



Evaluation of Quantity of Salt Utilization among Hypertensive Patients

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ABSTRACT

Excess salt consumption has now become a major problem among hypertension sufferers. In India, hypertension affects roughly 29.6% of the population. In India, hypertension is the causative factor of 57 % of stroke deaths and 24 % of coronary artery disease deaths. High blood pressure can be associated with the consumption much more sodium in the diet. In hypertensive individuals, a small reduction in salt intake of 6 g for 4 weeks or more lowers blood pressure by 7.11/3.88 mm Hg. The present work was aimed to find out how much the quantity of salt is consumed by the hypertensive patients in their diet and to evaluate the hypertensive patients' attitudes towards salt consumption are based on their education and experience. According to the most recent WHO recommendations, A descriptive cross-sectional study was conducted among hypertension patients. The study enrolled a total of 110 participants. The trial will exclude patients who have a known electrolyte imbalance or kidney illness. An interview-based questionnaire was completed once informed consent was obtained. The study enlisted the participation of 110 persons. The average quantity of salt consumed per person per day was 8.9.6g. 65 of the 110 volunteers agreed to give a urine sample, while the other 45 refused. The average quantity of sodium ejected was 162.21meq/l, while the average amount of potassium expelled was 65meq/l, according to the findings. Of the 65 participants, 35 had a urine sodium value greater than 210 meq/l and 30 had a urine sodium value between 40 and 220 meq/l. The amount of sodium excreted in the urine was proportional to the amount of salt ingested. Although 72.1 percent of people are aware that cutting back on salt can help them lower their blood pressure, only 28 percent believe it is critical for them to do so. The average daily salt consumption is 9.6 grammes, which is higher than the World Health Organization's recommended value. The people's knowledge is good, but their attitudes and practices around salt consumption are below the average line. It is undeniable that advice on lowering salt consumption aids in the reduction of blood pressure.

KEY WORDS: Hypertension, Urine sodium levels, Salt consumption and Diet.

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INTRODUCTION

According to the newest WHO standards, high blood pressure ranges from 120 to 129/80 mmHg; hypertension stage 1 is 130-139/80-89 mmHg; and hypertension stage 2 is 140/90 mmHg. Excess salt consumption has now become a major problem among hypertension sufferers. In India, hypertension is so pervasive that it impacts 29.6% of the community.(1)In India, hypertension is the direct cause of 57 % of stroke deaths and 24 % of coronary artery disease deaths. High blood pressure can be caused by eating much more sodium in the diet.(2) The World Health Organization has recommended that measures be taken to avoid death from excessive salt consumption due to the detrimental impact on blood pressure and cardiovascular problems. The sodium pump is hindered by high sodium and low potassium, which raises intracellular sodium and calcium levels, causing vascular smooth muscle contraction and increased peripheral vascular resistance.(3,4) As per World Health Organization (WHO), limiting sodium intake is essential to preventing blood pressure complications.(5,7)

MATERIAL AND METHODS

- **Study Design:** A descriptive cross-sectional study was conducted.
- **Study Population:** Hypertensive patients that have been diagnosed
- **Study Period:** 3 months duration

Inclusion Criteria:

- Patients who are diagnosed with hypertension using the most current WHO recommendations.
- Patients in between ages of 20 and 70 who agreed to participate in the study have been included.

Exclusion Criteria

- Patients having a history of electrolyte imbalances were ruled out.

Patients who were hesitant to participate in the trial were allowed to participate.

Tool: Questionnaire part of an interview and urinalysis(4&6)

Interview Based Questionnaire: The survey includes demographic information as well as questions about individual healthcare history, average salt use by family members, knowledge awareness, and opinions toward intake of salt.(7)

Sample Collection: Patients were given a plastic container and informed about the collection of urine samples, as well as instructions on how to collect the sample, which would be used to test sodium and potassium levels. A simple random sample approach was used to select the 110 patients who matched the inclusion criteria.(8-10)

Urinalysis: Sodium and potassium levels must be determined.

Method: Vitros dry chemistry analyzer.

After receiving the approval from the institutional ethics committee was the study carried out. Patients' informed consent will be obtained, and confidentiality will be preserved. MS Excel was used to gather and analyse data, which was then processed using the Statistical Package for the Social Sciences (SPSS) software.

RESULTS AND DISCUSSION

A total of 110 people were selected for the investigation. All of them are within the age range of 20 to 70 years. Males made up 60 % of the population (n=66), while females made up 40 % (n=44). All of them have been diagnosed with hypertension and are taking medication to treat it. Increased salt consumption causes hypertension, according to 85.60 % of people. However, 11.60 % are uninformed that too much salt causes hypertension, and 12.80 % are completely oblivious of the problem. 88.20 % of people feel that reducing salt intake will help them lower their blood pressure, while 10.4 % don't really believe it and 11.4 % are unaware of the problem. Reduced salt will help people, reduce hypertension by 74.50 %, 22.4 % believe it is somewhat important, and 13.1% believe it is not very crucial to minimize salt to reduce hypertension. 55.7 % of the people consumes more than 5 grams of salt per day through their diet, whereas 54.2 % take less than 5 grams of salt per day. Pickles preserved with salt are consumed by 92.8 percent of the population, whereas 17.2 percent do not. Of the 110 people who took part in the study, 85 (77.27 %) agreed to give a urine sample and 25 (22.73 %) refused. 67 (78.82 %) of the 85 subjects had a urine sodium value greater than 220 mmol/day (SI units), while 18 (21.17 %) had a urine sodium value between 40 to 220 mmol/day (SI units). The amount of sodium excreted in urine is proportional to the amount of salt consumed. Out of 85 people, in 58 (68.23 %) patients, the potassium value in their urine was less than 90 meq/l, while in 27 (31.76 %) people it was greater than 90 meq/l.

Table No.1: Demographic details

Age group	Demographic details	Number	Percentage (%)
20-30 years	Total No.of Patients	4	3.64
	No.of Male	3	75.00
	No.of Female	1	25.00
31-40 years	Total No.of Patients	18	16.36
	No.of Male	11	61.11
	No.of Female	7	38.89
41-50 years	Total No.of Patients	34	30.91
	No.of Male	21	61.76
	No.of Female	13	38.24
51-60 years	Total No.of Patients	38	34.55
	No.of Male	22	57.89
	No.of Female	16	42.11
61-70 years	Total No.of Patients	16	14.55
	No.of Male	9	56.25
	No.of Female	7	43.75

Table No.2:-Data pertaining to knowledge, attitude and Practice about salt consumption and hypertension.

1	Do you realize that eating too much salt causes hypertension?	Yes	85.60%
		No	11.60%
		Don't Know	12.80%
2	Do you think cutting back on salt will help you decrease your blood pressure?	Yes	88.20%
		No	10.40%
		Don't Know	11.40%
3	How crucial is it for you to reduce your salt/sodium intake?	Most Important	22.40%
		Somewhat important	13.10%
		Not at all important	74.50%
4	What is the maximum quantity of salt a person can ingest in a day?	More than 5 gm.	55.80%
		less than 5 gm.	54.20%
5	Do you consume salt-preserved pickled foods?	Yes	92.80%
		No	17.20%

Table No.3:-Data pertains to urine analysis.

Urine Analysis		Number	Percentage (%)
Proportion of the participants subjected to Urine analysis (Total Subjects n=110)	Agreed	85	77.27 %
	Refused	25	22.73 %
Urine Sodium Levels (n=85)	More than 220 mmol/day	67	78.82 %
	In between 40-220 mmol/day	18	21.17 %
Urine Potassium Levels (n=85)	Above 90 meq/l.	27	31.76 %
	Below 90 meq/l.	58	68.23 %

CONCLUSIONS

The average daily salt consumption is 9.6 grammes, which is higher than the World Health Organization's recommended value. The people's knowledge is good, but their attitudes and practices around salt consumption are below the average line. It is undeniable that advice on lowering salt consumption aids in the reduction of blood pressure.

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