ABSTRACT

A nutrition survey of adults of one rural and one urban community in Trinidad.

Meredith Murray

Background: The prevalence of and mortality rates from chronic diseases are increasing in the Caribbean, including Trinidad and Tobago. There are insufficient data on the important modifiable risk factors including dietary intake and obesity. It is therefore important to find out the present situation in Trinidad and Tobago. This is needed to inform the development of policies and programmes.

Objective: To determine the dietary patterns and nutritional status of adults 18-64 years in one rural and one urban community in Trinidad.

Design and Method: A cross sectional survey was conducted in North Manazanilla/Oropouche (rural) and Barataria (urban), Trinidad. Using a sampling frame provided by the Central Statistics Office, systematic random procedures were used to select adults aged 18-64 years old. Demographic data were collected. Anthropometric measurements of height, weight, waist and hip circumference were taken to determine nutritional status. A 24-hour dietary recall was used to measure nutrient intakes. Self reporting was conducted to measure supplement intakes, life style, health condition and recent changes in the diet. Data were collected

by trained persons. Reliability of the anthropometry and dietary measurements was conducted before and midway during the survey. The results indicated a high level of reliability. (The Intra Class Correlation Coefficient was >0.95 for all measurements). The sample size for each district was calculated to estimate the prevalence of obesity of 27%, which was obtained in Barbados (27). The desired precision was 5% while the estimated non-response rate was 15%. Consequently the required sample size for Barataria was 350 and 282 for North Manzanilla/Oropouche. The mean, standard deviation of interval scaled variables, frequency, % of the categorical variables, 95 % Confidence Intervals were calculated for the main outcome variable.

Chi-square tests were used to examine the differences between categorical variables. The one way ANOVA were used to examine the difference in interval scaled variables. when the distribution was not normal nor when group variances were not equal, non-parametric tests were used to examine group differences. These tests included the Mann -Whitney U test and the Kruskal-Wallis tests.

Multiple stepwise logistic regression was used to determine the independent predictors of adequate fruit and vegetable intake (5+ serving per day), obesity (BMI>30), high waist circumference and high Waist-Hip Ratio. The binary logistic forward entry method was used to study the Odds Ratio which determined the risks between 2 groups. The level of statistical significance was set at $P<0.01$.

Result: Demographics: 556 (83%) of the 670 persons selected, participated in the survey, including 223 (40%) males and 333 (60%) females. The mean age was 39 years and the ethnic distribution was 33% African, 36% East Indians, 30% Mixed and 0.5% other.

Dietary Intake: The result of the 24-hour diet recalls indicates that men consumed more food than women. The mean intake of energy was 1910 kcal (SD1040). The highest contribution of energy to the diet came from carbohydrate (59%). While protein contributed 15% and fat 25% to total energy, energy and nutrient intakes were higher in males than females. Energy intake decreased with age (P=<0.0001). The intakes of energy and all the macro and micro nutrients examined were lowest in the unemployed group. Only 18 males (8%) and 15 females (5%) consumed 5 or more servings of fruits/vegetables per day. More females than males took supplement on a daily basis (52% v 32%) (P=.005). The most frequently consumed foods were bread (72%), rice (64%), chicken (54%), milk (53%) and sodas (50%).

Nutritional Status Obesity (BMI>30) was more prevalent among females (30%) than males (15%) (P=0.001). More females than males had high waist circumferences (42% v 14%) and waist-hip ratios (62 % v 26%).There was an increase in waist circumference with age (P=0.0001). The highest rate of thinness was among the 18-29 age group (11%).

Life Style More males than females consumed alcohol (76% v 61%) (P=<0.001) and smoked (38% v 12%) (P=<0.0001) More females than

males engaged in planned physical activity (44% v 32%) (P=<0.0001). There were no differences by ethnicity in dietary intake, nutritional status or lifestyle.

The results of the stepwise logistic regression analysis indicated that the only independent predictor of obesity was gender (P=0.0001). Females were 3.1 times more likely to be obese than males. Gender (P=<0.001) and age by gender (P=<0.05) were the only independent predictors of adequate fruit/vegetable consumption. There was gender difference among persons 50-64 years. Males were 8.4 times more likely to have adequate intakes than females.

Conclusion: With the high prevalence of obesity, particularly among women, the low levels of intakes of fruits and vegetables and planned physical activities, adults in the two communities studied are at increased risk for nutrition-related chronic non-communicable diseases. There is therefore a need for intervention. This can take the form of education on the importance of managing body weight, increased use of fruits and vegetables and increased physical activities. However, it may be useful to conduct further research to identify the most effective interventions.