CORRELATION ANALYSIS OF COCONUT OIL INTAKE AND SELECTED RISK FACTORS OF NON–COMMUNICABLE DISEASES

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Background: Results of the 2003 National Nutrition and Health Survey (NNHeS) showed an increasing prevalence of non-communicable diseases in the Philippines, particularly those leading to metabolic syndrome, like obesity, cardiovascular diseases, and diabetes mellitus. The prevalence rates increase with age, for almost all of the diseases mentioned. Since the age factor cannot be altered or changed, intervention efforts can be directed to other controllable/modifiable factors that contribute to the disease emergence. Coconut oil, a saturated fat containing medium-chain fatty acids, is considered as the chief source of fats and oils in the Philippines. Several controversies regarding its effects on blood lipid levels, diabetes mellitus, metabolism, obesity, and other chronic diseases prompted this study. Objectives: 1) To examine the association of dietary factors, particularly coconut oil, on the lipid profile of some adult Filipinos; 2) To assess the diet composition, especially the fat and oil intake, correlating these with the prevalence of obesity, hypertension, hypercholesterolemia, and diabetes. Methods: This cross-sectional study was part of the NNHeS conducted in conjunction with the 6th National Nutrition Survey (2003). A total of 4,753 adults were covered. The data used were taken from the individual Food Frequency Questionnaires (FFQ). Other foods not found in the list but were usually consumed were added. Measures of association were determined using the univariate and multiple logistic regression analyses of the Stata version 7.0. Results: The prevalences of obesity, diabetes, and high LDL-cholesterol were higher among females than males while the prevalences of hypertension, high triglycerides, and low HDL-cholesterol were higher among males than females. Adults who reached primary level of education consumed the highest proportion of coconut - “gata”, while those who reached the tertiary level consumed the least amounts. Among the regions, Bicol had the highest proportion of coconut - “gata” consumption (88.8%), followed by SOCSARGEN (88.5%), CARAGA (78%), and ARMM (76.3%). The consumption of coconut - “gata” ranged from 1 to 3 times per month (27.47%) to once a week (26.31%). The energy consumption per capita of coconut-“gata” was 6.49 g (58 kcal), cooking oil was 8.2g (74 kcal), other vegetable oils was 10.26 g (92 kcal), and animal fat was 0.93 g (8 kcal). The usual frequency of usage of cooking oil in the Philippines ranged from 2 to 4 times per week (36.4%) to once a day (32.7%). Approximately 14.7 g of the total fat consumption came from coconut ( cooking oil and coconut - “gata” ), while only 0.93 g was from animal fat. Females who consumed cooking oil were less likely to have high total cholesterol level (OR=0.46, 95%CI=0.28-0.745) and high LDL-cholesterol level (OR=0.52, 95%CI=0.35-0.77). Furthermore, females were more likely to have low HDL-cholesterol level (OR=1.57, 95%CI=1.02-2.41). Consumption of cooking oil was
not found to be associated with high triglycerides for both sexes. Age was significantly associated with high cholesterol, high LDL-cholesterol, high triglycerides, hypertension, obesity, diabetes mellitus, and low HDL-cholesterol among males. Having an income in the 4th quartile increased the risk of developing high cholesterol, high triglycerides, hypertension and diabetes mellitus among males while increasing the risk of having high LDL-cholesterol for both sexes. Educational attainment had a protective effect against developing high cholesterol, high triglycerides and high LDL-cholesterol among males. Females with at least tertiary education and were obese were more likely to have low HDL-cholesterol and were more likely to be at-risk of having hypertension than their male counterparts. Conclusion: The consumption of coconut oil was not significantly associated with the different risk factors of chronic diseases, e.g. obesity, hypertension, among others. Recommendation: It is recommended that further and appropriately designed studies on the relationships between dietary coconut oil and other behavioral factors such as alcohol consumption, smoking and exercise be done, e.g. retrospective and prospective longitudinal epidemiologic studies in selected regions with high and low consumption of coconut oil.