PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Cross-sectional survey of salt content in cheese – a major contributor to salt intake in the UK
AUTHORS	Hashem, Kawther; He, Feng; Jenner, Katharine; MacGregor, Graham

VERSION 1 - REVIEW

REVIEWER	Cem Ekmekcioglu Medical University Vienna, Centre for Public Health, Vienna, Austria
REVIEW RETURNED	02-Apr-2014

GENERAL COMMENTS	This is an interesting cross-sectional survey collecting and presenting the salt (NaCL) content of cheese in UK supermarkets and the relevance for public health. Special remarks: • Abstract: Although widely known please indicate in parenthesis that salt is NaCl, e.g. salt (sodium chloride) • Introduction: page 5, line 17: please provide a reference for the statement that salt is the main factor increasing calcium excretion in the urine. What about hypercalcemia and the calcium sensing receptor? • Limitations, page 9: One further limitation of this study is that the data are primarily relevant for UK only. So they relevance for other countries is in my opinion only limited. • Fig 2: please indicate in the Fig. legend mean ± SD and also the sample size. General remarks: • You mentioned in the introduction that cheeses account for 44 % of salt consumption in the milk and milk products category. It would be interesting to indicate how much the intake of salt in grams (and percent) from cheese is approximately in the UK. Perhaps by also mentioning the relevance of other main product groups (grains etc.) which are important contributors for salt intake.

REVIEWER	Eberhard Ritz Nierenzentrum Heidelberg Germany
REVIEW RETURNED	21-May-2014

GENERAL COMMENTS	Hashem and collaborators provide a well conceived, to a large

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	extent representative, assessment of salt content in commercial cheese. The adverse role of salt, more precisely of sodium chloride, in food items on health has now been proven beyond doubt, specifically its role as a mediator of high blood pressure, cardiovascular complications and additional health problems. As a result currently there is an international drive to lower salt content in commercial food items. As the authors proudly state, quite correctly, the UK has become the top runner worldwide in this exercise. The key to succeed in lowering salt intake is clear and precise declaration of salt content. Against this background it is most reasonable to check the declared salt content in commercial food products because the declaration of salt content is one of the most important steps for the achievement of the target. The initiative of the authors is one more step in an entire series of scientific and political initiatives to lower salt intake. The present analysis was started to verify the amount lowering of salt additives to commercial food items and wisely, because one of the main candidates for salt additives in food items is cheese, the present study analysed the declared salt content in cheese – one of the most important salt containing food items. The rationale was to provide information on the extent to which the food industry has actually adopted past recommendations. The very good news is that 82.5% of cheeses met their targets. Although in the past, skeptical or even adverse opinions had been stated, the reduction of salt additives was not opposed by the public - confirming past predictions of physicians that a "soft approach", i.e. progressive lowering of added salt would be accepted by the general public and importantly would not cause side effects. Enjoyable as the finding is, it will be important in the future not to relax in this initiative until by 2025 the “prudent target” of a salt consumption of 5 g/per day is implemented in the UK (and hopefully in other states of Europe as well), as postulated by the 66 World Health Organisation assembly (26th September 2013). Although we are not yet on target, the direction is right and the target defined by the WHO is not unrealistic.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1: Cem Ekmekcioglu, Medical University Vienna, Austria

Comment 1.1 Abstract: Although widely known please indicate in parenthesis that salt is NaCl, e.g. salt (sodium chloride)

A: Amended in the abstract.

Comment 1.2 Introduction: page 5, line 17: please provide a reference for the statement that salt is the main factor increasing calcium excretion in the urine. What about hypercalcemia and the calcium sensing receptor?

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A: We have added the reference. We agree the point regarding hypercalceamia and the calcium sensing receptor is important but it is not within the remit of this paper.

Comment 1.3 Limitations, page 9: One further limitation of this study is that the data are primarily relevant for UK only. So they relevance for other countries is in my opinion only limited.

A: Amended in limitation.

Comment 1.4 Fig 2: please indicate in the Fig. legend mean ± SD and also the sample size.

A: 'mean ± SD' has been added to the figure legend and the sample size has been added to the figure.

Comment 1.4 You mentioned in the introduction that cheeses account for 44 % of salt consumption in the milk and milk products category. It would be interesting to indicate how much the intake of salt in grams (and percent) from cheese is approximately in the UK. Perhaps by also mentioning the relevance of other main product groups (grains etc.) which are important contributors for salt intake.

A: Based on the National Diet and Nutrition Survey, the top 10 contributors of salt intake in the UK are bread, bacon and ham, pasta, rice and other cereals, vegetables (not raw), chicken and turkey dishes, cheese, sausages, beef and veal dishes, biscuits, buns, cakes and pastries. Cheese is one of the top 10 contributors and we have briefly discussed this in the introduction and in the discussion. Therefore, any reduction in salt content of cheese will certainly contribute to a reduction in the population salt intake. The UK's salt reduction policy is a gradual reduction in the amount of salt added to all food categories.

Reviewer 2: Eberhard Ritz, Nierenzentrum, Heidelberg Germany

Comment 2.1 Hashem and collaborators provide a well conceived, to a large extent representative, assessment of salt content in commercial cheese. The adverse role of salt, more precisely of sodium chloride, in food items on health has now been proven beyond doubt, specifically its role as a mediator of high blood pressure, cardiovascular complications and additional health problems. As a result currently there is an international drive to lower salt content in commercial food items. As the authors proudly state, quite correctly, the UK has become the top runner worldwide in this exercise.

A: We appreciate the comments of Professor Eberhard Ritz.

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