

Description of Sodium Intake among Patients in a Kidney Care Outpatient Clinic

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Introduction: Reducing sodium intake is a key management strategy in delaying progression of chronic kidney disease (CKD).^{1, 2} The average sodium consumption in Canada is 3400mg/d, far exceeding the upper tolerable intake level of 2300mg/day.^{1,3} In Canada, breads/cereals, milk/dairy products, soups and fast food products are found to be significant sources of dietary sodium.⁴ The St. Paul's Hospital Kidney Care Clinic (KCC) in Vancouver uses the validated Scored Sodium Questionnaire-Screening Form (SSQ-SF) to identify high and low sodium consumption. The sodium intake of the KCC population has not been previously investigated.

Objectives: To describe the sample's sodium intake using SSQ-SF scores, the consumption frequency of SSQ-SF food categories, and how consumption patterns may vary with age and sex.

About the SSQ-SF: This screening form was developed and validated for renal patients.^{2,5} The SSQ-SF collects patients' consumption frequencies of 13 categories of high sodium foods. Each category is weighted differently according to average sodium content. The lowest possible total SSQ-SF score is 0, while the highest possible score is 149. The score cut-point of 50 correlates with 2300mg of sodium/day (upper tolerable intake level). Patients who score 50 or more are classified as "high sodium consumers", while those who score less than 50 are classified as "low sodium consumers".

Methods: A retrospective chart review was performed for all SSQ-SFs completed between July and November 2017. Descriptive statistics for the sample and sodium intake were generated (Table 1). In terms of demographics, this study sample was similar in age and sex to the original SSQ-SF study⁵.

Results and Discussion:

A total of 76 SSQ-SFs were analyzed for this study. Mean SSQ-SF score was 52.5±17 and median SSQ-SF score was 50.5. The majority of the sample (53%) was classified as "high sodium consumers" with males consuming more sodium than females (Table 2). High sodium consumers were more likely to be in older age groups of 61-70 years and 71-83 years (56.0±15 and 56.1±17.6), compared to those in younger age groups of 29-40 years (47.3±16.6), 41-50 years (46.1±20.3), and 51-60 years (46.3±14.9).

In terms of food categories, males were more likely to consume processed meat than females (67% of males versus 26% of females reported processed meat consumption at least once a week). Canned/package soup was not a significant contributor to sodium consumption, in contrast to Canadian population data⁵. Of all food categories, bread (26%), salt added during cooking (23%) and processed meat (19%) were the greatest contributors to SSQ-SF scores among high sodium consumers.

Table 1: Characteristics of Patient Sample

Descriptive Characteristics		(n = 76)
Sex		
Male		45 (59%)
Female		31 (41%)
Age Categories		
29-40 years		4 (5%)
41-50 years		10 (13%)
51-60 years		14 (18%)
61-70 years		21 (28%)
71-83 years		27 (36%)
Mean (years)		63 ± 13
Median (years)		67

Table 2: SSQ SF Scores

	Total (n=76)	Sex		Age Categories				
		Male (n=45)	Female (n=31)	29-40 years (n=4)	41-50 years (n=10)	51-60 years (n=14)	61-70 years (n=21)	71-83 years (n=27)
Mean (SSQ-SF score)	52.5 ± 17.0	55.3 ± 17.3	48.4 ± 15.9	47.3 ± 16.6	46.1 ± 20.3	46.3 ± 14.9	56.0 ± 15.0	56.1 ± 17.6
Median (SSQ-SF score)	50.5	56.0	49.0	42.5	45.8	44.8	58.0	56.0
High sodium consumer (% in each category)	40 (53%)	26 (58%)	14 (45%)	-	-	-	-	-
Low sodium consumer (% in each category)	36 (47%)	19 (42%)	17 (55%)	-	-	-	-	-

Table 3: Differences in Consumption Frequencies of Selected Food Categories between High and Low Sodium Consumers

All types of bread	Doesn't usually eat bread		
	1-2 slices/day	3+slices/day	
High sodium consumers (n=40)	2 (5%)	27 (68%)	11 (27%)
Low sodium consumers (n=36)	8 (22%)	22 (61%)	6 (16%)
Processed meat	Rarely or never eaten		
	1-3x/week	At least 1x/day	
High sodium consumers (n=40)	11 (28%)	26 (65%)	3 (8%)
Low sodium consumers (n=36)	27 (75%)	9 (25%)	0 (0%)
Canned or packaged soup	Rarely or never eaten		
	1-3x/week	At least 1x/day	
High sodium consumers (n=40)	29 (73%)	10 (25%)	1 (3%)
Low sodium consumers (n=36)	31 (86%)	4 (11%)	1 (3%)

Conclusion: High sodium intake is prevalent in this population, and varies with age and sex. Males and older patients showed the highest average sodium consumption. Description of this sample will help KCC dietitians improve and expand strategies for low sodium education.

Future Directions for Quality Improvement: The SSQ-SF is a quick and useful tool that other KCCs may use to describe the sodium intake patterns of their patients. Our goal is to use the SSQ-SF as a quality indicator of dietetic interventions for future research.

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