal ideation and chronic physical illnesses. A study conducted using a sample of 1102 school children aged 8-12 years of age in Sri Lanka revealed that nearly 80% of the participants had attended after school tuition classes and their fruit consumption was poor. Availability of fast foods and the students’ busy life style may bar them from paying adequate attention to eat healthy foods. Our results indicate that this tendency of consumption of fast and unhealthy foods may get somewhat lessened after the age of 20 years; a low percentage of adolescents aged between 17-18 years compared to those aged on or above 20 years tend to consume vegetables and fruits more frequently. As suggested by the results of another qualitative study conducted on dietary habits of school children in Sri Lanka, lack of awareness of the benefits of healthy eating habits may motivate them to choose foods based on the taste and hunger. Our observation that young women tend to have consumed more vegetables and fruits than young men is probably due to young women’s concern about their body image because young women prefer to have a lean figure but further research is needed to confirm our claim.

Our results indicate that young people in low income brackets tend to consume vegetables and fruits less frequently than those in higher income brackets. Deficiencies in local production of traditional nutritious vegetable and fruits, and high prices of imported fruits may have contributed to this tendency. In a recent study conducted in Sri Lanka, inadequate toilet facilities have been identified as a barrier for consumption of another qualitative study conducted on dietary habits of school children in Sri Lanka, lack of awareness of the benefits of healthy eating habits may motivate them to choose foods based on the taste and hunger. Our observation that young women tend to have consumed more vegetables and fruits than young men is probably due to young women’s concern about their body image because young women prefer to have a lean figure but further research is needed to confirm our claim.

Conclusion

Although the cross-sectional survey design that we used in this study and the short questionnaire used to assess nutritional behavior may limit the generalization of our results, our findings would nevertheless assist health and education authorities and nutritional policy makers to consider developing and implementing gender specific health and nutrition programs to promote healthy dietary habits in young people. The food-based dietary guidelines of the Ministry of Health in Sri Lanka propose that people need to diversify their daily diet in order to increase their intake of macro- and micro-nutrients for a healthy life. In this endeavor, longitudinal studies on dietary behavior of young people are needed to guide sustainable and culture sensitive nutritional interventions in the country.

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Conflict of interest

The author declares no conflict of interest.

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Dietary behavior among young people in southern Sri Lanka: implications for sustainable diet

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