Screening EXPOSURE ASSESSMENT of Filipinos to SODIUM, TOTAL SUGAR, TOTAL FAT, SATURATED FAT, TRANS FAT, and CHOLESTEROL from Commonly Consumed Foods

**INTRODUCTION**

Nutrients are essential for human growth and development, sustenance, and satiety, however, too much intake can be damaging to health. Specifically, excessive intake of sodium, total sugar, total fat, saturated fat, trans fat, and/or cholesterol was associated with high prevalence of several non-communicable diseases (NCDs) including cardiovascular diseases, cancer, and diabetes.

This study aimed to assess the exposure and characterize the risk of Filipino population to selected nutrients from commonly consumed foods. The results were then used to identify priority areas such as the most susceptible Filipino population and the major food contributors to high nutrient exposure — for further refined exposure studies.

**OBJECTIVES**

- WHO ARE AT-RISK FOR HIGH NUTRIENT EXPOSURE?

**METHODOLOGY**

**DATA GENERATION**

- CONCENTRATION DATA of nutrients and FOOD CONSUMPTION DATA of commonly consumed foods through food matching, statistical analysis, and use of databases from FNRI projects.

**EXPOSURE ASSESSMENT**

- of Filipinos to selected nutrients by combining nutrient data and food consumption data. Furthermore, the main food group contributors for each nutrient exposure were identified.

**RISK CHARACTERIZATION**

- by comparing daily nutrient intake with the upper limit by WHO and FNRI. This phase determined the population group(s) at risk for high nutrient exposure.
RESULTS

Results showed that mean intake of ALL SUBJECTS (which includes both consumers and non-consumers) across all population groups were below the upper limits for daily nutrient intake.

The dietary exposure of AVERAGE CONSUMERS across all the population groups were also below upper limits for daily nutrient intake with one exception - average consumers among children slightly exceeded the upper limit for daily sugar intake at 35 g (103% UL).

Who are AT-RISK for HIGH NUTRIENT EXPOSURE?

Meanwhile, HIGH-LEVEL CONSUMERS (HLC) across all population groups were highly exposed to sodium, total sugar, and saturated fat at 1888 to 2467 mg (122 to 140 %UL), 53 to 87 g (106 to 257 %UL), and 18 to 26 g (111 to 118 %UL) daily intake, respectively.

HLC among children were highly exposed to trans fat at 2.24 g (150 % UL) daily intake.

HLC among the general population and women of child-bearing age (WCBA) were highly exposed to cholesterol at 322 to 357 g (107 to 119 %UL) daily intake.

Which food groups contributed most to the NUTRIENT EXPOSURE?

For children below 6y, most of the aforementioned food groups also contributed to the group’s nutrient exposure with the addition of milk powders and follow-up formulas (16-33%) contributing to total sugar and trans fat exposure.

Figure 2. Exposure of Filipinos to Sodium, Total Sugar, and Total Fat, expressed as % of the upper limit of intake

Figure 3. Exposure of Filipinos to Saturated Fat, Trans Fat, and Cholesterol, expressed as % of the upper limit of intake
CONCLUSIONS AND RECOMMENDATIONS

Figure 4. Risk matrix of Filipino population groups to nutrient exposure - with major food contributors

SUMMARY

The results of the study can aid in the development of intervention programs, health recommendations, and policy guidelines in improving the nutritional status of identified vulnerable groups. Furthermore, the study could also be used in decision making and developing risk management strategies to be implemented in addressing the current issue on the high prevalence of death caused by non-communicable diseases like cardiovascular diseases and diabetes.

SIGNIFICANCE of the RESULTS of the STUDY

Overall, high-level consumers among the general population, children below 6 years, and women of child-bearing age were highly exposed to the majority of the nutrients which means exceeding the recommended upper limit.

FUTURE RESEARCH

It was recommended to conduct refined exposure assessment on priority areas for a more accurate exposure assessment and risk characterization of the Filipino population to selected nutrients.