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Research Article

**URINARY SODIUM AND POTASSIUM DISCHARGE AND  
DANGER OF HYPERTENSION IN PAKISTANI POPULATION**

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**Abstract:**

**Aim:** Dietary sodium admission is related with pulse and hypertension hazard. Be that as it may, the majority of the contemplates have been directed in whites and it isn't clear regardless of whether the impacts exist in Asian populaces. The reason for the current investigation was to explore the part of 24-h urinary sodium discharge and hypertension hazard among ethnic Pakistani.

**Methods:** One thousand 500 and twenty moderately aged and old members who were free from hypertension at benchmark and had accessible pee electrolyte data. Our current research was conducted at Mayo Hospital, Lahore from May 2019 to April 2020. During a middle 8.94 long stretches of development (interquartile range 4.08–8.05 years), we archived 667 instances of occurrence hypertension.

**Results:** The multivariate hazard was 4.27 (96% certainty interval 1.01-1.58;  $P=0.044$ ) for those in the highest quartile of sodium urine flow compared to those in the next highest quartile. A critical J-shaped relationship between urinary sodium flow and the danger of hypertension was observed, with the direct link test being rejected ( $P=0.046$ ). Members who were in the most notable quartile of sodium urine output and higher standard blood pressure had an increased risk of hypertension of 3.46 (96% certainty interval 1.73-4.23) in contrast to those in the lowest quartiles of sodium urine output and lower blood pressure.

**Conclusion:** Urinary sodium discharge was linked to the danger of hypertension in ethnic Pakistani. Urinary sodium output, as a marker of dietary sodium intake, may be useful for a thorough assessment of the risk of hypertension in Asian populations.

**Keywords:** Urinary Sodium, Potassium Discharge, Hypertension.

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**INTRODUCTION:**

Hypertension significantly rises cardiovascular risk and has an incredible public profile worldwide. High rates of hypertension are found in middle- to late-aged adults, and the risk factors for developing hypertension include age, gender, body size, metabolic disorders and lifestyle factors. Among lifestyle factors, dietary sodium and potassium intakes are related to pulse rate (BP) and the risk of hypertension in many biological and cross-sectional studies. For the model, a cross-sectional European survey demonstrated a direct pattern between sodium intake and BP levels. Nevertheless, the biological and cross-sectional studies were thwarted by different altering factors and were vulnerable to tilt. In addition, minor geological and ethnic variations in sodium intake were found. Data on the function of urinary sodium and potassium flow in the risk of hypertension were generally uncommon in the Pakistani ethnic group, which actually has the highest sodium intake. From this perspective, related information planned by network members may provide a legitimate response to the link between urinary sodium excretion and the risk of hypertension.

**METHODOLOGY:**

High blood pressure significantly manufactures the cardiovascular danger and has an extraordinary public burden worldwide. High rates of hypertension are found in middle-aged to older adults, and the risk factors for an episode of hypertension are consistent with age, gender, robustness, metabolic confusion and lifestyle factors. Our current research was conducted at the Mayo Hospital in Lahore from May 2019 to April 2020. Among lifestyle factors, dietary sodium

and potassium confirmations are related to heart rate (BP) and risk of hypertension in various organ and cross-sectional tests. For the model, a European cross-sectional examination showed a direct design between sodium intake and BP levels. In all cases, the organic and cross-sectional studies were confounded by various modifying factors and were defenseless against the trend. In addition, there was a slight geographical and ethnic disconnect in the sodium assertion. Information on the urinary sodium and potassium release capacity in the risk of hypertension was generally unprecedented in the Pakistani ethnic social order, which actually has the highest sodium use. Thus, partner data organized by individuals in the network can provide a true response to the association between urinary sodium excretion and risk of hypertension. Participants with a baseline finding of hypertension (BP 150/90mmHg or a history of antihypertensive medication, n/41097) or insufficient information on pee mix at the baseline (n/4987) were excluded from this review. After these bans, the last diagnostic example included 1530 limbs with complete urine information. As the registration technique was also based on volunteering, the members were from a single network, our members were not agents of the general population. The review board of the National Council of Taiwan University Hospitals confirmed the survey agreement. Cases of episodic hypertension were discovered through biennial blood pressure estimates and drug histories obtained through surveys. Blood pressure was characterized by a sitting systolic pressure of 140 mmHg, a diastolic pressure of 90 mmHg or antihypertensive treatment.

**Table 1:**

	Quintile of baseline uric acid concentration				
	1 (n = 608)	2 (n = 596)	3 (n = 591)	4 (n = 584)	5 (n = 578)
smoker (yes), %	15.3	30.0	47.7	65.9	78.2
drinking (yes), %	13.8	24.5	37.6	48.0	57.0
status, %					
with spouse	2.3	3.0	3.2	1.7	3.5
wid or separated	85.7	86.7	85.2	88.2	88.6
never level, %	12.0	10.2	11.6	10.1	7.9
never	95.4	95.5	94.8	94.0	90.2
never	4.6	4.5	5.3	6.0	9.8
never					
never	57.1	54.0	50.4	42.5	35.2
never	29.1	32.1	33.7	40.8	44.2
never	13.8	13.9	15.9	16.8	20.6
never	13.2	13.4	12.9	15.1	18.0
never	7.2	7.6	8.5	11.3	8.8
never	11.2	15.1	15.9	22.9	25.3
never	51.9	53.0	54.6	55.7	54.8
never	22.6	22.9	23.1	23.7	24.2
never	0.211	0.278	0.324	0.377	0.486
never	1.48	1.63	1.77	1.93	2.16
never	1.0 (0.6–2.1)	1.1 (0.6–2.9)	1.0 (0.6–2.3)	1.2 (0.7–2.1)	1.5 (0.9–3.2)

expressed as the mean.

IR: HOMA insulin resistance. Measurements were available for a subsample (n = 1798).

Uric acid: Data are expressed as the median (interquartile range). Measurements were available only for a subsample (n = 790).

**RESULTS:**

Members of the highest quartile for urinary sodium flow had advanced education and diabetes as well, were required to have higher BMI, systolic and diastolic BP, and complete cholesterol and LDL-C levels than members of the different quartiles (Table 1). Comparable appropriations of sex, age, fatty oil, HDL-C, fasting glucose and urinary corrosion levels were found in the different quartiles of sodium urinary

**Table 2:**

	Difference in Hemoglobin Between FGF23 >200 vs ≤200 pg/mL		Difference in Hemoglobin Per Increase of ln(FGF23)	
	Estimate (95% CI)	P	Estimate (95% CI)	P
Unadjusted	-1.707 (-2.827, -0.587)	0.004	-0.940 (-1.813, -0.067)	0.03
Model 1	-1.488 (-2.615, -0.361)	0.01	-0.792 (-1.622, 0.039)	0.06
Model 2	-1.180 (-2.119, -0.240)	0.01	-0.494 (-1.253, 0.265)	0.19
Model 3	-1.096 (-2.152, -0.041)	0.04	-0.433 (-1.251, 0.385)	0.29
Model 4	-1.084 (-2.160, -0.008)	0.04	-0.426 (-0.086, 0.060)	0.30
Model 5	-0.990 (-2.066, 0.085)	0.07	-0.366 (-1.189, 0.457)	0.37

Multivariate model 1 is adjusted for age, sex, and diabetes mellitus. Multivariate model 2 comprises model 1, and also albumin, estimated glomerular filtration rate, urine total protein creatinine ratio, ferritin, and iron saturation. Multivariate model 3 comprises model 2, and also ionized calcium, phosphate, and intact parathyroid hormone. Multivariate model 4 comprises model 3, and also 25-hydroxyvitamin D. Multivariate model 5 comprises model 4 and aldosterone.

CI = confidence interval, FGF23 = fibroblast growth factor 23.

**DISCUSSION:**

In the partner's impending study, 24-hour urinary sodium discharge sums were fundamentally related to the danger of creating hypertension over a mean developmental period of 7.9 long [6]. The J-shaped relationship was free of BMI, diabetes, physical action and other common danger factors and was not clarified by the model's BP levels [7]. We did not localize urinary potassium flow as a defense factor against the risk of hypertension [8]. Intra- and inter-population studies on sodium intake and the risk of hypertension have demonstrated that there is a wide individual variation in daily sodium intake [9]. For example, the natural Intersect study showed that populations whose daily sodium intake was not exactly 1.3 g had low blood pressure. Interestingly, a diet high in sodium was common in both developed and developing countries. Among these Intersect populations, the North Pakistani had the most notable sodium intake, up to 245 mmol/24 hr, which is higher than the mean levels in the most notable quartiles of the study population. The rise in sodium intake is related to blood vessel opposition, fluid intake and platelet activation. Similarly, excessive sodium levels have destructive effects, such as incapacitating renal capacity and irritating hypertension loads [10].

output, and there was no contrast in lifestyle and financial status between the sodium urinary output quartiles. The relationships between urinary sodium and other hazard factors ranged from 0.012 for fatty oils to 0.098 for BMI, and those between urinary potassium and other hazard factors were higher, from 0.036 for systolic blood pressure to 0.134 for BMI (Table 2).

**CONCLUSION:**

In the summary, urinary sodium discharge is linked to the danger of hypertension in ethnic Pakistani. As there is a strong relationship between urinary sodium output and usual vascular hazard factors, urinary sodium output, as a marker of dietary sodium intake, may be useful for a thorough assessment of the risk of hypertension in Asian populations.

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