IS SALT CONSUMPTION IN LOCAL FOODS A PUBLIC HEALTH CONCERN AMONG MAURITIAN ADULTS?

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INTRODUCTION

Salt is the main source of sodium in the diet and is an important mineral involved in maintaining the correct fluid and electrolyte balance in the body. However, most people consume much more sodium than they need for good health. Salt consumption has increased nowadays and most of the sodium we eat comes from packaged, processed, store-bought, ready-to-eat and restaurants foods (Institute of Medicine, 2004). Various studies have shown that there are health risks associated with high salt intake, including high blood pressure in sensitive individuals. Therefore, health authorities around the world have recommended limitations of dietary sodium.

In Mauritius, the prevalence of hypertension is 37.9 %: 35.4 % for women and 40.5 % for men (NCD Survey 2009). This is quite alarming and it tells us that if effective measures are not taken immediately to address the problem, the situation might deteriorate.

The aim of this study is to assess the knowledge and attitudes regarding salt consumption among Mauritian adults.

The main objectives are:

1. To investigate whether or not Mauritians are aware of the local recommendations of salt to be consumed per day based upon the World Health Organisation (WHO) recommendations.
2. To know the attitudes of Mauritian adults towards salt consumption and its recommended daily intake.
3. To evaluate the reported daily consumption of salt among Mauritian adults.

MATERIALS and METHODS

A cross-sectional study was done which was based on quantitative data. A questionnaire was used in the survey as it is an inexpensive way to gather data from a potentially large number of respondents. Questions asked referred to 4 broad sections: socio-demographic factors, lifestyle factors, health/nutritional status, and consumption pattern of salt in foods. Respondents were informed that any information gathered about them will be kept strictly confidential and anonymous. The sample size, N, was calculated using the formula below:

$$N = \frac{t^2\, p\,(1-p)}{m^2}$$

where t is the 95% confidence interval (in this case, t=1.96), p is the proportion of the selected sample (in this case, p=total number of adults aged 30-60 years old in Mauritius/total Mauritian adult population, giving p=535 022/1, 237, 283= 0.4324), and m is the margin error at 5% significance level (in this case, m=0.05). By substituting these values in the above equation, the sample size was calculated and we obtained a sample size of 378. In this study, however, we could manage to get 300 respondents out of the 378, and the 300 respondents were randomly chosen. The survey was carried out among both male and female respondents aged between 30 to 60 years old, and who were of different ethnicities since Mauritius is a multi-cultural country. Survey sites were public places such as hypermarkets, supermarkets, and bus stations all over the island. Questions were asked to assess the daily consumption of salt among Mauritian adults. Concerning the portion size for salt usage during food preparation, a teaspoon (5 grams) was taken as reference. Various steps were taken to ensure the quality of data throughout the whole operational procedures. The questionnaires were re-edited for consistency and the data entry and analysis were then carried out using special statistical software, the Statistical Packages for Social Sciences (SPSS 20.0). The results obtained were then analysed and interpreted on SPSS using chi-squared tests.

RESULTS

Among the 300 respondents under study, 86.7 % of them were considered to be healthy since they reported having no medical history of disease. 10.7 % of the respondents claimed suffering from hypertension and 2.6 % of the respondents reported suffering from both hypertension and heart disease. Hypertension was more prevalent among female respondents than among the males (8 % versus 2.7 %). No association was found between gender and medical history of disease (p = 0.116). However, a very strong association was also found between high salt intake and the prevalence of hypertension among the respondents (p = 0.009). Research indicates that high consumption of salt on a daily basis has detrimental effects on our health. High salt intake increases extracellular volume (ECV), blood volume, and cardiac output resulting in elevation of blood pressure (Twardowski Z. 2008).

A technical report produced by WHO and the Food and Agriculture Organization of the United Nations (FAO) recommends the consumption of 5 g (1 tsp) of sodium chloride or less per day as a population nutrient intake goal (WHO, 2010). Therefore, to investigate whether or not the respondents were aware of the local recommendations of salt to be consumed per day based upon the World Health Organisation (WHO) recommendations, they were asked to choose between 0 tablespoon (tsp), 1 tsp, 2-3 tsp and more than 3 tsp (Figure 1).

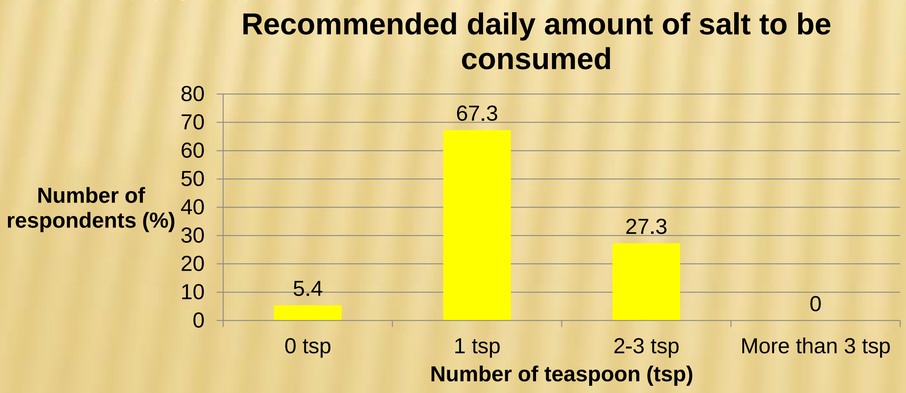


Figure 1: Number of respondents (expressed as percentages) who were aware of the local recommendations of salt to be consumed per day based upon the World Health Organisation (WHO) recommendations

To know the attitudes of the respondents towards salt consumption and its recommended daily intake, they were asked whether they found that the recommended daily intake is too little (Figure 2).

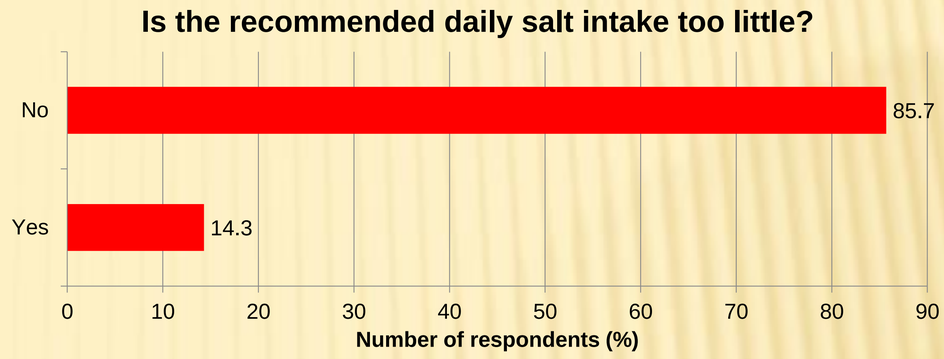


Figure 2: Number of respondents (expressed as percentages) who think that the recommended daily salt intake is too little

To evaluate the reported daily consumption of salt among the respondents, they were asked how much table salt they consumed per day or put during their food preparation. They were asked to choose between 0 teaspoon (tsp), 1 tsp, 2-3 tsp and more than 3 tsp (Figure 3).

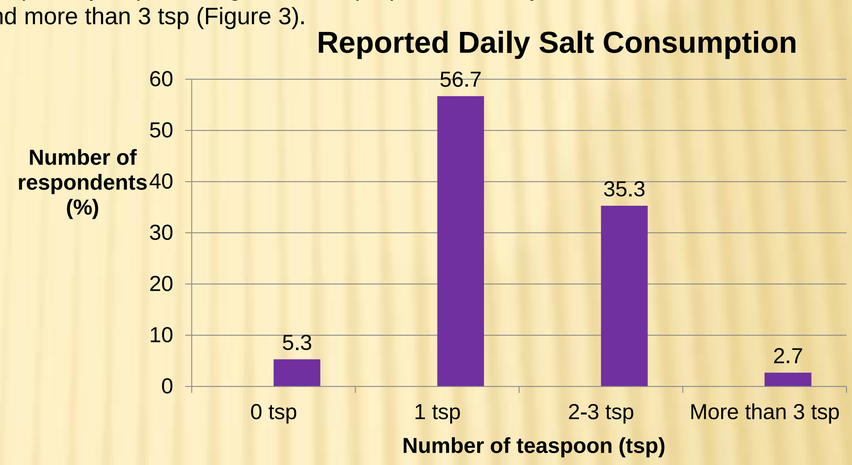


Figure 3: Reported daily salt consumption by the respondents

Salt contained in highly salted processed foods is known as “hidden salt” since people are not aware of the amount of salt contained in them. Many foods that do not taste salty may still be high in sodium. Moreover, many local foods, such as bread and fast foods, do not have a proper food label to indicate the amount of salt or sodium that they contain.

A food frequency questionnaire containing a list of foods most often consumed by Mauritian adults was also included in the survey questionnaire (Table 1).

Table 1: Frequency of consumption of particular food items (expressed in terms of percentages of respondents)

Food Items	Yes	No	Frequency of Consumption				
			Everyday	Once a week	2-3 times per week	1-2 times per month	Never
Bread	97.3	2.7	93.7	0.3	5.3	0	0.7
Butter	93.3	6.7	62.3	12.7	16.0	4.0	5.0
Cheese	93.3	6.7	29.3	20.7	31.3	13.4	5.3
Processed/Canned Foods	93.3	6.7	2.7	20.0	38.7	35.3	3.3
Fast-foods/Ready-to-eat Foods	96.0	4.0	4.0	27.0	22.7	39.0	7.3

CONCLUSION

During the study, it was found that more than half of the respondents were aware of the local recommendations of salt to be consumed per day and found that this recommendation was adequate. To note, the local recommendation is based upon the World Health Organisation (WHO) recommendations. However, nearly another third of respondents were neither aware of the fact that 1 teaspoon (5 grams) of salt is the daily recommended amount to be consumed nor did they consume the 5 grams of salt as recommended. This level of unawareness is considered as quite high and as such, shows that nutrition education programmes need to be set up so as to raise awareness on the importance of salt in the diet. More particularly on its recommended daily intake for good health as well as on the risks associated with excessive intake of highly salted processed foods given that we have noted in our study that it is the consumption of processed salty foods which is the major culprit. Population-based strategies to reduce sodium intake must continue to be implemented and monitored, and further emphasized so as to reach the percentage of population, whom we have found are still ignorant. Only then can we expect better adherence to the daily salt intake recommendation in force.

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