KNOWLEDGE ASSESSMENT OF DIETARY SALT AND HEALTH AMONG YOUNG ADULTS IN LUCKNOW CITY

Abstract

Salt is necessary for our bodies to grow and operate normally. The purpose of our study was to evaluate young people' knowledge, habits, and salt consumption patterns in Lucknow. In this survey, 200 people took part. The data was collected through convenience sampling technique. this study was a cross section and non-interventional. The results showed that 42% of participants consuming the recommended amount of salt and 10% being unaware of their intake. awareness of the health risks associated with excessive salt intake was high among the participants, with 98% acknowledging the potential health issues. there was variability in perceptions of the importance of reducing salt intake, with 41% deeming it crucial, 13% not considering it important at all, and 7% unaware of how to reduce salt intake. 99.5% acknowledged the risk of high blood pressure, 97% recognized the risk of kidney disease, 96% were aware of the risk of stroke and 95% understood the risk of heart attack. the awareness of the recommended daily salt intake as per the world health organization (who) was less consistent which 57% of participants were aware of the recommended salt intake and 43% were not aware of the who guidelines.

Keywords- Dietary Salt, Young Adults, Health Effect, Consumption, Awareness.

Introduction

Among healthy people, the World Health Organization suggests consuming no more than 5 grams of salt per day through food. (**Grimes, C.*, et al*. (2017))**. Consuming too much salt is a serious public health issue. Excessive salt consumption raises blood pressure, and there is evidence from epidemiology and pathophysiology linking it to a number of harmful health outcomes, including kidney stones, stomach cancer, stroke, coronary heart disease, osteoporosis, and indirectly, obesity. **Claro*, et al.* (2012).** Salt is an inorganic material that is

created when sodium and chlorine ions interact. Sodium is a necessary nutrient that the body needs to sustain normal cell activity, maintain the acid-base balance, maintain plasma volume, and send nerve impulses. **(Haron, H., *et al.* (2022)).**

Inadequate salt intake can cause blood pressure to rise, which can result in cardiovascular disease (CVD). Reducing salt and/or sodium intake is acknowledged as one of the main objectives in the battle against non-communicable diseases. The knowledge, attitude, and behaviour (KAP) of individuals on salt consumption influenced the amount of salt they consumed. **(Alawwa, *et al*., (2018)).**

People to indulge excessively in salt because they are ignorant of the possibility that a high sodium diet could lead to hypertension**(Land, M., *et al*. (2014))**. Hence, the purpose of this study was to examine the KAP of adult Chinese population about their consumption of salt and its relationship to blood pressure. Plans for how people should change their eating habits can be developed using the KAP data about salt consumption **(Haron, H. *et al*. (2022)).**
Additionally, there is proof that a diet heavy of salt may raise the risk of kidney, bone, and stomach cancer. Enhancing consumer awareness and knowledge via health education initiatives of a fundamental in component in the salt reduction strategy **(Leyvraz, M., *et al.* (2018))** and may contribute to lower population salt intake **(Jessen, N., *et al.* (2018))**. Not many recently published research contests the need for population-wide salt reduction, despite a significant amount of scientific evidence linking high dietary salt intake to elevated blood pressure **(Mente, A., *et al*. (2016))**.

On a global scale, it is recommended that salt iodization programs be conducted in tandem with salt reduction measures. Iodine deficiency disorders (IDD), a group of health problems, are more likely to occur in those who consume insufficient amounts of iodine **(Marakis, G., *et al.* (2021)).** As is already common knowledge, the WHO recommends that adults consume less than 5 grams of salt on average each day. Nonetheless, an examination by McCarron and associates indicates that the minimum typical physiological threshold for average salt consumption would be roughly 6e7 g/day for females and 8e9 g/day for males)**(Peters, R., *et al*. (2019))**. According to one study, people worldwide are consuming more sodium than they require for bodily functions. The World Health Organization (WHO) recommends 2 grams of sodium per day for individuals, which is even greater than the amount of sodium consumed (equal to 5 grams of salt per day) **(Ravi, S., *et al.* (2016).(Bhattacharya, et al (2022)).** As a significant risk to both human health and economic growth, particularly in low- and middle-

income nations, noncommunicable diseases (NCDs) are regarded as one of the major health issues of the twenty-first century **(Cheikh, *et al.* (2019)).** Adjusting choices for purchases according to sodium content on labels; attempting to buy food items with reduced salt; and consuming less salt. The consumption of processed, ready-made foods has been repeatedly shown to be the main contributor to salt intake. Three of the salt-related behaviours under investigation are related to this consumption: looking for low-sodium food items; modifying purchase decisions based on label sodium content; and checking for sodium content on food labels. The average daily salt intake was found to be 67% derived from processed foods, with bread and other bread-like goods accounting for the largest share at 25%, processed meats at 12%, and cheese at 10% **(Nasreddine, L., *et al.* (2014)).**

Objective

This study aims to assess theirknowledge regarding dietary salt and health interrelationship

Methodology

The present study was conducted in the Babasaheb Bhimrao Ambedkar University Lucknow, Uttar Pradesh, India. The target of the study comprises of college going students (graduation, post-graduation, PhD). This is a cross-sectional, study. The sample technique used is convenience sampling technique.

The sample size for the study is 200. This study was conducted from month of February to April 2024. The information was collected through questionnaire. The inclusion criteria for selecting samples study are young adults' people from 18-25 year of age of gender, education, family annual income and occupation. And also, along with the health-related question.

The data analysis using Microsoft Excel for examining the data by frequency and percentage, offering a clear and comprehensive understanding of the dataset's characteristics. This chapter deals with the analysis and interpretation of the data gathered to assess the knowledge, attitude and consumption pattern of salt intake in young adults in Lucknow City.

Result

The data collected was used to examine the relationships between dietary salt and health issues. A minimum sample size of 200 college-bound students, aged 18 to 25, was chosen for the research.

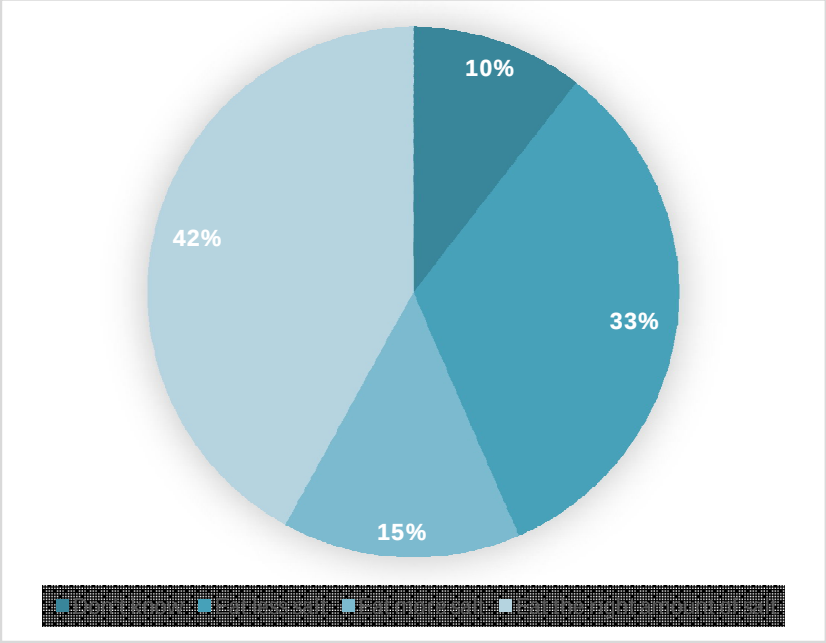

Figure.1 Distribution of the participants according to the daily salt intake

Figure 1 displayed the participants' daily salt intake, showing that 42% of them consume the recommended amount of salt, 33% consume less salt, 15% consume more salt, and 10% are unaware of their salt intake.

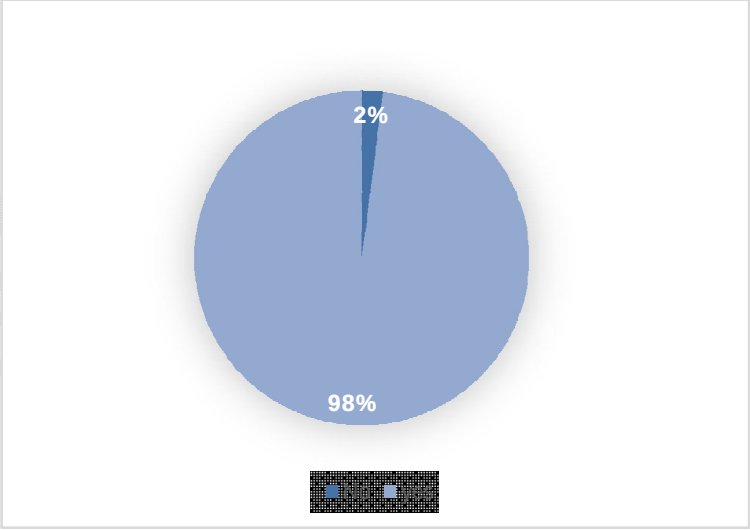

Figure.2 Participants knowledge about eating excess salt related issue on health.

Figure 2 depict the participants knowledge about eating excess salt related issue on health whereas you see that majority of participants are aware about issues which is 98% participants say Yes and only 2% participants say No.

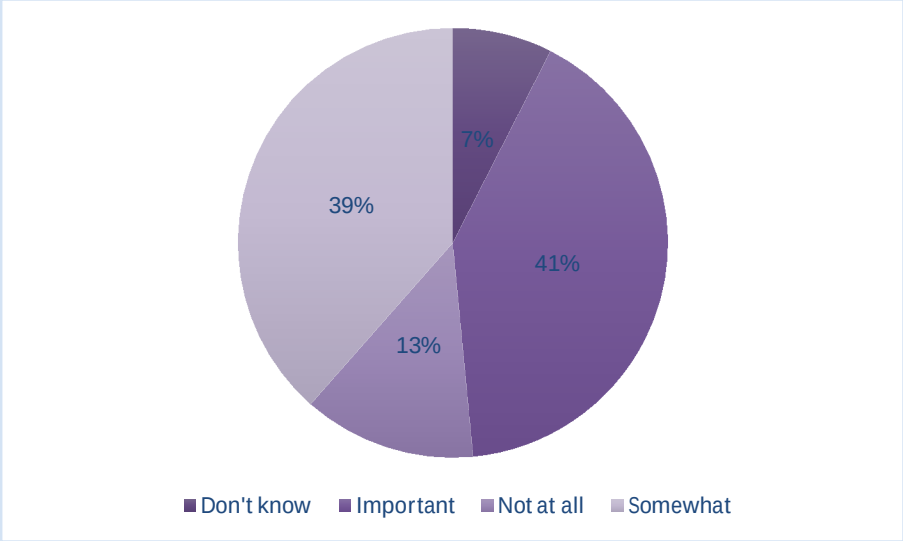

Figure.3 Participants perception about reducing the salt in diet

Figure 3 shows the participants' perceptions of how important they think it is to reduce their intake of salt. Of the participants, 41% believe it to be crucial, 39% somewhat, 13% not at all, and 7% don't know about that cutting salt in diets can be done.

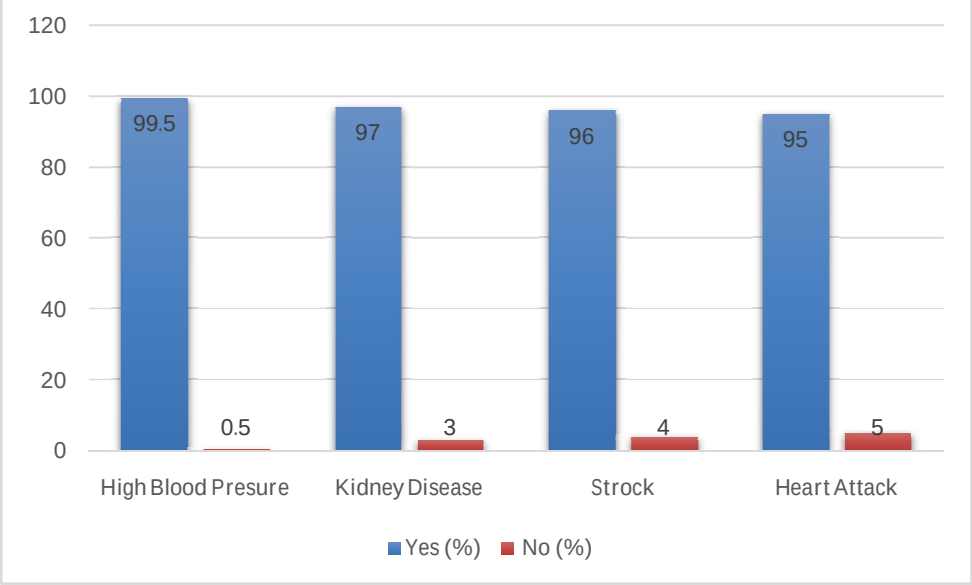

Figure: 4 Knowledge of diseases on eating too much salt

Figure 4 we found that knowledge of diseases on eating too much salt whereas majority of participants says yes and very few participants say no like 99.5% participants chosen yes for

high blood pressure, 97% participants are chosen yes for kidney disease, and 96% participants chose yes for stroke, as well as 95% participants pick yes for heart attack.

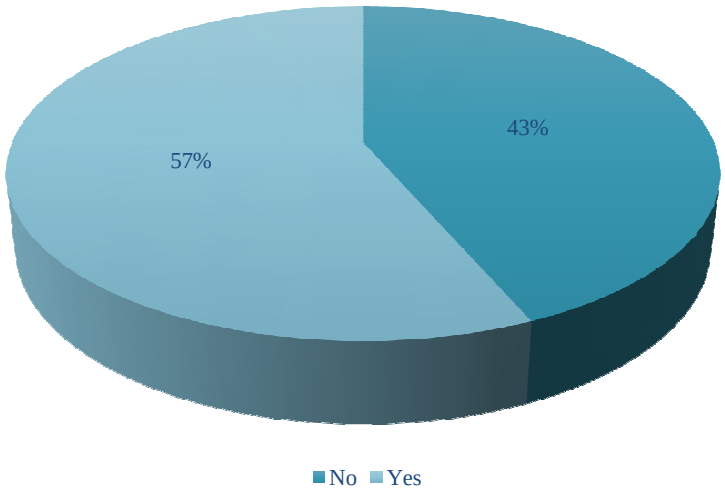

Figure: 5 Participants awareness about recommended salt intake per day

Figure 5 showed that participation awareness about recommended salt intake per day (as per WHO) where we can see that 57% participants are aware about recommended salt and 43% participants are not aware about recommended salt as per WHO.

Discussion

The study's main goal was to investigate the connections between college students' (18 to 25-year-old) dietary salt intake and health problems. To get insight into students' salt consumption habits, understanding of linked health risks, and perceptions of the significance of limiting salt intake, a sample size of 200 students was chosen. Participants' daily salt intake is as follows: 42% consume the prescribed amount, 33% consume less than the suggested amount, 15% consume more than the recommended amount, and 10% are unsure about their salt intake. Most participants showed a high degree of awareness about the dangers of consuming too much salt for their health. The fact that eating too much salt can cause health problems was recognized by 98% of participants.

Participants' perceptions of the importance of reducing salt intake varied which41% believe reducing salt intake is crucial, 39% believe it is somewhat important, 13% do not consider it important at all and 7% are unaware of methods to reduce salt intake. Participants' knowledge about specific health risks associated with excessive salt intake was notably high. 99.5% acknowledged the risk of high blood pressure, 97% recognized the risk of kidney

disease, 96% were aware of the risk of stroke and 95% understood the risk of heart attack. The awareness of the recommended daily salt intake as per the World Health Organization (WHO) was less consistent which 57% of participants were aware of the recommended salt intake and 43% were not aware of the WHO guidelines.

Conclusion

This study provides an in-depth evaluation overview of college-going students' dietary salt intake, awareness of associated health risks, and perceptions of salt reduction importance. While awareness of health risks is high, gaps remain in knowledge about recommended intake and practical strategies for reduction. This indicates that while a substantial portion of the population adheres to recommended guidelines, a considerable number either exceed or lack awareness of their salt consumption levels.

Reference

Grimes, C. A., Kelley, S. J., Stanley, S., Bolam, B., Webster, J., Khokhar, D., & Nowson, C. A. (2017). Knowledge, attitudes and behaviours related to dietary salt among adults in the state of Victoria, Australia 2015. *BMC Public Health*, *17*, 1-16.

Claro, R. M., Linders, H., Ricardo, C. Z., Legetic, B., & Campbell, N. R. (2012). Consumer attitudes, knowledge, and behavior related to salt consumption in sentinel countries of the Americas. *Revista Panamericana de Salud Pública*, *32*, 265-273.

Haron, H. (2022). Knowledge, Attitude and Practice (KAP) on Salt Intake and its Relationship with Blood Pressure among Chinese Adults in Johor. *Asian Journal of Medicine and Biomedicine*, *6*(2), 121-131.

Alawwa, I., Dagash, R., Saleh, A., & Ahmad, A. (2018). Dietary salt consumption and the knowledge, attitudes and behavior of healthy adults: a cross-sectional study from Jordan. *Libyan Journal of Medicine*, *13*(1).

Land, M. A., Webster, J., Christoforou, A., Johnson, C., Trevena, H., Hodgins, F., ... & Neal, B. (2014). The association of knowledge, attitudes and behaviours related to salt with 24-hour urinary sodium excretion. *International Journal of Behavioral Nutrition and Physical Activity*, *11*, 1-8.

Marakis, G., Katsioulis, A., Kontopoulou, L., Ehlers, A., Heimberg, K., Hirsch-Ernst, K. I., ... & Weissenborn, A. (2021). Knowledge, attitude and behaviour of university students

regarding salt and iodine: a multicentre cross-sectional study in six countries in Europe and Asia. *Archives of Public Health*, *79*, 1-14.

Leyvraz, M., Mizéhoun-Adissoda, C., Houinato, D., Moussa Baldé, N., Damasceno, A., Viswanathan, B., ... & Bovet, P. (2018). Food consumption, knowledge, attitudes, and practices related to salt in urban areas in five sub-saharan African countries. *nutrients*, *10*(8), 1028.

Jessen, N., Santos, A., Damasceno, A., Silva-Matos, C., Severo, M., Padrão, P., & Lunet, N. (2018). Knowledge and behaviors regarding salt intake in Mozambique. *European journal of clinical nutrition*, *72*(12), 1690-1699.

Mente, A., O'Donnell, M., Rangarajan, S., Dagenais, G., Lear, S., McQueen, M., ... & Yusuf, S. (2016). Associations of urinary sodium excretion with cardiovascular events in individuals with and without hypertension: a pooled analysis of data from four studies. *The Lancet*, *388*(10043), 465-475.

Bhattacharya, S., Bera, O. P., Saleem, S. M., Hossain, M. M., Varshney, D. S., Kaur, R., ... & Singh, A. (2022). Dietary salt consumption pattern as an antecedent risk factor for hypertension: Status, vision, and future recommendations. *Clinical Nutrition ESPEN*, *47*, 422-430.

Peters, R., Ee, N., Peters, J., Beckett, N., Booth, A., Rockwood, K., & Anstey, K. J. (2019). Common risk factors for major noncommunicable disease, a systematic overview of reviews and commentary: the implied potential for targeted risk reduction. *Therapeutic advances in chronic disease*, *10*, 2040622319880392.

Ravi, S., Bermudez, O. I., Harivanzan, V., Chui, K. H. K., Vasudevan, P., Must, A., ... & Thanikachalam, M. (2016). Sodium intake, blood pressure, and dietary sources of sodium in an adult South Indian population. *Annals of global health*, *82*(2), 234-242.

Cheikh Ismail, L., Hashim, M., H. Jarrar, A., N. Mohamad, M., T. Saleh, S., Jawish, N., ... & S. Al Dhaheri, A. (2019). Knowledge, attitude, and practice on salt and assessment of dietary salt and fat intake among University of Sharjah students. *Nutrients*, *11*(5), 941.

Nasreddine, L., Akl, C., Al-Shaar, L., Almedawar, M. M., & Isma'eel, H. (2014). Consumer knowledge, attitudes and salt-related behavior in the Middle-East: the case of Lebanon. *Nutrients*, *6*(11), 5079-5102.