Report on the survey on knowledge, attitude and behavior toward dietary salt and health / first results

Introduction

In September 2009 PAHO established an expert group to explore the current epidemiological situation regarding cardiovascular disease and its link to excessive salt consumption in the Americas and review existing policies, interventions and programs aimed at reducing dietary salt and issue evidence-based recommendations for salt reduction in the region. E.g., clear food labeling with regard to salt and/or sodium together with consumer awareness can help reduce the salt intake and is therefore recommended.

Justification

The 37th session of the CODEX Committee on Food Labeling did not reach consensus whether salt or sodium should be used on food labels and established an Electronic Working Group. Section C of the comments of the EWG members (Annex to CCFL minutes of the 38th session, Canada, May 2010) show that in Latin America no research has been undertaken with respect to public or consumer understanding of the terms salt and sodium, and little campaigning to raise consumer awareness on the consumption of high amounts of salt has been undertaken. While all countries show to have guidelines and recommendations to this respect, most do not have educational programs on non-communicable diseases.

Main objective

For this reason the PAHO expert group proposed to conduct a survey to be realized in 4 countries by national consumer associations, a project to be led by Consumers International (CI) and financed by PAHO. The overall aim of this quantitative survey is to establish a base line on consumer knowledge, behavior and labeling preference with respect to salt and sodium. This can be used to provide input to the next CODEX committee meeting on salt vs. sodium labeling of food, sodium intake reduction and education plans and to an in-depth qualitative follow-up survey on the same topic.

Hypothesis

Using 20 (multiple options and open) questions, we intend to establish:

- the attitudes of consumers with regard to salt and health
- the knowledge of consumers with respect to the terms salt and sodium
- the knowledge of consumers with respect to his/her use of salt or sodium in food
- the average knowledge of consumers of the relation between high salt consumption and possible health problems
- whether the consumer suffers/has suffered from a salt-related disease (and has knowledge of this condition)
- whether the consumer does something to control his/her salt intake
- the preference of consumers for labeling food (salt, sodium, both, warning labels, percentages, absolute quantity)
- relations of the above-mentioned with age, sex, educational level, attitude

A direct relationship is expected between educational level or the fact that consumers suffer from a salt-related disease and knowledge of the possible health problems high salt consumption can provoke. A direct and inverse relationship between age of healthy consumers and knowledge of the possible health problems high salt consumption can provoke is expected.
Limited knowledge of the possible health problems high sodium consumption can provoke is expected in the majority of the respondents. Labeling preference for salt is expected for consumers with lower levels of education. This survey should confirm these expectations or prove them incorrect.

Methodology and data analysis

Four consumer organizations were invited to undertake the survey in their respective countries. The organizations are Unión de Usuarios y Consumidores (Rosario) for Argentina, Conadecus for Chile, Fundación

Bandera Ecológica for Costa Rica and Tribuna for Ecuador. They all asked 400 people in September and October 2010, divided into approximately 50% women and 50% men and in groups within a large city and in small villages, 20 (open or multiple choice) questions (see annex for the questionnaire).
The results of each questionnaire were then digitized in excel spreadsheets for easy data processing by each consumer organization. Once received by CI, all results were checked, and where possible corrected (by adding "no response" to those questions that were not answered or had two answers where only one was allowed).

This left us with 400 questionnaires for Argentina and Chile and 398[1] for Costa Rica and 359[2] for Ecuador, or a total of 1557 questionnaires answered.

All data were summed per country and are shown below separating the countries and including a grand total.

Results and discussion

The basic demographic data are shown in the following three tables. All values are in percentages unless stated otherwise.

Sex	**Argentina**	**Chile**	**Costa Rica**	**Ecuador**	**Total**
n	400	400	398	359	1557
Male	58,3	51,5	51,5	58,8	54,9%
Female	41,0	48,5	48,0	40,7	45,1%

Children	**Argentina**	**Chile**	**Costa Rica**	**Ecuador**	**Total**
Yes	43,8	31,3	36,2	42,6	38,4%
No	53,8	68,5	60,5	52,7	59,0%
No answer	2,5	0,3	3,3	4,7	2,6%

Education	**Argentina**	**Chile**	**Costa Rica**	**Ecuador**	**Total**
None	0,5	0,5	0,3	0,3	0,4%
Primary	32,3	6,8	8,6	13,6	15,4%
Secondary	41,0	52,0	46,2	44,3	45,9%
Higher	23,8	35,3	41,4	38,2	34,6%
No answer	2,5	5,5	3,5	3,6	3,8%

The survey intended to find out more about the knowledge and behavior of consumers with regard to salt and the possible consequences of consuming too much salt.

Table 1 shows the responses on the importance of limiting the salt intake.

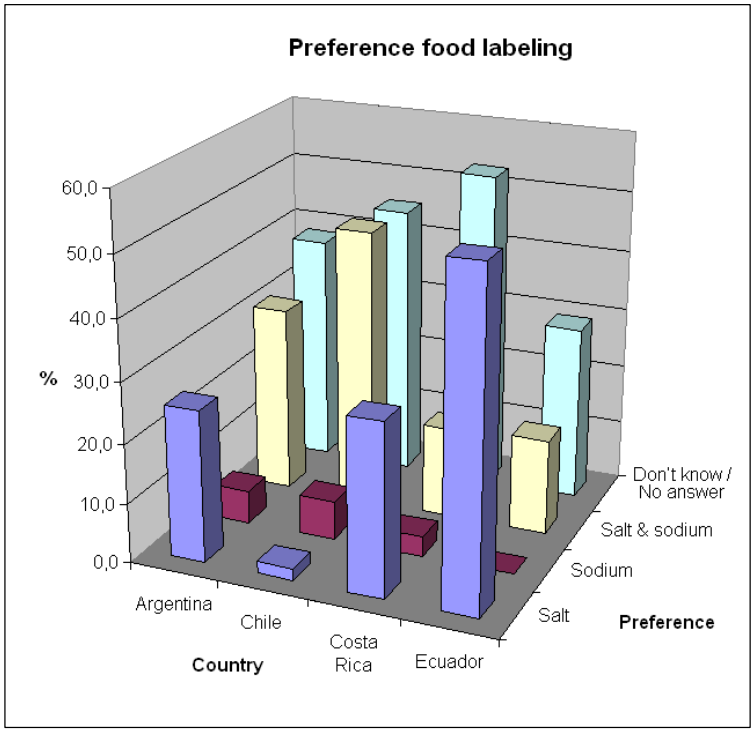
n = 1557	**Argentina**	**Chile**	**Costa Rica**	**Ecuador**	**Total**
Not at all	8,5	10,5	17,9	15,3	13,0% ± 3,6%
Somewhat	41,3	37,5	41,7	47,9	41,9% ± 2,1%
Very	42,8	35,5	32,4	22,6	33,6% ± 8,4%
Don't know	6,8	16,0	7,0	10,8	10,1% ± 3,8%
No answer	0,8	0,5	1,0	3,3	1,4% ± 1,0%
Total	100,0	100,0	100,0	100,0	

This indicates there is awareness that too much salt is not good for one's health.

[1] Excel 6; nº 36 + Excel 9; nº 7: empty
[2] Excel 4, nº 22: empty

In table 2 the preferences for food labeling in the various countries are shown.

n = 1557	**Argentina**	**Chile**	**Costa Rica**	**Ecuador**	**Total**
Salt	25,3	2,0	28,7	54,8	27% ± 17%
Sodium	5,5	6,5	3,3	0,0	3,9% ± 2,6%
Salt & sodium	31,0	46,3	15,1	15,9	27% ± 14%
Don't know	32,0	41,8	40,5	22,8	34,6% ±8,7%
No answer	6,3	3,5	12,5	6,4	7,2% ± 3,4%
Total	100,0	100,0	100,0	100,0	



Where consumers in Argentina, Costa Rica and Ecuador are divided between a preference for salt or for salt together with sodium, Chileans want salt and sodium on their food labels. See graph 1.

The high percentage of people with no preference (either "Don't know" or "No answer") is remarkable. This may be due to the fact that not many people read food package labels and/or they do not understand the nutritional information. As shown in table 3 below, the percentages for people rarely or never reading labels is in the same range (30%–40%), while one-third reads the labels only sometimes.

Table 3. Food label reading (%)

n = 1557	**Argentina**	**Chile**	**Costa Rica**	**Ecuador**	**Total**
Always	10,8	11,0	10,0	10,1	10,5% ± 0,8%
Often	17,3	21,8	14,8	18,4	18,1% ± 2,7%
Sometimes	32,3	34,0	31,6	30,9	32,2% ± 2,4%
Rarely	18,5	18,3	22,2	17,0	19,0% ± 2,5%
Never	20,3	14,0	18,6	17,3	17,6% ± 2,5%
Don't know	0,3	0,8	1,8	1,9	1,2% ± 0,6%
No answer	0,8	0,3	1,0	4,4	1,6% ± 1,5%
Total	100,0	100,0	100,0	100,0	

We also wanted to find out whether the interviewees knew the difference between table salt (sodium chloride) and sodium. In this table this knowledge as indicated by the interviewees and the correctness of their explanation given is shown.

Table 4. Knowledge of difference or relation between salt and sodium

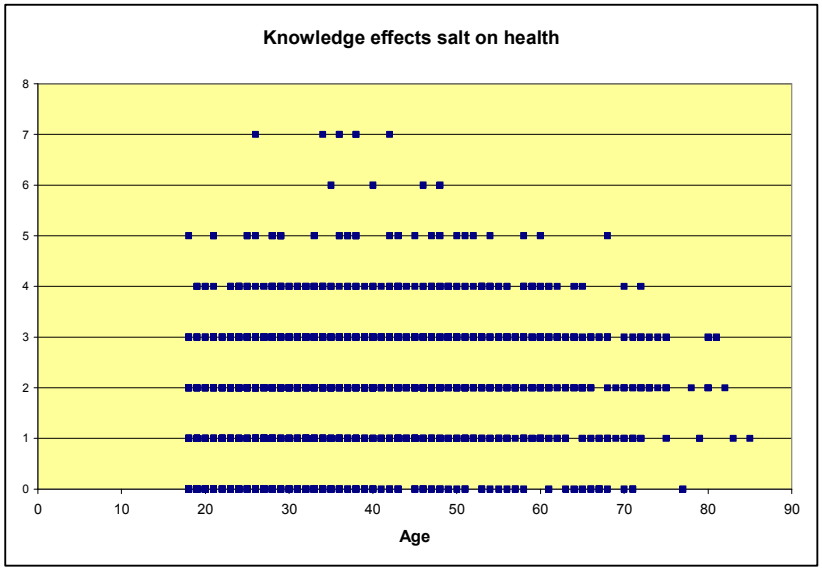
n = 1557	**Argentina**	**Chile**	**Costa Rica**	**Ecuador**	**Total**
Know difference	9,8	17,0	31,2	22,9	20,1% ±7,9%
Correctly answered	6,3	7,0	11,6	2,2	6,9% ± 3,5%

Even though on average one in five interviewees ***said*** they knew the difference between salt and sodium, this is only the case for 1 in 9 people in Costa Rica and going down to 1 in every 45 in Ecuador. This indicates that consumer education is necessary, since these numbers include all interviewed people (also those with secondary and higher education).

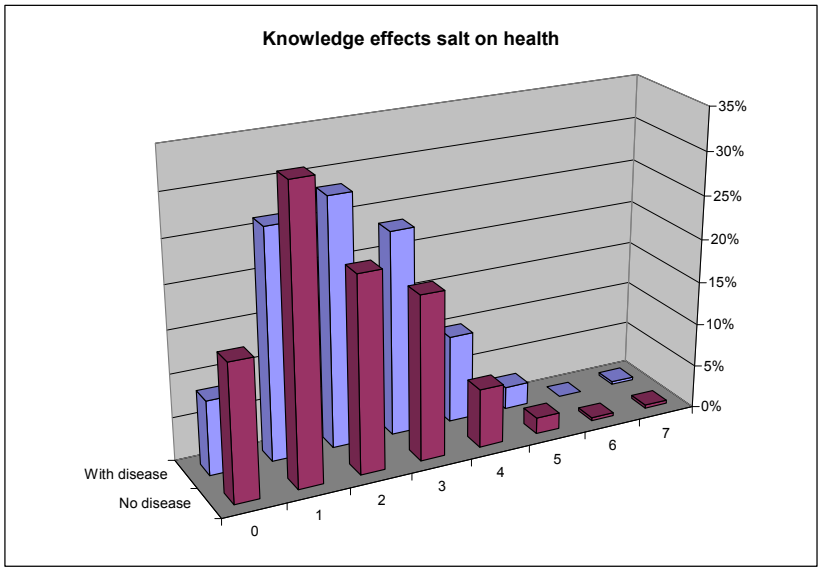
Table 5 shows the knowledge of the interviewees with regard to the existence of a recommended (maximum) amount of salt consumption per day and the correctness of the amount indicated.

n = 1557	**Argentina**	**Chile**	**Costa Rica**	**Ecuador**	**Total**
Know existence	6,3	22,3	36,7	9,8	19% ± 12%
Correctly answered	3,0	2,0	3,0	6,7	3,6% ± 1,5%

Again, one in five people said they knew there is a recommended amount. However, the actual recommended (maximum) amount of salt consumption is virtually unknown in the four countries where we interviewed people. This shows an awareness campaign is necessary.



In one of the survey questions, we asked the interviewees whether they knew about the effects salt can have on the health of people. They could indicate this by naming diseases that are caused by or related to high salt consumption. The answers were scored from 0 to 7 (with 7 meaning all diseases in the list mentioned by the interviewee).
In the graph to the left, showing the score for 1553 interviewed people, one can see that there is no real relation between age and the knowledge of these diseases.



As can be expected, there is a relation between having a salt-related disease and having knowledge of the effect of high salt consumption on health.
In this graph, the scores of interviewees with a salt-related disease (29%) are compared with those of people without any salt-related disease.
Discarding the extreme scores, the people with a disease had a 25-50% higher score than the people without a disease.
Still it is worrying to see that some people with a salt-related disease were not able to mention one disease related to salt consumption in almost 10% of the cases.

First conclusions

Since these are first results, we cannot yet draw too many conclusions other than that knowledge of salt and its effects on health is not very common. The difference between salt and sodium is unknown by the vast majority of people, which could explain the preference for salt on food package labels, even though the same number of people wanted salt together with sodium on the labels. Even so, more people did not know what they want on the label, making it hard to come up with a recommendation to Codex of what should be made compulsory on the food labels. Salt seems the most logical candidate, together with awareness campaigns that consumers should limit their salt intake to a maximum of 5 grams per day.

Acknowledgements

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Annex: Questionnaire on Knowledge, Attitudes, Behavior toward Dietary Salt and Health

Questionnaire on Knowledge, Attitudes, Behavior toward Dietary Salt and Health

Nº:	**Date:**	**Interviewer:**

Age

Sex

female	male

Children under 16 and living at home

yes	no	no answer

Highest education level

none	primary	secondary	higher	no answer

Attitude statements

I try to eat a healthy diet	agree	disagree	don't know	no answer
Eating a diet high in salt can cause serious health problems	agree	disagree	don't know	no answer
I try to minimize the amount of fat I eat	agree	disagree	don't know	no answer
My health is generally good	agree	disagree	don't know	no answer
There is too much pressure to eat healthily these days	agree	disagree	don't know	no answer
I try to minimize the amount of salt I consume	agree	disagree	don't know	no answer
I know in general how much salt food contains	agree	disagree	don't know	no answer
There is sufficient nutritional information on labels of food and drinks	agree	disagree	don't know	no answer

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1. How often do you add salt to food at the table?

never	rarely	sometimes	often	always	don't know

2. In the food you eat at home salt is added in cooking

never	rarely	sometimes	often	always	don't know

3. How much salt do you think you consume?

too much	right amount	too little	don't know	no answer

4. What sort of health problem do you think can be caused by a high salt diet?
(do *not* read aloud + tick all that apply)

a) high blood pressure	b) osteoporosis
c) stomach cancer	d) kidney stones
e) heart attack/heart failure	f) stroke
g) asthma	h) other (specify):
i) none	
j) don't know	k) no answer

5. Do you suffer from or have you suffered from: ?

High blood pressure	yes	no	don't know	no answer
Heart attack	yes	no	don't know	no answer
Stroke	yes	no	don't know	no answer
Kidney stones	yes	no	don't know	no answer
Asthma	yes	no	don't know	no answer
Osteoporosis	yes	no	don't know	no answer
Stomach cancer	yes	no	don't know	no answer

6. Limiting the amount of salt/sodium I eat is important to me.

not at all	somewhat	very	don't know	no answer

7. What, if anything, do you do to control your salt or sodium intake?

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8. Do you know if there is a recommended amount for salt/sodium to be eaten per person per day?

yes	no	don't know	no answer

9. If yes, please indicate the amount?

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10. Do you know the difference between salt and sodium?

yes	no	don't know	no answer

11. If yes, please indicate the difference?

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12. Do you pay attention to indications on packages like "no added salt", "low in salt", "light", "free of trans fat"?

always	often	sometimes	rarely	never	don't know	no answer

13. How often do you read nutrition labels on food packages?

always	often	sometimes	rarely	never	don't know	no answer

14. What do you prefer on nutrition labels on food packages?

salt	sodium	salt and sodium	don't know	no answer

15. Why?

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16. Would you like labelling of food indicating high/medium/low levels of salt or sodium?

yes	no	don't know	no answer

17. Would you like to see a clear warning label on the package if foods are high in salt?

yes	no	don't know	no answer

18. Would you like labelling of food indicating the amount of salt or sodium in grams or milligrams?

yes	no	don't know	no answer

19. Would you like labelling of food indicating salt or sodium as a percentage of the amount recommended to be eaten per person per day?

yes	no	don't know	no answer

20. Do you prefer labelling of food indicating salt or sodium per portion or the total amount per package?

per portion	per 100 gr	total per package	don't know	no answer

21. Comments:
