Original Research

Salt and Health: public awareness, attitudes, and practices in Sri Lanka to inform a behaviour change communication campaign to reduce dietary salt

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Abstract

Introduction: Sri Lankan citizens consume almost double the recommended daily amount of salt.

Objectives: To assess the knowledge, attitudes and practices related to health effects of dietary salt among adults and adolescents in Sri Lanka to inform a national behaviour change communication campaign

Methods: We conducted a descriptive household survey among adults (n=1016) and adolescents (n=505) in 10 districts. An interviewer-administered questionnaire was used for data collection. The approximate amount of dietary salt intake of the individuals was estimated based on household purchases.

Results: The recommended salt limit was identified by 40% of the population. Majority of adults (90.8%) and adolescents (86.1%) knew the adverse health effects of high salt intake. Although household monthly purchase of salt indicated consumption is much higher than recommended, 48.3% of adults and 45.9% of adolescents believed they consume the right amount of salt. Discretionary salt added to home cooking was a major contributor to intake, while consumption of processed food was also high. For health-related information, most preferred media is television (adults: 72%, adolescents: 69%).

Conclusions & Recommendations: The study identified gaps as well as strengths of Sri Lankan's knowledge, attitudes and practices on salt consumption and health. Study recommends a communication campaign that include specific messaging to address gaps and leveraging on strengths. The survey identified adult females to be a key target group for the campaign and television as the best mode of message delivery.

Keywords: *awareness, blood pressure, practices, salt, Sri Lanka*

Introduction

Convincing evidence suggests that high salt intake is associated with an increased risk of hypertension, and in turn coronary artery disease and stroke (1). Moreover, high salt intake may directly increase the risk of stroke, left ventricular hypertrophy, osteoporosis, stomach cancers and renal diseases (2-3). The World Health Organization (WHO) has identified the reducing population level salt consumption as a cost-effective intervention to prevent non-communicable diseases and recommends that an adult should consume less than 5 g of salt per day (4).

A review of evidence that estimated the global salt intake in 2019 reveals that salt intake globally is higher than the WHO recommended level of 5 g of salt per day (5) while in most high-income countries, the bulk of dietary salt (70-80%) comes from processed or restaurant foods. There is only limited evidence on the source of dietary salt in low- and middle-income countries (1). A National Population Salt Consumption Survey in 2012 showed that estimated per person salt intake of a Sri Lankan adult is 10.5 g/day, which is double the WHO's recommended daily salt intake (6). A recent study conducted in 2020 among 328 adults between 30-59 years in Sri Lanka used the 24-hour urinary excretion and revealed a mean daily salt consumption of 8.3 g/day (7).

The 2015 STEPS Survey in Sri Lanka conducted among nationally representative sample of 5 188 adults aged 18-69 years assessed various sources of dietary salt in Sri Lankan households. The survey revealed that adding salt to rice, the main staple food could be one important source of dietary salt, as more than half of the target households (52.8%) reported adding salt to rice (8). In addition, around 27% of the adults (28.3% males and 24.8% females) were estimated to 'always' or 'often' eat processed food. However, the STEPS survey did not assess the population's knowledge and attitudes on the salt consumption that could guide a campaign for population level salt reduction in the country (8). Sri Lanka implemented the National Salt Reduction Strategy 2018-2022 (NSRS) with the overall aim of a 30% reduction in the mean population intake of salt and sodium by 2025 from its baseline of 10.5 g/day in 2012 (6, 9). Guided by the SHAKE Technical Package of WHO (4), the NSRS calls for better surveillance, implementation of an effective behaviour change communication and mass media campaign. Designing communication material for behaviour change of communities requires understanding of the current salt consumption practices, people awareness on adverse effects of high salt consumption and their readiness for change. The objective of this national level survey was to assess the knowledge, attitude and practices of adolescents aged 15-18 years and adults related to salt and health, to inform the designing of communication material in implementing an effective behaviour change communication campaign for the NSRS 2018-2022.

Methods

We conducted an island wide cross-sectional household survey during August-September 2019, in 10 out of the 25 districts of Sri Lanka. The study population included two population age groups (adult males and females aged 19-69 years and adolescents aged 15-18 years) who had been residents in the district for more than six months. We excluded those mentally disturbed and physically too frail to participate in the study.

We calculated the minimum required sample size based on the number required to estimate the proportion of study units who can be expected to have good knowledge, attitudes and practices related to salt and health. Based on z=1.96 (for a level of confidence of 95%; p=0.55 (considering the non-availability of comparable estimates, p was considered as 50% to obtain the highest sample size); and e=0.05, the minimum required sample size was 384 (10). Considering the design effect (1.25) due to the adopted multistage cluster sampling technique and 5% non-response based on previous similar studies in Sri Lanka (7), the minimum sample size required was 500. Considering the importance of capturing the variation of knowledge, attitudes and practices, we included 500 each in each category of adult males, adult females and adolescents, with a total of 1500 participants.

We used a multi-stage cluster sampling technique to select a representative sample of adults and adolescents from 10 out of the 25 districts of Sri Lanka, with numbers from each district being proportionate to the size of the resident population. In the first stage, we randomly selected one district from each of the nine provinces. In addition, Colombo District was included since it is the most populous district in Sri Lanka. We defined a cluster as a group of 54 eligible study units (36 adults (18 males and 18 females) and 18 adolescents) living in a medical officer of health (MOH) area, which is the basic medical administrative area and 28 such clusters were selected, with population proportionate number of clusters from the 10 districts. The eligible households were identified by randomly selecting 4-5 roads within each cluster, and the eligible participants recruited until the required number of participants was achieved. We included only one category of participants from one household, either an adult male, adult female or an adolescent, and used the Kish method to select a member from the house for the survey (11).

Based on a desk review of published literature on surveys with similar objectives (12-18), we developed an interviewer administered multi-component knowledge, attitude and practice survey questionnaire on salt and health as an online version using EpiCollect5 free data gathering platform (19). We estimated the approximate per capita dietary salt intake indirectly based on the amount of monthly purchases of salt to the households and calculating per capita salt consumption according to the number of household members consuming the amount of purchased salt. Since this survey was conducted to inform the design of a communication package to support the implementation of NSRS 2018-2022, specific inquiries were made on participants' attitude towards salt consumption and their commonly used information sources to access health information. We trained a team of 28 undergraduate university students studying Health Promotion to collect data, with one data collector per cluster. We used geolocations and time stamps to remotely monitor the data collection process.

Data analysis

We report descriptive analysis of the knowledge, attitude and practices of the participants regarding salt and health using frequency distributions and Chi-squared test used to assess for any gender differences in the results.

Results

Of the 1 016 households surveyed, the median household size was four (IQR: 2-5 individuals). Mean age of the 1 1016 adult participants (Table 1) was 46 (IQR: 35-58) years. Of them, 26.7% were having hypertension compatible with 26.1% reported in 2015 STEPS Survey (8), followed by heart disease (7.6%) and kidney disease (2.0%). The 505 adolescent participants had a median age of 16 (IQR: 15-18) years. Television (TV), which was the mostly accessed information source was significantly higher among adult females (81.3%) compared to adult males (71.9%) ($p=0.008$) as well as in female adolescents (78.7%) compared to male adolescents (69.3%) ($p<0.001$).

Knowledge of adults and adolescents

Only 40.1% of adults and 39.6% of adolescents were aware of the WHO's recommended daily salt consumption (5g) (Table 2). A significantly higher proportion of adult females knew the correct daily allowance of salt compared to adult males (43.3% versus 36.8%) ($p=0.032$) and that high salt intake is a risk factor for hypertension (83.3% males versus 70.1% males). These findings were not apparent among adolescents.

Attitudes of adults and adolescents

Approximately half of the adults (48.3%) (Table 2) and adolescents (45.7%) believed that they are eating 'just the right amount of salt', with no significant difference between males and females among adults as well as among adolescents. Further, 55.2% of adults and 39.4% of adolescents opined that it is very important to lower their own dietary salt consumption. This attitude was demonstrated

significantly in higher proportion among female adults compared to male adults (p=0.01). The majority of adults (72%) and adolescents (68.5%) believed that it is very easy/easy to reduce their dietary salt consumption, with no significant gender difference.

Cooking practices of adults

The median total monthly household salt purchased was 1100 g (IQR: 700-1450g) (Table 3). Approximate estimates indicated that per capita consumption of salt were 9.2 g/day, almost double the recommended amount among the adult respondents. Further, among those who reported cooking at home (n=761), approximately half (n=346) said that they add salt to rice and almost all (n=631; 96.2%) reported that they add salt prior to or while cooking food.

Dietary practices of adults and adolescents

of the sample,16.7% of the adults (n=169) and 13.7% of adolescents (n=68) reported that they add salt while eating food already cooked with salt (Table 4). The practice of eating processed food was quite high among both adults and adolescents, with 94.9% of adults and 98.2% of adolescents reported their consumption to be at least once a week; and 14% of adults and 18.2% of adolescents three or more times a week.

Discussion

The present study generated important evidence to inform the designing of communication material in implementing an effective behaviour change communication campaign of the NSRS 2018-2022. The results indicated that participants' per capita consumption of salt was 9.2 g/day which is almost double the recommended daily requirement of salt. This finding is compatible with the findings of studies in western countries as well as other LMICs where average per capita salt consumption varies from 9 to 12 g/day(14, 16-18, 20-21). A reason for this could be that majority of Sri Lankan adults (59.9%) and adolescents (60.4%) were not adequately aware of the recommended daily salt consumption. This could be a main deterrent and a crucial knowledge gap that affect Sri Lanka's efforts to implement the NSRS's aim to reduce population level dietary salt consumption and needs to be addressed urgently.

In addition to high consumption of salt at home, 94.9% of adults and 98.2% of adolescents reported that they consume processed foods or snacks at least once a week, which adds to their per capita salt intake. In a typical western diet, processed foods contributes three-quarters or more to the sodium intake (22). Although such statistics are not available for LMICs, our study indicates that Sri Lanka too, processed food could be a significant contributor to high salt intake of adults and adolescents. These finding taken together with the finding that approximately half of the adults (48.3%) and adolescents (45.9%) believe that they are eating just the right amount of salt is alarming and reiterates the need for the NSRS to implement an effective behaviour change communication campaign. The vast majority of adults and adolescents knowing that high salt consumption is not good for health and its association with hypertension and believing that it is important to reduce their salt consumption can be considered as clues towards success. Almost 75% of adults and adolescents using television as their main source of health information should inform the NSRS on how to design the communication campaign. Since the use of social media was only 9.2% and 13.3% among adults and adolescents respectively, such campaigns are unlikely to reach the majority of population in Sri Lanka. In 2019 Global Digital Overview, it was stated that Asia's social media landscape is different from that of the West, and only 24% of the South Asians use social media landscapes. Our finding confirms that local information platforms dominate the online platforms in Asian countries (20). Decreasing the exposure to salty tasting foods during early infancy is recommended (23). Only around 22% of adults and adolescents knew that salt is not an essential element of infants' diet. The well-established maternal and child health programs in Sri Lanka can be effectively utilized to initiate a long-term positive effect to the whole community and create a generation that is used to low salt diets.

Table 1: Sociodemographic characteristics of the adults and adolescents

	Male		Female		All	
	No.	%	No.	%	No.	%
Adults						
Age (years)						
*19-25	43	8.5	32	6.4	75	7.4
26-40	137	27.1	167	33.3	304	30.2
41-55	156	30.9	176	35.1	332	33.0
56-70	135	26.7	110	21.9	245	24.3
>70	34	6.7	17	3.4	51	5.1
Highest education						
*No formal schooling	12	2.4	8	1.7	20	2.1
Up to grade 5	23	4.7	29	6.0	52	5.3
Passed grade 6-10	82	16.7	73	15.1	155	15.9
Passed O/Level	163	33.2	165	34.2	328	33.7
Passed A/Level	155	31.6	161	33.4	316	32.5
Degree and above	55	11.2	43	8.9	98	10.1
No response	1	0.2	3	0.6	4	0.4
Current marital status						
*Never married	67	13.2	46	9.1	113	11.1
Married	422	83.1	409	80.5	831	81.8
Separated/Divorced/Widowed	6	1.2	30	5.9	36	3.5
No response	13	2.6	23	4.5	36	3.5
Having hypertension*						
Yes	129	25.4	141	27.9	270	26.7
No	377	74.4	365	72.1	742	73.2
Do not know	1	0.2	0	0.0	1	0.1
Having heart disease*						
Yes	49	9.7	28	5.6	77	7.6
No	455	90.3	475	94.4	930	92.4
Do not know	0	0.0	0	0.0	0	0.0
Having kidney disease*						
Yes	16	3.2	4	0.8	20	2.0
No	486	96.6	495	98.8	981	97.7
Do not know	1	0.2	2	0.4	3	0.3
Most commonly used information source to access health information*†						
Television	358	71.9	404	81.3	762	76.6
Radio	30	6.0	25	5.0	55	5.5
News websites	19	3.8	7	1.4	26	2.6
Social media	58	11.6	34	6.8	92	9.2
Newspapers	26	5.2	17	3.4	43	4.3
Tabloid newspapers	1	0.2	0	0.0	1	0.1
Books	2	0.4	3	0.6	5	0.5
None	4	0.8	7	1.4	11	1.1

Adolescents						
Age (years)*						
15-16	117	47.9	138	53.9	255	50.0
17-18	127	52.1	118	46.1	245	49.0
Education*						
No formal schooling	0	0.0	1	0.4	1	0.2
Up to grade 5	5	2.1	2	0.8	7	1.4
Passed grade 6-10	93	38.9	120	46.5	213	42.9
Passed O/L	122	51.0	114	44.2	236	47.5
Passed A/L	19	7.9	21	8.1	40	8.0
Most commonly used information source to access health information†‡						
Television	169	69.3	203	78.7	372	74.1
Radio	2	0.8	7	2.7	9	1.8
News websites	6	2.5	5	1.9	11	2.2
Social media	50	20.5	17	6.6	67	13.3
Newspapers	9	3.7	18	7.0	27	5.4
Tabloid newspapers	0	0.0	1	0.4	1	0.2
Books	0	0.0	0	0.0	0	0.0
None	8	3.3	7	2.7	15	3.0

*Non responders were not included in the statistical analysis

†^{2}=18.93, df=7, p value=0.008

‡^{2}=25.92, df=7, p value=<0.001

With regards to practices to be addressed through the communication campaign, the study indicated that more than half of the participants add salt to rice, which is compatible with previous studies, indicating ineffective efforts to reduce salt consumption in the past years in Sri Lanka (8). Moreover, Sri Lankans mainly consume homemade food rather than packaged foods, and therefore, discouraging the practice of adding salt to rice could be an important intervention to reduce salt consumption. Because home cooked food is prepared mostly by females and salt or seasoning cubes are added to food, this highlights the need to target adult females in communication campaigns on salt reduction. This pattern was seen in a study conducted in Nepal as well, possibly because of similar socio-cultural backgrounds (14).

A strength of this study is that it is the first island-wide survey to assess knowledge, attitudes, and practices of dietary salt consumption in Sri Lanka. Though much care was taken to objectively assess the self- reported practices related to cooking and diet, the limitation of recall bias cannot be ruled out. Another limitation is that the present study assessed the salt consumption indirectly by inquiring into monthly family household salt consumption which can only be considered a proxy indicator and did not quantify the salt consumption of the study units by direct measurement. As sample size calculation has not accounted for analytical statistics, some of the statistics applied may not have adequate power.

Conclusions & Recommendations

The study identified gaps as well strengths in knowledge, attitudes and practices of Sri Lankans related to salt and health that should be addressed through planned communication campaigns of NSRS. Being unaware of the recommended dietary salt intake, the practice of adding salt to rice and consuming higher amounts of salt than recommended, while believing that they consume the right amount are some key gaps. Knowing the association of salt and health, agreeing that personal dietary salt

Table 2: Knowledge and attitudes/opinion on salt and health among adolescents and adults

	Adults							Adults						
	Male		Female		All		p value	Male		Female		All		p value
	No.	%	No.	%	No.	%		No.	%	No.	%	No.	%	
Knowledge														
Daily recommended allowance of salt for an adult														
Responded correctly	187	36.8	220	43.3	407	40.1	**0.03**	97	39.6	103	39.6	200	39.6	**<0.001**
Responded incorrectly/not responded	321	63.2	288	56.7	609	59.9		148	60.4	157	60.4	305	60.4	
Too much salt in diet is not good for your health														
Responded correctly	453	89.2	468	92.1	921	90.6	0.09	206	84.1	229	88.1	435	86.1	0.19
Responded incorrectly/not responded	55	10.8	40	7.9	95	9.4		39	15.9	31	11.9	70	13.9	
High sat consumption is a risk factor for high blood pressure														
Responded correctly	412	81.1	434	85.4	846	83.3	0.05	169	69.0	185	71.2	354	70.1	0.59
Responded incorrectly/not responded	96	18.9	74	14.6	170	16.7		76	31.0	75	28.8	151	29.9	
High salt consumption is a risk factor for osteoporosis														
Responded correctly	150	29.5	160	31.5	310	30.5	0.48	55	22.4	65	25.0	120	23.8	0.5
Responded incorrectly/not responded	358	70.5	348	68.5	706	69.5		190	77.6	195	75.0	385	76.2	
High salt consumption is a risk factor for kidney diseases														
Responded correctly	204	40.2	209	41.1	413	40.6	0.73	86	35.1	87	33.5	173	34.3	0.69
Responded incorrectly/not responded	304	59.8	299	58.9	603	59.4		159	64.9	173	66.5	332	65.7	

High salt consumption is a risk factor for stomach cancers														
Responded correctly	116	22.8	113	22.2	229	25.5	0.84	48	19.6	64	24.6	112	22.2	0.17
Responded incorrectly/not responded	392	77.2	395	77.8	786	77.5		197	80.4	196	75.4	393	77.8	
Salt is not an essential element of infants' diet														
Responded correctly	122	24.0	97	19.1	219	21.6	0.06	61	24.9	49	18.8	110	21.8	0.1
Responded incorrectly/not responded	386	76.0	411	80.9	797	78.4		184	75.1	211	81.2	395	78.2	
Attitude/opinionOpinion about amount of salt or salty food they consumed														
Far too much	20	4.0	27	5.3	47	4.7	0.76	11	4.5	8	3.1	19	3.8	0.89
Too much	148	29.3	159	31.5	307	30.4		77	31.4	76	29.2	153	30.3	
Just the right amount	243	48.1	245	48.5	488	48.3		110	44.9	121	46.5	231	45.7	
Too little	44	8.7	46	9.1	90	8.9		11	4.5	12	4.6	23	4.6	
Far too little	13	2.6	9	1.8	22	2.2		3	1.2	2	0.8	5	1.0	
No comment*	37	7.3	19	3.8	56	5.5		33	13.5	41	15.8	74	14.6	
Opinion on importance of lowering own dietary salt														
Very important	265	52.2	295	58.2	560	55.2	0.35	88	35.9	111	42.7	199	39.4	**0.01**
Somewhat important	186	36.6	177	34.9	363	35.8		110	44.9	111	42.7	221	43.8	
Not at all important	26	5.1	21	4.1	47	4.6		24	9.8	9	3.5	33	6.5	
No comment*	31	6.1	15	2.8	46	4.4		23	9.4	29	11.2	52	10.3	
Opinion on how easy to reduce the salt consumption														
Very easy	71	14.0	75	14.8	146	14.4	0.21	28	11.4	23	8.8	51	10.1	0.19
Easy	301	59.3	284	56.0	585	57.6		128	52.2	167	64.2	295	58.4	
Not difficult	60	11.8	86	17.0	146	14.4		45	18.4	33	12.7	78	15.4	
Not easy	34	6.7	27	5.3	61	6.0		15	6.1	13	5.0	28	5.5	
Difficult	37	7.3	29	5.7	66	6.5		24	9.8	20	7.7	44	8.7	
Very difficult	4	0.8	5	1.0	9	0.9		3	1.2	3	1.2	6	1.2	
No comment*	1	0.2	2	0.2	3	0.2		2	0.8	1	0.4	3	0.6	

*No comments category' was not included in the analysis

Table 3: Cooking practices related to salt among adults

	Male		Female		All		p value*
	No.	%	No.	%	No.	%	
Household cooking practices Type of salt usually purchased							
Always powdered salt	189	39.9	183	36.8	372	38.3	-
Always crystal salt	65	13.7	78	15.7	143	14.7	
No preference	220	46.4	236	47.5	456	47.0	
Amount of salt purchased per month (g)	Median	IQR	Median	IQR	Median	IQR	-
Powdered	500	200-1000	500	150-1000	500	200-1000	
Crystal	400	250-800	400	225-500	400	250-800	
Total	1100	700-1450	1000	625-1450	1200	800-1600	
How salt is stored at home							
In the packet itself	52	10.8	57	11.4	109	11.1	-
In a bottle/container	334	69.2	349	69.8	683	69.5	
Dissolved in a coconut shell/bottle	48	9.9	49	9.8	97	9.9	
Do not know	49	10.1	45	9.0	94	9.6	
Personal cooking practices							
Frequency of cooking meals at home							
Always	81	15.9	420	82.7	501	49.4	**<0.001**
Most of the time	33	6.5	43	8.5	76	7.5	
Sometimes	74	14.6	26	5.1	100	9.8	
Rarely	77	15.2	7	1.4	84	8.3	
Never	243	47.8	12	2.4	255	25.1	
Adding salt while cooking	(n=265)		(n=496)		(n=761)		
Yes	230	86.8	424	85.5	654	85.9	0.42
No	35	13.2	72	14.5	107	14.1	

Adding salt to rice while cooking	(n=232)		(n=424)		(n=656)		
Yes	116	50.0	230	54.2	346	52.7	0.31
No	116	40.0	194	45.8	310	47.3	
How salt is added while cooking	(n=232)		(n=424)		(n=656)		
Add the amount I think is needed at once	113	48.7	199	46.9	312	47.6	0.41
Add little at the beginning and keep adding	114	49.1	205	48.3	319	48.6	
Add required amount at the end	5	2.2	19	4.5	24	3.7	
Other	0	0.0	1	0.2	1	0.2	
Use of seasoning cubes while cooking at home	(n=232)		(n=424)		(n=656)		
Yes	82	35.3	159	37.5	241	36.7	0.58
No	150	64.7	265	62.5	415	63.3	
Frequency of adding seasoning cubes	(n=82)		(n=159)		(n=241)		
Always	2	2.4	5	3.1	7	2.9	0.21
Sometimes	49	59.8	76	47.8	125	51.9	
Rarely	31	37.8	78	49.1	109	45.2	
Use of soy sauce while cooking at home	(n=232)		(n=424)		(n=656)		
Yes	50	21.6	90	21.2	140	21.3	0.92
No	182	78.4	334	78.8	516	78.7	

Table 4: Dietary practices in the week prior to the survey among adolescents and adults

	Adults							Adults						
	Male		Female		All		p value	Male		Female		All		p value
	No.	%	No.	%	No.	%		No.	%	No.	%	No.	%	
Adding salt to food (already cooked with salt) before eating														
Daily	13	2.6	11	2.2	24	2.4	0.69	3	1.2	2	0.8	5	1.0	**0.05**
5-6 days a week	2	0.4	2	0.4	4	0.4		2	0.8	1	0.4	3	0.6	
3-4 days a week	12	2.4	6	1.2	18	1.8		0	0.0	7	2.7	7	1.4	
1-2 days a week	61	12.0	62	12.2	123	12.1		21	8.6	32	12.3	53	10.5	
Never	418	82.3	425	83.7	843	83.0		216	88.2	211	81.2	427	84.6	
Don't remember*	2	0.4	2	0.4	4	0.4		3	1.2	7	2.7	10	2.0	
Consumption of snacks such as biscuits, buns, Chinese rolls, wade, etc during the last week														
Once	256	50.4	258	50.8	514	50.6	0.87	88	35.9	109	41.9	197	39.0	0.29
Twice	101	19.9	102	20.1	203	20.0		76	31.0	79	30.4	155	30.7	
three times	56	11.0	49	9.6	105	10.3		27	11.0	25	9.6	52	10.3	
More than three times	68	13.4	74	14.6	142	14.0		52	21.2	40	15.4	92	18.2	
Do not remember*	27	5.3	25	4.9	52	5.1		2	0.8	7	2.7	9	1.8	
Eating out - breakfast														
Daily	28	5.5	9	1.8	37	3.6	**<0.001**	3	1.2	4	1.5	7	1.4	0.13
5-6 days	7	1.4	7	1.4	14	1.4		7	2.9	8	3.1	15	3.0	
3-4 days	31	6.1	13	2.6	44	4.3		22	9.0	11	4.2	33	6.5	
1-2 days	46	9.1	37	7.3	83	8.2		35	14.3	27	10.4	62	12.3	
Never	376	74.0	421	82.9	797	78.4		166	67.8	199	76.5	365	72.3	
Do not remember*	20	3.9	21	4.1	41	4.0		12	4.9	11	4.2	23	4.6	

Eating out- lunch														
Daily	27	5.3	7	1.4	34	3.3	**<0.001**	2	0.8	2	0.8	4	0.8	**0.001**
5-6 days	10	2.0	4	0.8	14	1.4		1	0.4	2	0.8	3	0.6	
3-4 days	25	4.9	9	1.8	34	3.3		13	5.3	3	1.2	16	3.2	
1-2 days	42	8.3	23	4.5	65	6.4		49	20.0	30	11.5	79	15.6	
Never	385	75.8	445	87.6	830	81.7		173	70.6	213	81.9	386	76.4	
Do not Remember*	19	3.7	20	3.9	39	3.8		7	2.9	10	3.8	17	3.4	
Eating out- dinner														
Daily	15	3.0	4	0.8	19	1.9	**0.02**	2	0.8	1	0.4	3	0.6	**0.04**
5-6 days	7	1.4	5	1.0	12	1.2		0	0.0	4	1.5	4	0.8	
3-4 days	21	4.1	9	1.8	30	3.0		14	5.7	17	6.5	31	6.1	
1-2 days	90	17.7	95	18.7	185	18.2		68	27.8	49	18.8	117	23.2	
Never	356	70.1	374	73.6	730	71.9		152	62.0	181	69.6	333	65.9	
Do not Remember*	19	3.7	21	4.1	40	3.9		9	3.7	8	3.1	17	3.4	
Online ordering of foods														
Daily	1	0.2	0	0.0	1	0.1	0.35	0	0.0	1	0.4	1	0.2	0.81
5-6 days	0	0.0	1	0.2	1	0.1		0	0.0	0	0.0	0	0.0	
3-4 days	2	0.4	1	0.2	3	0.3		1	0.4	1	0.4	2	0.4	
1-2 days	19	3.7	11	2.2	30	3.0		5	2.0	5	1.9	10	2.0	
Never	483	95.1	488	96.1	971	95.6		238	97.1	251	96.5	489	96.8	
Do not remember*	3	0.6	7	1.4	10	1.0		1	0.4	2	0.8	3	0.6	

*'Do not remember category' was not included in the analysis

reduction as important and mostly eating home cooked food are the strengths on which the communication campaign can lever on. The survey identified adult females to be a key target group for the campaign and television as the mode of delivery.

Public Health Implications

- Majority of Sri Lankan adults (59.9%) and adolescents (60.4%) were not adequately aware of the recommended daily salt consumption.
- Not being aware of the recommended dietary salt intake and the practice of adding salt to rice can lead to higher consumption of salt than recommended. In contrast, they believe that they consume just the right amount of salt. These could be seen as the key gaps among the participants.
- Adult females could be a key target group for the salt reduction campaign, with television as the best mode of message delivery.

Author Declarations

Disclaimer: The authors alone are responsible for the views expressed in this article and they do not necessarily represent the views, decisions or policies of the institutions with which they are affiliated.

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