



Executive Summary #3

Salt-related knowledge, attitudes, and practices among Omanis 14-60 years of age in the Sultanate of Oman

INTRODUCTION

Non-communicable diseases (NCDs) are responsible for 80% of all deaths in the Sultanate of Oman [1], and 36% of all deaths are from cardiovascular diseases (CVDs) [2]. Excess salt consumption can cause high blood pressure and other NCDs. According to a recent study, the average salt consumption was nine grams per day [3]; nearly double the 5-gram per day intake recommended by the World Health Organization (WHO) [4]. According to the Sultanate of Oman's 2017 STEPS survey, 34% of adults >18 years of age had high blood pressure, with higher rates found in men (39%) than women (28%) [5].

Due to this public health issue in the Sultanate of Oman, there is a clear need for population-based interventions that help the population reduce its salt intake. Prior to undertaking programs and policies, a thorough assessment of the knowledge, attitudes, and practices related to the consumption of specific foods is needed [6].

OBJECTIVES

To assess the knowledge, attitudes, and practices of Omani adolescents and adults related to salt, the Nutrition Department of

the Ministry of Health (MoH), Al-Jisir Foundation, and WHO conducted the Sultanate of Oman's 2023 Nutrition-Related Knowledge, Attitudes, and Practices Survey [7]. In addition to salt, the survey also examined knowledge, attitudes, and practices related to general dietary habits, fat, and sugar.

METHODOLOGY

Survey design and target population

The 2023 Nutrition-Related Knowledge, Attitudes, and Practices Survey is a cross-sectional survey of the Omani population. It was designed to derive prevalences of various knowledge, attitudes, and practices indicators related to salt among the Omani population aged between 14 and 60 years, inclusive. Stratified cluster sampling by governorate was used to randomly select survey subjects from selected health centres.

The study protocol aimed to achieve a total sample size of 1406 survey subjects (i.e., both adolescents and adults) for the salt questionnaire, and 1354 adolescent and adult subjects were ultimately recruited yielding a response rate of 96%.

Data collection

Data related to salt was collected using a questionnaire that was administered to adolescents and adults. The first module of the questionnaire was used to collect information about basic sociodemographic characteristics, such as age, sex, marital status, education level, and training or experience in a health-related field. The second module of the questionnaire contained salt-related KAP questions that were modelled on those used in past surveys [8–12]. In particular, the available salt KAP instrument previously developed and used in Lebanon guided the development of the questionnaire [13]. The knowledge component of the salt questionnaire consists of 12 main questions that inquire about the relationship between high salt and sodium diet and overall health status, the maximal limit for daily salt intake, and the main sources of salt in the Omani diet. Attitude assessment is based on a set of six main questions designed to assess how important it is for the subject to reduce consumption of sodium and salt, reduce the amount of salt added to foods, and reduce the number of processed foods eaten. The practice component is based on a set of eight questions inquiring about whether or not the individual is attempting to reduce their salt intake, reading food labels for salt or sodium information, and respondents' tendency to buy "low-salt" foods types.

DATA ANALYSIS

Based on the questions in each questionnaire component, indices of salt knowledge, attitudes, and practices were

created. These indices enabled the categorization of individuals' knowledge, attitudes, and practices related to salt as low, moderate, and high scores. These categorizations a) ensure that respondent's knowledge, attitudes, and practices level is based on a set of comprehensive questions, and b) facilitate the interpretation of the survey's findings.

RESULTS

The survey collected data from 273 adolescents and 1081 adults. Among adolescents and adults, a similar proportion of respondents were male (adolescents: 50.9%; adults: 50.5%) and female (adolescents: 49.1%; adults: 49.5%).

Knowledge

The composite index score for knowledge of salt was low in both adolescents and adults (**Figure 1**). Less than 1% of adolescents and adults had high knowledge scores, and less than 20% had moderate or high knowledge scores. Among adolescents, females had slightly higher knowledge scores than males, with moderate or high scores found in 17% of girls and only 6% of boys. In adults, the proportion of adults with moderate or high knowledge index scores was greater in those with more education (>25% among those with diploma or higher) and in those who worked in the health care field (44%). Among adults, there was no association between salt knowledge scores and chronic diseases (e.g., hypertension, diabetes, heart disease, overweight/obesity).

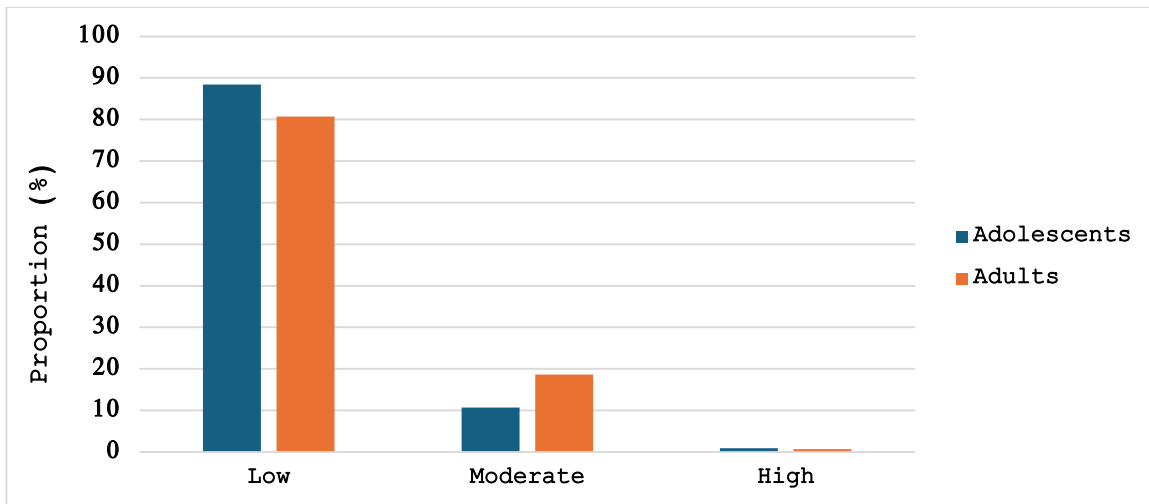


Figure 1. Salt-related knowledge scores in Omani adolescents and adults

Most adolescents (88%) and adults (91%) reported that excess consumption of salt was bad for their health (**Figure 2**). Moreover, high proportions of adolescents (88%) reported that hypertension were exacerbated by consumption of high-salt foods. Fewer adolescents identified stroke (42%), heart disease (56%), and kidney disease (57%) as consequences of a high-salt diet. Among adults, a very high proportion (94%) also identified hypertension as a health consequences of

eating foods high in salt. Fewer adults identified stroke (53%), heart disease (64%), and kidney disease (69%) as consequences of a high-salt diet.

Only 23% of adolescents and 22% of adults correctly identified one teaspoon as the recommended maximum daily intake of salt. Approximately 43% of adolescents and 50% of adults did not know the recommended maximum daily salt intake.

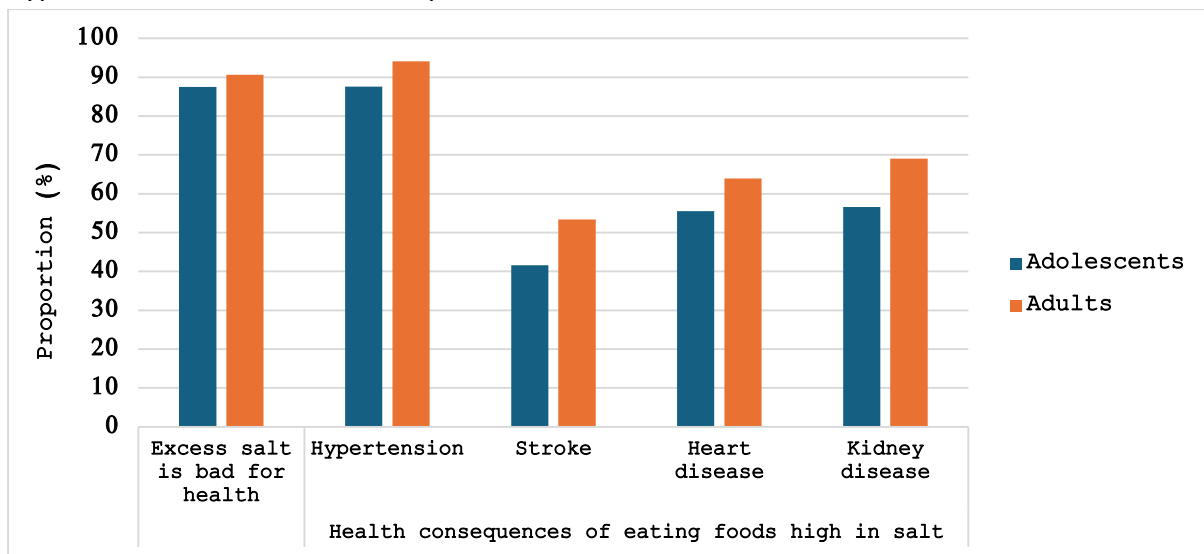


Figure 2. Knowledge of salt-related health consequences among Omani adolescents and adults

Attitudes

Based on the composite attitudes index score for salt, a sizeable proportion of adolescents (74%) and adults (84%) had moderate or high scores (**Figure 3**). Adolescents with a secondary or more education had the highest attitudes scores. As age and schooling are correlated in adolescents, this may indicate that adolescents' attitudes related to salt

improve with age or more schooling. In adults, attitudes scores increased with increasing age and were highest among those 50-60 years of age (88% moderate or high), married people (87% moderate or high) and were higher in those reporting that they had hypertension (99% moderate or high). Salt attitude scores were not associated with other chronic diseases, such as diabetes, heart disease, and overweight/obesity.

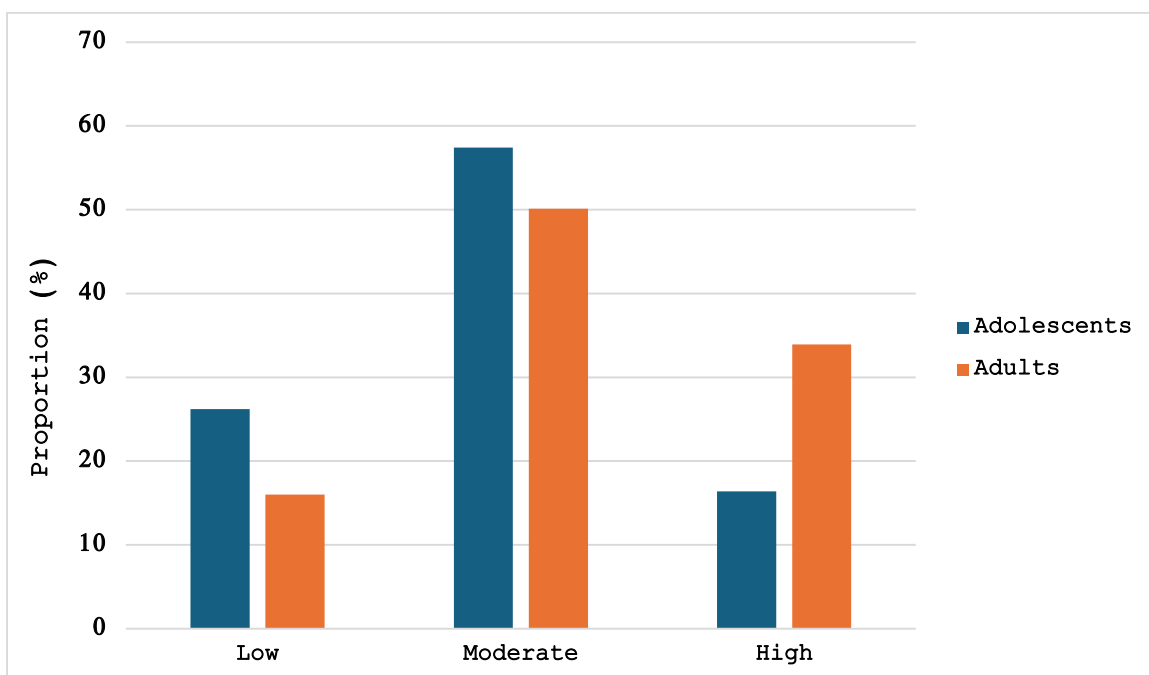


Figure 3. Salt-related attitudes score in Omani adolescents and adults

When adolescents and adults were asked about factors that could motivate them to reduce salt intake, a change one's health status was the most frequently cited (52% in adolescents, 69% in adults; **Figure 4**). Other factors, such as advice from a doctor, advice from a family member or friend, knowledge about adverse health effects,

and disliking the taste were all reported by a small (<20%) of adolescent and adult respondents. When asked about barriers to reducing salt consumption, the most commonly reported response by adolescents (40%) and adults (49%) was that there were "no barriers" to reducing salt intake.

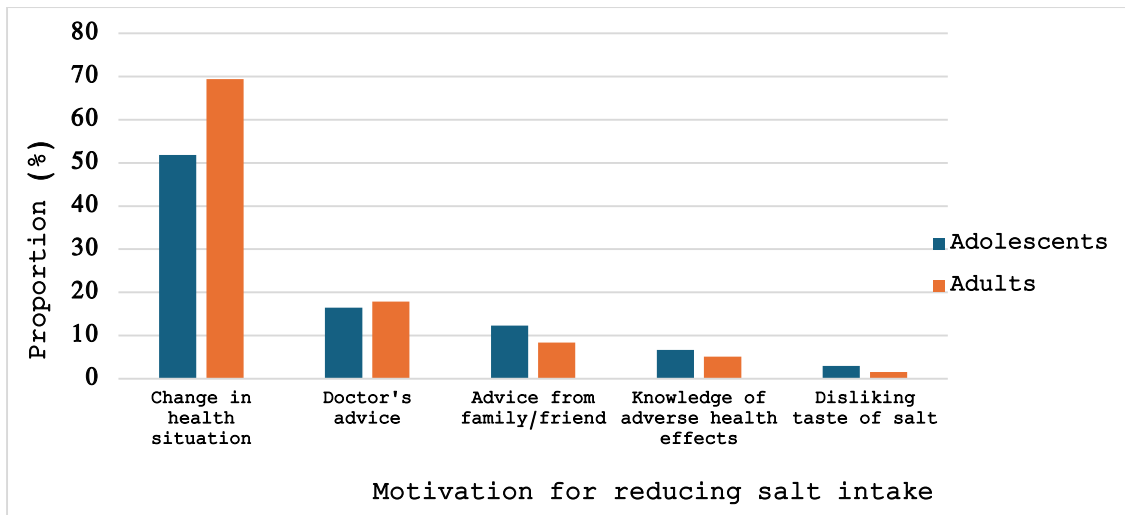


Figure 4. Motivating factors for reducing salt intake among adolescents and adults

Practices

Among adolescents, the composite index score for salt practices was poor; approximately 80% of adolescent respondents had low practices scores and less than 1% had high practices scores (Figure 5). Among adults, the composite index score for salt practices was also suboptimal, with 58% of adults having low

scores and only 1% having high scores. In adults, moderate and high practices scores were highest in those 50-60 years of age (54%), in married people (45%), those who had talked to a dietary professional (52%), and those who reported having hypertension (57%). However, in among all these subgroups, the proportion of adults with high practice scores was less than 4%.

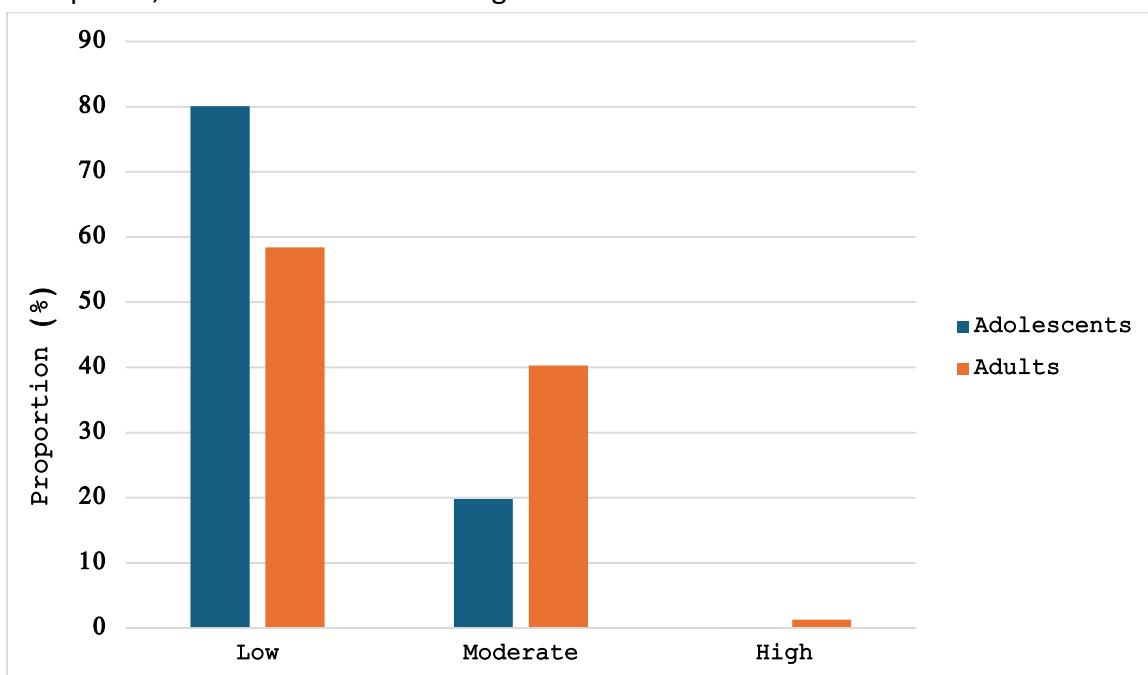


Figure 5. Salt-related practice scores in Omani adolescents and adults

Nearly 69% of adolescents reported rarely/never checking the salt content of foods, and 53% reported rarely/never buying “low salt” or “low sodium” foods (Figure 6). When asked about the consumption of high salt foods, more than 56% of adolescents reported consuming potato crisps daily, and 32% reported consuming potato crisps on a weekly basis. “Fast food” was also commonly consumed by adolescents, with 12% eating it on a daily basis and 47% eating it on a weekly basis.

Similar to adolescents, a high proportion of adults (50%) reported “rarely/never” checking the salt content of foods when shopping. A similar proportion of adults (56%) reported “rarely/never” buying foods labelled as “low salt” or “low sodium” (Figure 6). When asked about the consumption of high salt foods, more than 27% of adults reported consuming potato crisps daily, and 36% reported consuming potato crisps on a weekly basis. Similar to adolescents, nearly 11% of adults reported eating “fast food” on a daily basis, and 32% reported eating it on a weekly basis.

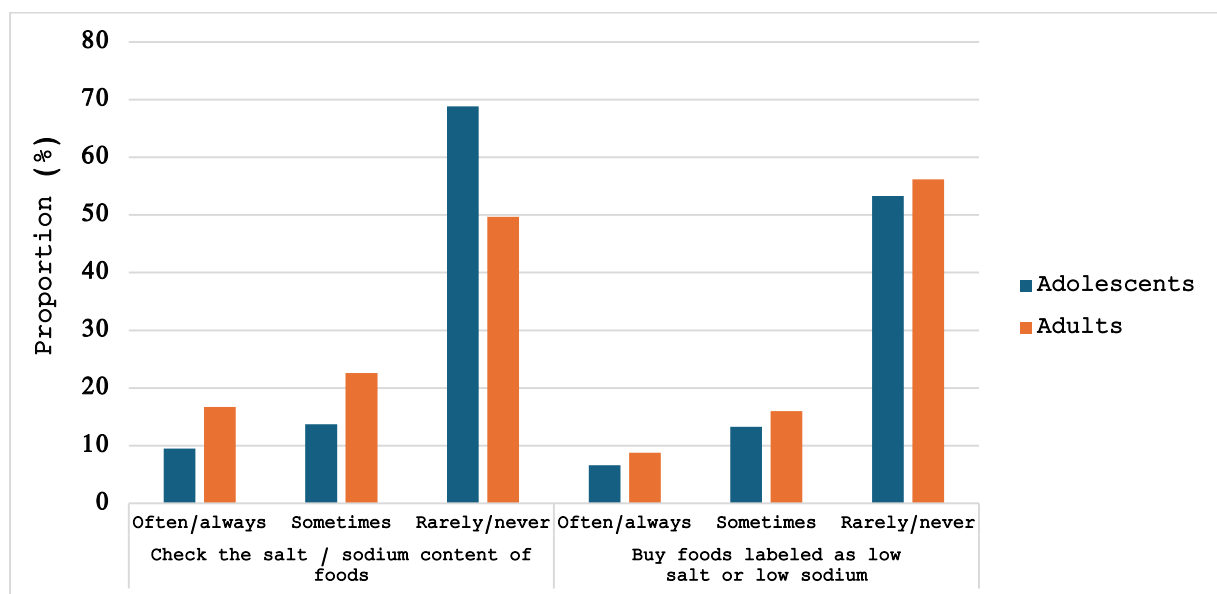


Figure 6. Purchase practices related to purchasing of foods among Omani adolescents and adults

CONCLUSION AND RECOMMENDATIONS

These findings indicate a situation that a sizeable share of the Omani population has both low knowledge related to salt and poor dietary practices related to salt. While attitudes scores related to salt are higher than knowledge and practice scores, a change in one’s health situation is the most

commonly reported factors that could motive one to reduce their intake of salt. This suggests that Omani’s practices related to salt intake are unlikely to change until their health deteriorates. While some health consequences of a high sodium diet (e.g., hypertension, kidney function) can improve with dietary changes, other conditions (e.g., stroke, heart disease,

cancer) may be difficult to address once detected.

Based on the findings, it is clear that a multisectoral approach is needed to reduce the consumption for salt in the Sultanate of Oman. The continuation of the existing salt-reduction programs and the implementation of additional policies is needed to increase the awareness of the public to excess salt consumption and to enable consumers to readily identify and

access alternatives to foods that are high in salt.

1. Raise awareness using public health campaigns:
2. Reformulate composition of processed foods to reduce salt content
3. Implement sodium content labelling in restaurants
4. Strengthen nutritional counselling services in health institutes
5. Monitor salt consumption and dietary practices related to salt

ACKNOWLEDGEMENTS

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RECOMMENDED CITATION

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