

# FSA Project – “Salt it Out”

## LAY SUMMARY

**Background** The ‘Salt It Out’ project was planned to find out new information concerning salt intake among five black and minority ethnic (BME) groups in Haringey and to test how effective a programme designed to reduce salt intake through changes in the food that is bought and how it is prepared amongst BME people living within East Haringey.

The programme was aimed at people from African-Caribbean, Black African, Asian, Irish and Turkish communities, as they are at increased risk of cardiovascular disease. A total of 177 people participated in the programme who were predominately female. The age range of participants for the Cook and Eat programme: under 18’s n=28, under 30’s n=26, 30-49 n=48, 50+ n=30, unknown =9 and for the Grocery Shopping Tour: 30-49 n=10, 50+ n=22, unknown n=4.

**Aim and objectives of the project** The aim of the “Salt It Out’ project was to assist 400 people from BME groups in the East of Haringey to improve salt practices in the home by reducing the amount of salt eaten over the long-term. The programme designed different ways to achieve this aim, including encouraging participants to add less salt when preparing food, encouraging them to read food labels to check salt levels, and increasing their confidence in their ability to prepare healthy low-salt meals.

**The Programme** This consisted of a series of 4-week “Cook and Eat” programmes which took place in venues such as church halls and community halls and 90-minute Grocery Shopping Tours. 141 people (39 males and 97 females, 5 unknown, 111 from the target BME groups) registered for the Cook and Eat sessions and 36 people (28 females and 4 males, 4 unknown, 27 from target BME groups as measured by those who completed the immediate post-intervention survey) registered for the Grocery Shopping Tour.

**How the programme was tested for effectiveness** Participants were asked to complete questionnaires and some were interviewed.

### Key findings

(1) Following the Cook and Eat sessions participants’ knowledge about the effect of high salt levels on health, including risk of high blood pressure, stroke and some cancers had significantly improved. Participants were significantly more able to correctly identify salt in processed foods (including takeaway, fast food, catered food) as the main source of salt in their diet. The number of participants who reported adding of salt in cooking and the eating of

snacks that are high in salt significantly reduced. The proportion of participants who reported checking of food labels for salt content of products while shopping significantly increased. The average number of correct answers concerning the salt level of crisps indicated an improvement in their ability to read and understand food labels. Eighty-six percent of participants reported being able to reduce the amount of salt they eat in their diet either 'a lot' (65%) or 'somewhat' (21%) since attending the Cook and Eat programme. The Grocery Tour received high levels of satisfaction and approval. Three months following the programme, almost 90% of people reported making changes to the foods that they bought, and also that they were continuing to buy these foods.

There was also a variety of findings that need to be investigated further: accurate knowledge of the salt intake guideline of eating less than 6 gm per day; increased checking of food labels that influence whether products are bought and/or use of the product; decreased adding of salt at the table; decrease in eating take away meals; slight increase in times a week eating ready meals; importance right now of reducing the amount of salt in the diet; in ability to eat less salt in diet.

(2) The interviews gave an in-depth insight into the participants' understanding of the link between health and salt, attitudes, beliefs and gaps in knowledge which contributed to the development of the 'Salt It Out' programme. Before attending the programme, the Turkish participants were the only BME group to discuss the effects of culture on salt consumption. There was a desire amongst people to understand food labelling. After the programme, the interviews revealed that similar experiences were experienced by some participants. Participants reported that although salt is added to all foods they eat, they highlighted the fact that they perceived their children's diet was low in salt. After the Cook and Eat programme people reported feeling more confidence in their ability to read and understand food labels, which influenced their food choices when shopping. Participants were more aware of the high salt contribution of processed food such as bread, cheese, cereals and beans. Interestingly, it tended to be the husbands of the participants who struggled to adapt to the new taste and who were less satisfied with the taste of low salt dishes, whereas children were less likely to notice any difference. However, participants seemed determined to persevere and remained hopeful that their husbands would adapt to the new taste in time. A further issue the participants struggled with was everyday foods such as bread and cheese, commenting on the significant levels of salt added by manufacturers. Those participants who had young children felt positive and much more in control of their ability to reduce the salt content of the children's diet. A limitation of the study was the lack of male participants.

**Conclusions:** Based on the evidence collected, the Salt It Out Programme appeared to provide effective methods for improving participants' knowledge, understanding and practice concerning the consumption of salt. The aim of the "Salt It Out" project to assist people from

BME groups in the East of Haringey to improve salt practices by reducing salt consumption was successfully achieved. Many of the specific objectives designed to achieve this aim such as encouraging participants to add less salt when preparing food, encouraging participants to read food labels to check salt levels, and increasing participants' confidence in their ability to prepare well balanced meals were also achieved. Fewer numbers than originally planned were involved in the programme owing to recruitment difficulties caused by the short time available to complete the project. In light of the small numbers, the findings of this study should be interpreted with caution.

# ***'Salt it Out'***

## **Evaluation report**

**23 February 2008**

**Prepared for the Food Standards Agency**

**by**

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## EXECUTIVE SUMMARY

**Background** The ‘Salt It Out’ project was planned to generate new information concerning salt intake among black and minority ethnic (BME) groups in Haringey and to evaluate the impact of an intervention designed to reduce the salt intake through changes in food purchasing and preparation amongst BME people in East Haringey.

The target audience were people living in the East of Haringey from African-Caribbean, Black African, Asian, Irish and Turkish communities, as they are at increased risk of cardiovascular disease. A total of 177 people participated in the programme who were predominately female. The age range of participants for the Cook and Eat programme: under 18’s n=28, under 30’s n=26, 30-49 n=48, 50+ n=30, unknown =9 and for the Grocery Shopping Tours: 30-49 n=10, 50+ n=22, unknown n=4.

**Aim and objectives of the project** The aim of the “Salt It Out’ project was to assist 400 people from BME groups in the East of Haringey to improve salt practices in the home by reducing salt consumption over the long-term. There were 17 specific objectives designed to achieve this aim such as encouraging participants to add less salt when preparing food, encouraging participants to read food labels to check salt levels, and increasing participants’ confidence in their ability to prepare well balanced meals.

**The intervention** This consisted of a series of 4-week “Cook and Eat” community-based programmes and 90-minute Grocery Shopping Tours. 141 participants (39 males and 97 females, 5 unknown, 111 from the target BME groups) registered for the Cook and Eat sessions, of whom 70 completed an evaluation questionnaire immediately after the intervention, and 37 at 3-month follow-up. 36 participants (28 females and 4 males, 4 unknown, 27 from target BME groups as measured by those who completed the immediate post-intervention survey) registered for the Grocery Shopping Tour, of which 34 completed the immediate survey, and 23 the three-month follow-up.

**The evaluation** This consisted of a combination of quantitative and qualitative research methods, semi-structured interviews with eleven participants pre-intervention and five post-intervention, and questionnaires at baseline, immediately following the intervention and at 3 months post-intervention.

### Key findings

(1) **Quantitative:** Following the Cook and Eat sessions, significant improvements occurred in the participants’ knowledge about the effect of high salt levels on health, including risk of high blood pressure, stroke and some cancers. Participants were significantly more able to correctly identify salt in processed foods (including takeaway, fast food, catered food) as the primary

source of salt in their diet. There was a highly significant decrease in the number of participants' who reported adding of salt in cooking and eating of snacks that are high in salt. There was a highly significant increase in the proportion of participants' reporting the checking of food labels for salt content of products while shopping. The average number of correct answers concerning the salt level of crisps indicated an improved ability to interpret food labels. Eighty-six percent of participants reported being able to reduce the amount of salt they eat in their diet either 'a lot' (65%) or 'somewhat' (21%) since attending the Cook and Eat programme. The Grocery Tour received high levels of satisfaction and approval. At three-month follow-up, almost 90% of participants reported making changes to the foods that they bought, and also that they were continuing to buy these foods.

There was also a variety of statistically non-significant effects that warrant investigation in further research with larger sample sizes: accurate knowledge of the salt intake guideline of consuming less than 6 gm per day; increased checking of food labels influencing purchase and/or use of the product; decreased adding of salt at the table; decrease in eating take away meals; slight increase in times a week eating ready meals; importance right now of reducing the amount of salt in the diet; in ability to eat less salt in diet.

(2) **Qualitative:** The analysis gave an in-depth insight into the participants' understanding of the link between health and salt, attitudes, beliefs and gaps in knowledge which helped to inform the development of the 'Salt It Out' programme. Pre-intervention, the Turkish participants were the only BME group to discuss cultural aspects of salt behaviour. The accounts reflected the participants' desire to understand food labelling. Post-intervention, the analysis revealed that shared themes across the participants' accounts of their salt behaviour. Within the theme 'Cultural aspects of salt behaviour' participants reported that although salt is added to all foods they consume, they highlighted the fact that they perceived their children's diet was low in salt. After the Cook and Eat programme participants reported more confidence in their ability to read and interpret food labels, which influenced their food choices when shopping. Participants were more aware of the high salt contribution of processed food such as bread, cheese, cereals and beans. Interestingly, it tended to be the husbands of the participants who struggled to adapt to the new taste and who were less satisfied with the taste of low salt dishes, whereas children were less likely to notice any difference. However, participants seemed determined to persevere and remained hopeful that their husbands would adapt to the new taste in time. A further issue the participants struggled with was everyday foods such as bread and cheese, commenting on the significant levels of salt added by manufacturers. Those participants who had young children felt positive and much more in control of their ability to reduce the salt content of the children's diet. A limitation of the study was the lack of male participants.

**Conclusions:** Based on the evidence collected within the evaluation arm of this project the Salt It Out Programme appeared to provide effective methods for improving participants' knowledge,

understanding and practice concerning the consumption on dietary salt. The aim of the “Salt It Out’ project to assist people from BME groups in the East of Haringey to improve salt practices by reducing salt consumption was successfully achieved. Many of the specific objectives designed to achieve this aim such as encouraging participants to add less salt when preparing food, encouraging participants to read food labels to check salt levels, and increasing participants’ confidence in their ability to prepare well balanced meals were also achieved. Fewer numbers than originally planned were involved in the programme owing to recruitment difficulties caused by the short time available to complete the project. In light of the small data set achieved, the findings of this study should be interpreted with caution.

## **BACKGROUND**

The World Health Organisation Report, 'Reducing Risks, Promoting Healthy Life' (WHO,2002), identified the consumption of a diet high in salt as a significant risk factor in the development of high blood pressure, which is a major cause of heart disease, strokes, kidney failure and eye damage. In addition, blood pressure has been identified as a cause or contributing factor in 170,000 deaths per year in England alone (Department of Health, 2001).

The Food Standards Agency survey (2003), 'Secondary Analysis of the National Diet and Nutrition Survey', revealed that the vast majority of respondents consumed over six grams of salt daily. It further stated that if all individuals reduced the amount of salt they added to their cooking, or to their food, that there would be immense reductions in blood pressure, strokes, heart attacks and heart failure.

Almost half of Haringey's 223,700 residents come from black and ethnic minority backgrounds, with a total of 193 languages spoken. According to the Indices of Deprivation, Haringey is the 13<sup>th</sup> most deprived district in the country and the 5<sup>th</sup> most deprived in London. Higher levels of deprivation and lower life expectancy are seen in the East of the borough compared to the West, with 40% of the borough's population in the East living in areas amongst the 10% most deprived in the UK. People from BME groups are more likely to experience health inequalities.

Phase III of the Food Standards Agency (FSA) campaign in 2008 aimed to drive down adult population intakes of salt down to below 6g/day. One of the specific targets of their campaign is to target BME groups. Consuming a high salt intake is associated with high blood pressure which is an independent risk factor for stroke and heart disease. Studies show that people from South Asian and Afro-Caribbean ethnic origins have greater rates of hypertension than Caucasians, and are at greater risk of dying from stroke than the general population. In addition, it is suggested that people from African descent may be more sensitive to dietary salt.

There is currently limited literature evidencing salt intake amongst BME groups, particularly amongst Turkish communities. This project will add to literature in this area. Anecdotal data from Haringey suggest that residents from Turkish populations consume a diet high in salt.

## **AIM AND OBJECTIVES**

The aim of the project was to assist 400 people from BME groups in the East of Haringey to improve salt practices in the home by reducing salt consumption over the long-term.

The target audience were people living in the East of Haringey from African-Caribbean, Black African, Asian, Irish and Turkish communities, as they are at increased risk of cardiovascular

disease. The project also aims to specifically target parents with young children, men and older people. Haringey Teaching PCT worked with the Haringey Association for Voluntary and Community Organisations (HAVCO) who were key in identifying/accessing the target audience and in supporting the project.

The project incorporates a strong evaluation element to test the effectiveness of the intervention on knowledge, awareness, and behaviour in relation to salt, including consumption patterns.

The specific objectives were to:

- A1. Encourage participants to add less salt when preparing food.
- A2. Encourage participants to add less salt to their food at home.
- A3. Encourage participants to read food labels to check salt levels
- A4. Increase confidence in participants' in their ability to prepare well balanced meals
- A5. Improve participants' level of knowledge regarding the link between salt and health
- A6. Improve participants' ability to interpret information on food labels
- A7. Improve participants' motivation to change salt practices
- A8. Improve participants' stage of change in relation to changes in salt practices

The objectives were to:

- B1. Provide 4-week Cook and Eat programmes
- B2. Provide 90-minute Grocery Shopping Tours
- B3. Recruit CNAs
- B4. Provide training for CNAs to enable them to deliver the programme
- B5. Provide behaviour change training for CNAs
- B6. Design and pilot grocery store tour resources
- B7. Design and pilot promotional material
- B8. Develop a media/publicity strategy
- B9. Develop an overall implementation strategy

## **THE INTERVENTION**

**The cook and eat programme.** A 4-week Cook and Eat Programme was designed to provide participants with practical information and skills on adapting recipes and cooking healthier, low salt meal versions. The programme was delivered by a total of seven Haringey PCT and freelance Dietitians and Nutritionists, assisted by two Community Nutrition Assistants (CNAs). CNAs were originally meant to deliver the programme, however due to capacity issues this was not possible. The following topics were covered within the programme: 'risk of consuming a diet high in salt', 'what are healthy salt levels?', 'how to reduce salt intake', 'read the label', 'eating a healthy diet'. There was an emphasis on reading food labels of recipe ingredients and the salt content of processed foods.

Staff delivering the programme received training in the area of health behaviour change, namely Motivational Interviewing, and delivered the programmes using a client-centred approach, which asserts that 3 critical conditions are required, namely, genuineness, accurate empathy (involves skilful reflective listening) and warmth. As demonstrated by research evidence, this approach facilitates behaviour change and is more effective than traditional information and advice giving (Rollnick and Miller, 2002).

Example of programme structure:

Week 1: Pre-intervention questionnaire. Taster session which included weighing up the pros and cons of making change, exploring barriers to change and assessing readiness to change, i.e. confidence and importance. It also included planning of the practical cook and eat session for the following week.

Week 2: Recipe modification (traditional ethnic dish vs. low salt version of the same dish) & read the label

Week 3: Recipe modification & recap on read the label

Week 4: Virtual grocery shopping tour to consolidate learning from previous weeks. Post-intervention evaluation

**The Grocery Shopping Tours.** The Dieticians and Nutritionists led a series of grocery shopping tours across the East of Haringey for people to learn about healthy eating and to gain practical advice on how to reduce salt intake and how to read and interpret food labels in relation to the salt content of packaged foods. The focus is placed on front of pack labelling with specific reference to the traffic light labelling scheme.

**Participants.** Descriptive statistics for the participants and outputs of this project are given in Table 1 below.

**Table 1: Outputs in Terms of participants in the Salt It Out Project Cook and Eat programmes and Grocery Shopping Tours**

1. Number of cook and eat sessions delivered	17
2. Number of grocery shopping tours delivered	8
3. Number of participants who registered for the cook and eat sessions	141
4. Number of participants who completed the survey for the cook and eat sessions	70
5. Number of participants who completed the three-month follow-up survey for the cook and eat sessions	37
6. Number of participants who registered for the grocery shopping tours	36
7. Number of participants who completed the survey for the grocery shopping tours	34
8. Number of participants who completed the three-month follow-up survey for the grocery shopping tours	23
9. Number of participants from the target BME groups who registered for the cook and eat sessions	111
10. Number of participants from the target BME groups who completed the survey for the cook and eat sessions	64
11. Number of participants from the target BME groups who completed the three-month follow-up survey for the cook and eat sessions	33

12. Number of participants from the target BME groups who completed the survey for the grocery shopping tours	27																								
13. Number of participants from the target BME groups who completed the three-month follow-up survey for the grocery shopping tours	20 2 Unknown																								
14. The proportion of men and women who registered for the cook and eat sessions	39 Males/97 Females 5 unknown																								
15. The proportion of men and women who completed the survey of the cook and eat sessions	12 Males/58 Females																								
16. The proportion of men and women who completed the three-month follow-up survey of the cook and eat sessions	7 Males/29 Females 1 unknown																								
17. The proportion of men and women who completed the survey of the grocery shopping tours	4 Males/28 Females 2 unknown																								
18. The proportion of men and women who completed the survey of the grocery shopping tours three-month follow-up	2 Males/19 Females 2 Unknown																								
19. Age profile of participants who registered for the cook and eat sessions																									
<table border="1"> <tr> <td rowspan="6">Age group</td> <td>Under 18</td> <td>28</td> </tr> <tr> <td>18-29</td> <td>26</td> </tr> <tr> <td>30-39</td> <td>26</td> </tr> <tr> <td>40-49</td> <td>22</td> </tr> <tr> <td>50-59</td> <td>12</td> </tr> <tr> <td>60 +</td> <td>18</td> </tr> <tr> <td rowspan="2">N</td> <td>Valid</td> <td>132</td> </tr> <tr> <td>Missing</td> <td>9</td> </tr> <tr> <td colspan="2">Mean</td> <td>34.89</td> </tr> <tr> <td colspan="2">Std. Deviation</td> <td>19.720</td> </tr> </table>		Age group	Under 18	28	18-29	26	30-39	26	40-49	22	50-59	12	60 +	18	N	Valid	132	Missing	9	Mean		34.89	Std. Deviation		19.720
Age group	Under 18		28																						
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Std. Deviation		19.720																							

20. Age profile of participants who completed the survey for the cook and eat sessions

Age group	Under 18	4
	18-29	14
	30-39	17
	40-49	11
	50-59	8
	60 +	14
N	Valid	68
	Missing	2
Mean		41.75
Std. Deviation		17.788

21. Age profile of participants who completed the three-month follow-up survey for the cook and eat sessions

Age group	Under 18	2
	18-29	8
	30-39	9
	40-49	8
	50-59	4
	60 +	5
N	Valid	36
	Missing	1
Mean		40.44
Std. Deviation		17.272

22. Age profile of participants who completed the survey for the grocery shopping tours

Age group	Under 18	0
	18-29	0
	30-39	3
	40-49	7
	50-59	6
	60 +	16
N	Valid	32
	Missing	2
Mean		57.25
Std. Deviation		12.446

23. Age profile of participants who completed the three-month follow-up survey for the grocery shopping tours

Age group	Under 18	0
	18-29	0
	30-39	1
	40-49	1
	50-59	5
	60 +	13
N	Valid	20
	Missing	3
Mean		62.0500
Std. Deviation		10.50050

## EVALUATION

A combination of quantitative and qualitative research methods was used including, semi-structured interviews and questionnaires at various stages of the project. The evaluation collected data relevant to outputs and outcomes relevant to the objectives of the project as shown in Table 2.

**Table 2: Mapping of objectives against outcomes and outputs**

CODE	OBJECTIVE	OUTCOME OR OUTPUT MEASURE
A1	Encourage participants to add less salt when preparing food.	QUESTION C1
A2	Encourage participants to add less salt to their food at home.	QUESTION C2
A3	Encourage participants to read food labels to check salt levels	QUESTIONS E1-E4
A4	Increase confidence in participants' in their ability to prepare well balanced meals	QUESTIONS D1-D4 & F1(b)
A5	Improve participants' level of knowledge regarding the link between salt and health	G1-G3
A6	Improve participants' ability to interpret information on food labels	QUESTIONS E1-E4
A7	Improve participants' motivation to change salt practices	QUESTIONS D1, D2,
A8	Improve participants' stage of change in relation to changes in salt practices	QUESTION F1(a)
B1	Provide 4-week Cook and Eat programmes	ACHIEVED SEE TABLE 1
B2	Provide 90-minute Grocery Shopping Tours	ACHIEVED SEE TABLE 1
B3	Recruit CNAs	PARTIALLY ACHIEVED
B4	Provide training for CNAs to enable them to deliver the programme	PARTIALLY ACHIEVED

B5	Provide behaviour change training for CNAs	ACHIEVED
B6	Design and pilot grocery store tour resources	ACHIEVED
B7	Design and pilot promotional material	ACHIEVED
B8	Develop a media/publicity strategy	ACHIEVED
B9	Develop an overall implementation strategy	ACHIEVED

The quantitative aspect assessed salt behaviour, which was measured using a self-report salt behaviour questionnaire. Questionnaires were administered at baseline, immediately following the intervention and at 3 months post-intervention.

The qualitative aspect aimed to gain an insight into participants' attitudes and beliefs regarding salt consumption, salt consumption patterns, barriers to behavioural change and salt levels consumed. This qualitative baseline data was used to inform the development of the intervention. Specific data was collected regarding the participants' views on the cook and eat sessions and grocery store tours. This initial information provided valuable insight to assist in designing both the intervention and evaluation.

All data collected during the course of the project was stored securely and confidentiality maintained, in accordance with the Data Protection Act (1998).

Please see Appendix A for performance and monitoring indicators.

## **KEY FINDINGS**

This section will be presented in two parts: 1) the quantitative findings; and 2) the qualitative findings. Full details of the analyses are provided in Appendix B (quantitative findings) and Appendix C and D (qualitative findings).

## Part 1 Quantitative evaluation

### Analyses of the Cook and Eat Data

#### *B1: Do you think eating too much salt affects your health?*

We compared the 'pre' and 'immediately post-intervention' distributions for this item. The Fisher Exact Test yielded a p value of .026 indicating a significant increase in 'Yes' responses after the intervention. A significantly greater proportion of respondents answered 'Yes' immediately post-intervention (96%), compared to pre-intervention (87%). We also compared the pre-intervention and the three-months post-intervention follow-up distributions for this item. A significantly greater proportion of respondents answered 'Yes' in the three-month post-intervention follow-up (95%), compared to pre-intervention (87%), with the Fisher Exact Test yielding a p value of .005.

#### *B2: A high salt intake can lead to the following?*

The immediate post-intervention results show a significant increase in 'Yes' answers to 1 item (cancer), a near significant increase to 2 items (high blood pressure and stroke), a non-significant increase for heart attacks, and a non-significant reduction for obesity. The results at three months post-intervention show a significant increase in 'Yes' answers to 2 items (cancer, stroke), a significant decrease for obesity, a near significant increase for heart attack, and a non-significant increase for high blood pressure.

#### *B3: Adults should have less than a certain amount of salt per day – how much do you think this is?*

Although there was an increase in correct answers, both immediately post-intervention and at three months post-intervention follow-up, the increase was not statistically significant. However the test chi-squared test was invalid because of low expected values in two cells.

#### *B4: Where do you think the average person gets MOST of the salt from in their diet?*

The majority of people (38 out of 68) believed pre-intervention that salt in processed foods was the correct answer. However this proportion significantly increased immediately post-intervention to 55 out of 70. We recoded the data (right/wrong) then tested for significance (before vs. after). The change in the distribution of responses was statistically significant ( $p = .037$ ). The distributions of answers at three-months post-intervention follow-up showed that 31 of 37 could give the correct answer, which was a statistically significant improvement compared to the baseline.

#### *B5: Which of these statements best describe the relationship between salt and sodium?*

We recoded the data (right/wrong) then tested for significance (before vs. after). The change in the distribution of responses was statistically significant ( $p = .002$ ). However the distributions of answers at three-months post-intervention follow-up missed significance.

*C1: Salt added in cooking*

People were asked to report how frequently they added salt to food when cooking. There was a decrease in the amount of salt added to food and the change was statistically significant ( $p=.040$ ).

*C2: Salt added at the table*

Although there was a decrease in the amount of salt added to food at the table, the change was not statistically significant.

*D1: How many times a week do you eat take away meals?*

Although there was a decrease in the number of times participants eat takeaways, the change was not statistically significant.

*D2: How many times a week do you eat ready meals?*

We computed a paired t-test. The slight increase in the number of times participants eat ready meals was not statistically significant.

*D3: How many of your main meals in the week do you prepare from raw ingredients?*

We computed a paired t-test. There is a slight increase in the number of times participants cook their meals from raw ingredients, but this was not statistically significant.

*D4: How many times a week do you eat snacks high in salt such as crisps, salted nuts?*

We computed a paired t-test. There was a significant decrease in the number of times participants were eating snacks that are high in salt.

*E1: List these foods in increasing order of salt content...*

Nobody got exactly the correct ranking (before and after). We also analysed the scores correct for both the lowest (bread) and the highest (pizza). However the result was not significant. At three-months post-intervention follow-up, one correctly ranked the items in order. We also analysed the scores correct for both the lowest (bread) and the highest (pizza). However the result was not significant.

*E2: How often do you check the label for the salt content of the food product when shopping?*

We computed a paired t-test. The data revealed a highly significant positive change after the intervention at both time points.

*E3: After checking the label does this influence whether you buy/use the product?*

We computed a paired t-test. Although there is an increase in the influence of label checking on product purchase/use, the change was not statistically significant.

*E4: Please read the food label of some crisp packets below. Which of these crisps are high, medium or low in salt?*

We counted the total number of correct answers per person, which could range from 0-4, and computed a paired t-test (before vs. after) on the averages. There was a highly significant increase in the average number of correct answers ( $p < .0001$ ) which was maintained at the three-months post-intervention follow-up.

*F1: On a scale of 1-10 (1 being not important/confident and 10 being very important/ confident)*

- a) How important is it for you right now to reduce the amount of salt you eat in your diet?*
- b) If you decided to, how confident would you be in your ability to eat less salt in your diet?*

We computed the average score pre and post intervention. Then we computed a paired t-test. The changes were both in the right direction but were not statistically significant.

At three months post intervention follow-up participants were asked:

*Since attending the Cook and Eat 'Salt it Out' Programme, did you manage to reduce the amount of salt you eat in your diet?*

65% reported that they had managed to do this 'a lot' while 21.6% managed this 'somewhat'.

#### Analyses of the Grocery Shopping Tour Data

In the immediately post-intervention follow-up, two versions of the Grocery Shopping Tour Questionnaire were administered.

VERSION A (N = 10) (NB: These findings should be interpreted with caution due to the small sample size)

*Item G1: "Identify as many of the foods below that you think are LOW in salt".* A total score correct was computed for each individual and a matched pairs t-test was carried out to see if the no of correct answers had changed: before vs. after. There was a slight but non-significant increase in the average score.

*Item G2: "Identify as many of the foods below that you think are HIGH in salt".*

A total score correct was computed for each individual and a matched pairs t-test was carried out to see if the no of correct answers had changed: before vs. after. Once again, there was a slight but non-significant increase in the average score.

*VERSIONS A & B Combined (N=34).*

*Item G3: "Read the following food labels and indicate in the space provided underneath whether it is low, medium or high in salt."*

We computed a total score correct for each individual. This item was the same as item 2 on version B. Therefore we combined the results for the 2 versions giving an N of 34. We computed a matched pairs t-test to see if the no of correct answers had changed: before vs. after. There was an increase in the average number of correct answers, which just missed statistical significance ( $p = .062$ ). The same procedure was followed for the three-months post-intervention follow-up. We computed a matched pairs t-test to see if the number of correct answers had changed. Although there was an increase in the number of correct answers, this was not statistically significant.

*VERSION B (N = 24)*

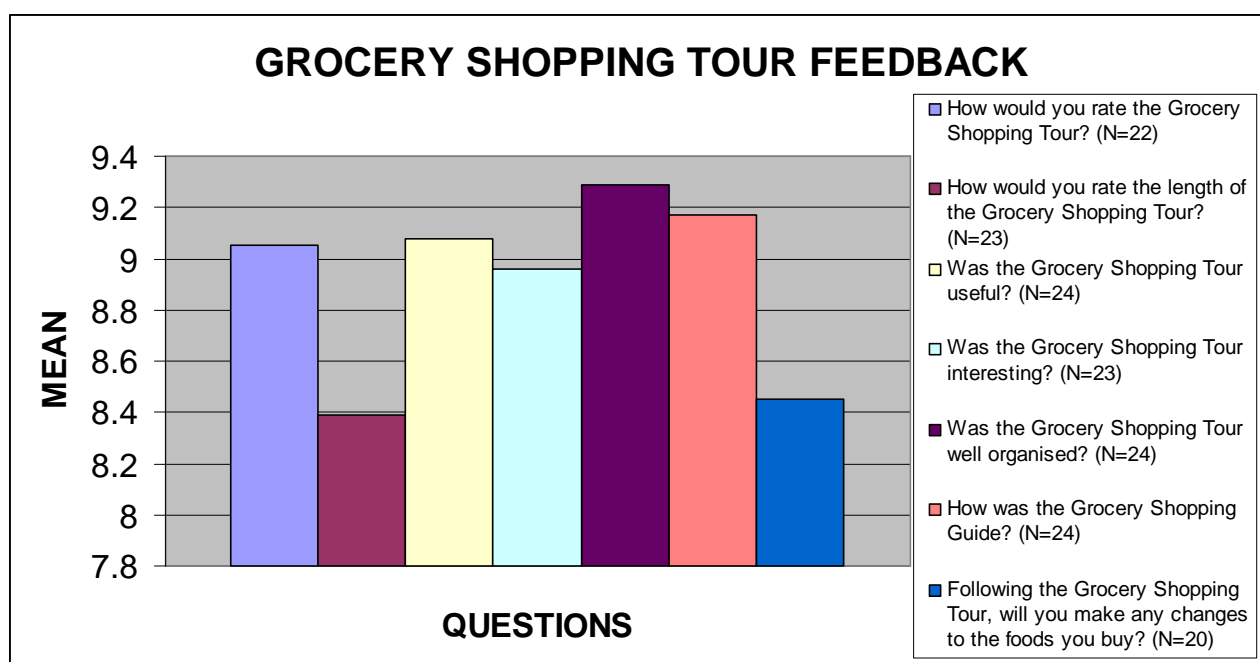
*Item 1. "Identify as many of the foods below that you think are LOW in salt".*

We computed the total score correct for each individual. A matched pairs t-test was carried out to see if the no of correct answers had changed: before vs. after ( $n=24$ ). A very slight improvement occurred, but it was not statistically significant.

The same procedure was followed for the three-months post-intervention follow-up. A matched pairs t-test was carried out which reflected a highly significant increase in correct answers ( $p<.001$ ).

*Items 3-9. We computed average ratings for these items (Figure 1).*

**FIGURE 1: AVERAGE RATINGS FOR THE GROCERY SHOPPING TOUR QUESTIONS 3-9**



The following questions were also asked at the three-months post-intervention follow-up:

*After attending the Grocery Shopping Tour, did you make any changes to the foods you bought? 20 out of 23 said 'Yes'.*

*Have you managed to continue to buy these foods? 19 out of 24 said 'Yes'.*

## **Part 2 Qualitative Evaluation**

The qualitative component aimed to provide insights into participants' attitudes and beliefs regarding salt consumption, salt consumption patterns, barriers to behavioural change and salt levels consumed. This part of the evaluation was conducted at baseline and between one and two months post-intervention.

### **Baseline qualitative research**

The study took place between July and August 2007. Eleven female participants were recruited from five black and minority ethnic BME groups, namely African-Caribbean (3), African (2), Turkish (2), Irish (2) and Asian (2), who were users of local community/voluntary organisations. Semi-structured interviews were carried out with the eleven participants within the age range of seventeen years to seventy-five years. The majority took place at St Ann's Hospital, apart from the interviews of the Irish participants, which took place in a community venue within Haringey. Interviews lasted between 15-25 minutes.

The interviews were conducted to gain an insight into the participants' attitudes and beliefs regarding salt consumption, salt consumption patterns, barriers to making behavioural changes and salt consumption levels. The interviews were audio-taped with the participants consent and later transcribed verbatim, providing the data set for an Interpretative Phenomenological Analysis (IPA) (Smith, Harre & Langenhove, 1996). The *Interview Format* covered how a diet high in salt can affect health, experiences of consuming salt in the diet, difficulties faced controlling levels of salt consumption and expectations of the FSA programme.

The full interview schedule covered the following questions:

Opening Statement: "We are interested to find out how people feel about the amount of salt they eat in their diet".

Question 1: "A diet high in salt can affect your health. What are your feelings about that statement?"

Probe: "Anything else?"

Question 2: "Can you tell me a little bit about the amount of salt you consume in your diet."

Probe: "How do you feel about that?"  
"Can you tell me more about that?"

Question 3: "Can you give me an example of when it has been particularly difficult to control the amount of salt you consume in your diet?"

Probe: "How did you feel about that?"  
"Anything else?"

Question 4: "What do you hope to gain from the Cook and Eat sessions and the Grocery tours?"

Probe: "Anything else?"

The interviewer used open-ended, neutral questions to allow participants to speak about and reveal associated thoughts and feelings, with as little prompting from the interviewer as possible to avoid leading the participant in any direction.

*Analysis.* The author carried out the analysis as detailed below.

- Stage 1: Interview transcripts were read through several times, and notes made about any statements that appeared interesting or significant.
- Stage 2: A summary of the author's initial encounter with the text, and a list of the emergent themes and categories were produced for each interview.
- Stage 3: The themes identified in stage two were examined further to identify connections between them, which if found were then clustered together and re-labelled.
- Stage 4: A summary table of the themes for each interview was produced, detailing where in the transcript instances of it can be found.
- Stage 5: The summary tables for each interview were then examined together as a whole data set, and a consolidated list of themes for the eleven transcripts was produced to obtain an amalgamated representation.

The author worked with two researchers during the final theme categorisation to discuss emerging themes, to reach a conclusion about the interpretation of the data. Participants have been identified as Participant 1-11 with ethnicity specified in brackets to maintain confidentiality and anonymity.

*Results.* Six master themes were identified. The interviews produced rich data that detailed the participant's experiences and understanding of the link between salt and health, their personal salt consumption level and their expectations of the cook and eat sessions. For space reasons, all quotations have been deleted from the report but are available for inspection in Appendix B. The six master themes are defined in the following summary.

### 1. **Health Implications of eating a diet high in salt**

All of the participants were aware of the health implications associated with eating a diet high in salt, with the majority of them giving examples of this. Their accounts indicated a common interpretation of how salt and health are linked.

In addition, all of the participants reported that they were aware of the fact that the food they consume contained salt, but commented on how easy it is to forget that some food already has salt added to it during the manufacturing process. The majority of the participants also reported eating salty food in moderation. However, some of the accounts suggest that participants are unaware of the salt content in food.

### 2. **Salt Behaviour**

Participants described their levels of salt consumption in terms of it being an important aspect of their diet and that it was used to 'bring out the taste of food'. From their accounts, participants

often experienced feeling that they were not in control over the amount of salt consumed in their diet, especially when eating out, despite being aware of the health risks. They reported that they had become used to the taste of it, and furthermore that it was a 'way of life'. They also described the pressure placed on them, for example from family members to continue to use high levels of salt when cooking. In addition, some of the accounts suggest that participants may experience difficulties in adapting to a diet that is low in salt. Most participants expressed that they would like to use healthy alternatives to salt such as herbs, but were concerned about acquiring the new taste and whether their families would adapt to a low salt diet. In addition, participants described their commitment to keeping their families healthy. However, they sometimes felt challenged in providing them with a healthy diet, particularly when faced with the convenience of processed foods, which are easily accessible at supermarkets and also when eating out.

### **3. Identified gaps in knowledge**

Participants had a good knowledge of how salt can negatively affect health outcomes, but participants expressed a need to know more, for example, how to cook without salt and how to use herbs as an alternative. Participants discussed the difficulties they faced in reading and interpreting food labels. It appears that participants struggle to make sense of food labels and when trying to keep track of the amount of salt consumed on a daily basis. Many participants reported their concern over the amount of salt consumed by family members, with particular concerns around consumption levels for children.

### **4. Expectations of the 'Salt it Out' Programme**

Participants had expectations regarding what the programme would cover. They reported being confused by food labelling, particularly as salt can be known by different names and expressed a strong desire to learn more about food labels. One participant wanted to know more about healthier options when eating out. Two participants expressed the importance of sharing the information, knowledge and experiences she would gain from the programme. One participant felt that she was too old to change her salt behaviour.

### **5. Decision Making**

Participants described how the decision-making process regarding salt consumption was often beyond their control, particularly when eating out and socialising. They felt quite strongly about their rights as consumers, and about having the rights to choose how much salt is added to their food. For example, it was felt that supermarkets should offer a selection of salt-free foods. When eating out, one participant was not confident in her ability to ask for not too much salt to be added to her meal. Participants also mentioned changes they had made to reduce the amount of salt they consume. One participant's decision to add salt to her cooking was greatly influenced by her spouse. This suggests that the views and opinions of significant others are important in decision making around food practices.

## **6. Cultural Aspects of Salt Behaviour**

Only two Turkish participants described cultural aspects of salt behaviour. However, it was felt that it was important to include this theme within the analysis. These participants' accounts suggest that as a population, Turkish people consume a diet high in salt. They described how salt is added to every meal and that many Turkish dishes contain large amounts of salt. One Turkish participant mentioned the difficulties she sometimes experienced when reading Turkish food labels.

## **7. Relationships between themes**

The 'Risks of High Salt Consumption' and 'Implications for Health' themes are related to one another. Participants identified the risk between salt and health, stating that too much salt can lead to high blood pressure, strokes and heart disease, yet despite being aware of the health implications of a high salt diet, they still continued to add salt to their food when cooking and adding it to their meals.

Within the theme 'Identified Gaps in Knowledge' participants reported feeling that there is a need to learn more about foods low in salt, in addition to educating men about the dangers of a consuming a diet high in salt. The 'Expectations of the Intervention' theme reflected the participants wanting to learn how to change their salt behaviour, e.g. learning how to cook with herbs and spices instead of salt and how to interpret food labels. Participants identified gaps in their knowledge regarding salt and had expectations that they would learn more and enhance their knowledge in this area from participating in the FSA Cook and Eat programme.

## **Post-intervention qualitative research**

The study took place in December 2007. Five participants who were interviewed pre-intervention took part in the study. Participants were from three black and minority ethnic (BME) groups, namely Asian (1), Turkish (2) and African-Caribbean (2). Three of the participants had young children under the age 5, one had two teenage daughters and one participant was aged 17 and had no dependants. Eleven female participants took part in the pre-intervention study, of which six were lost to follow-up. Semi-structured interviews were conducted with five of the original participants. All of the interviews took place at St Ann's Hospital. The interviews were carried out to gain an insight into any changes in their attitudes and beliefs regarding their salt consumption, salt consumption patterns, their perceptions regarding the link between salt and health and any perceived behaviour change. The interviews lasted between fifteen to twenty-five minutes.

All the participants agreed for the interviews to be recorded. The interviews were transcribed verbatim, and analysed using IPA. A further analyst was employed to improve the consistency and reliability of the analysis. Participants have been identified as Participant 4, 5, 7, 9 and 11, with ethnicity specified in brackets to maintain confidentiality and anonymity.

The topics covered included an evaluation of the Salt It Out programme, any changes made to their salt consumption, feedback of any changes in salt consumption from family members, how a diet high in salt can affect health and if they feel in control of their salt consumption. The interviewer used open-ended questions to encourage participants to speak freely and openly to reveal any thoughts and feelings they may have about the topic being investigated.

The full interview schedule covered the following questions:

**Opening** "You recently completed the Cook and Eat programme".

**Statement:**

**Question 1:** "Can you tell me about your experience of this"?

**Question 2:** "Can you give me a brief description of any changes you have made with regards to the salt you eat in your diet?"

**Probe:** "Anything else?"

**Question 3:** "If you cook meals for your family, please could you describe some of the comments you have received from them with regards to the new taste of the food?"

**Probe:** "Can you tell me more about this?"

**Question 4:** "Following completion of the Cook and Eat programme do you feel more able to control the amount of salt you consume in your diet?"

**Probe:** "Can you tell me more about that?"

**Question 5:** "Can you describe what you found most useful about the Cook and Eat programme?"

**Probe:** "What words come to mind?"

**Question 6:** "Can you describe what you found least useful about the Cook and Eat programme?"

**Probe:** "What words come to mind?"

**Question 7:** “A diet high in salt can affect your health. What are your feelings about this statement?”

**Probe:** “Anything else?”

**Results.** Six master themes were identified. The data identified changes in the attitudes and beliefs of the participants, as self-reported by participants, regarding their salt consumption, the link between salt and health, salt consumption patterns, and changes to their salt practices. It also detailed their experiences of the Cook and Eat programme.

### 1. Interpretation of Food Labels

The majority of participants reported that since completing the Cook and Eat programme, they look at food labels more often and felt they are able to interpret their meaning, for example, in identifying the salt content in foods such as biscuits, cereals and cheese. Accounts from the pre-intervention study suggest that participants were unable to interpret food labels and felt confused by them. In addition, pre-intervention, they wanted to learn how to read food labels to enable them to identify low-salt options. Participants reported an increased awareness of the importance of reading labels. One participant demonstrated her ability to interpret food labels when commenting on the salt levels of organic food and non-organic food.

Pre-intervention, two participants reported that they would like to be able to understand food labels. The post-intervention accounts strongly suggest participants understand how to read and interpret information on food labels and are now more confident in their ability to do so since completing the Cook and Eat programme. Their reports also suggest that this knowledge has influenced their food choices when shopping, which in turn has resulted in a reduction in their salt consumption.

### 2. Participant Behaviour Change

Participant behaviour change emerged as a key issue for all participants. They described their experience of trying to reduce their salt consumption, adapting to a new style of cooking, adapting to new tastes and to changes in their salt consumption patterns. One participant also described changes she has made in the way she prepares meals at home, feeling much more confident using less salt in her cooking. This suggests that the participant's attitudes regarding salt consumption have changed and that they are adapting to eating less salt in their diet. One participant reported that prior to the Cook and Eat programme she would not give much thought to how much salt she used when cooking. However, having completed the programme, she now realises just how much salt she used to add to her cooking compared to the reduced amount she now uses. Accounts from all participants suggest that they are utilising the skills and knowledge learnt from the Cook and Eat programme and are putting it into practice. This is demonstrated in

their reports of how they have reduced the amount of salt added to food whilst cooking and salt added to food at the table.

### **3. Increased knowledge**

The pre-intervention study identified gaps in the participants' knowledge, for example, in the areas of the link between salt and health, a lack of understanding regarding food labels, a lack of awareness of the salt content within everyday foods and knowledge of daily maximum salt levels for adults and children. However, the post-intervention data reveals that the participants have become more knowledgeable in general. Participants were also able to describe the links between health and consuming a diet high in salt. Participants also reported on general knowledge they had acquired from attending the Cook and Eat programme. Prior to attending the Cook and Eat programme, two participants reported that they were unaware of the link between health and eating a diet high in salt. However, their post-intervention accounts demonstrate an increase in knowledge.

### **4. General Feedback - Cook and Eat intervention**

Attending the Cook and Eat Programme seemed to be viewed by all participants as informative and a useful way to find out about the information they sought. They commented that many aspects of the programme were useful, for example, the virtual shopping tours, learning how to cook without using salt, gaining knowledge regarding the health risks associated with consuming high levels of salt and how to read and interpret food labels in order to identify low salt products. Participants also commented that the programme was an opportunity to meet new people and that it was an enjoyable experience.

Although the Cook and Eat programme was generally viewed positively, one participant felt that it could be improved in some areas. She felt that the style of the facilitator was sometimes too didactic and that participants were not, for example, given a full explanation for using a chosen cooking method. In addition, the participant felt that the programme lacked consistency due to having more than one facilitator delivering the programme over the four weeks.

### **5. Family Influences**

Some participants received comments from family members about the new taste of the food and reported feeling under pressure from family members to continue to use salt when preparing meals. In addition, some of the accounts suggest that there were gender differences, in that male family members appeared to be less receptive to the new taste. However, the participants seemed to be committed to reduce the amount of salt they add when preparing food despite pressure from family members and expressed that they hoped their families would gradually adjust to the low salt dishes. Some participants reported that the low salt recipes were liked and that the reductions in salt added when preparing the meals had sometimes gone unnoticed.

Prior to attending the Cook and Eat programme, the three participants who had young children expressed concern about the content of salt in their children's diet. Following the Cook and Eat programme, two of the participants expressed their commitment to improving salt practices within the home in order for their children to benefit from a low salt diet in the long-term.

#### 6. **Control**

Prior to attending the Cook and Eat programme, participants reported feeling that they were not in control of the amount of salt consumed in their diet, especially when socialising with friends, eating out and preparing meals in the home. After attendance at the Cook and Eat programme participants seemed to feel confident and more in control of the amount of salt they consumed and are being active in changing their salt practices. However, the account of one participant suggests that she sometimes struggled to control the amount of salt consumed within her diet, for example, processed foods such as cereals and bread due to the manufacturing process. One participant's account suggests that although she is able to control the amount of salt she consumes, she struggles with reducing her families salt intake.

### **DISCUSSION**

The quantitative analysis identified a number of significant changes in knowledge and behaviour. The main observations to emerge from the quantitative study based on self-report, was that post-intervention there were significant increases in the numbers of participants displaying discriminatory knowledge on the relationship between salt and health, the ability to decode food labels and interpret salt content for food label information and reporting changes in food purchasing/consumption patterns to reduce salt intakes. In addition, some of these behaviours, namely adding salt when cooking, eating snacks high in salt and checking the label for the salt content of food products when shopping were reported to have been maintained for a period of three months.

In interpreting the findings it is important to highlight some of the study limitations which included the small sample size, the rate of participant drop out, the limited recruitment for the grocery tours and the fact that there was no control group. The small sample size of the participants placed restrictions on the power of the statistical tests to reveal genuine statistical effects which were probably occurring but which remained hidden due to the 'noise' in the data. The study needs to be replicated using a larger sample size and extending the follow-up period to twelve months to explore longer-term behaviour change. Larger samples of specially selected groups (e.g. males, younger mothers, older people) could be included in future work of this kind by using stratified sampling. However that would require more time. The questionnaires could be made more sensitive by elimination of items which show high skewness or insensitivity owing to large proportions of participants giving the same answer. Knowledge, awareness and practices pertaining to salt are relatively easy targets for short-term health education and promotion projects like Salt It Out. It is of paramount importance that a larger scale investigation is

conducted to investigate the sustainability of these short-term changes over longer times periods (e.g. one to five years).

The qualitative findings were richer, more in-depth than, but entirely consistent with the quantitative findings. By interviewing eleven participants from five BME groups, it was possible to explore their perceptions of the link between salt and health and their level of salt consumption. All participants were aware that eating too much salt negatively affects health. The findings also highlighted the important part salt has within everyday dietary practices and how participants struggle when trying to control their salt intake.

Participants reported feeling under pressure when having to make decisions about their salt consumption, especially when eating out and socialising with friends. In addition, participants expressed a need to improve their knowledge around reading and interpreting food labels and to learn how to cook with herbs and spices as a substitute for salt.

The aim of the qualitative study is to explore in detail the attitudes and beliefs of the participants regarding the link between salt and health, salt consumption, salt consumption patterns and barriers to behavioural change. In addition, the study also explored the participants' expectations of the FSA cook and eat programme. The IPA approach was used to understand the context of the participant's attitudes, thoughts and feelings regarding the phenomena under investigation and the meaning they gave to those experiences. This study has contributed towards knowledge in this area by providing an original insight into the experiences of BME groups regarding salt. It has produced rich data, which contributes towards creating a more complete picture of the participants' experience than what would have been gained from merely using quantitative research methods alone. In addition, the study findings reflect that participants would like to reduce their overall salt consumption and has provided valuable information, which can be used to help inform the design and evaluation of the intervention.

By interviewing members of BME groups and conducting an IPA analysis, it was possible to identify differences in attitudes and beliefs regarding salt and actual behavioural changes to salt consumption after attendance at a Cook and Eat programme. The pre and post intervention studies have also provided valuable information to assist in the design and development of future Cook and Eat interventions to assist people in making changes to the level of salt consumed within their diets. In addition, the analysis has produced rich data, which has given an insight into the meanings people ascribe to their experience of the topic under investigation. It is important to highlight that six participants were lost to follow-up at the post-intervention stage, namely two African, two Irish, one Asian and one Afro-Caribbean participant, which may have resulted in losing valuable insight into cultural differences.

As there were only female participants who took part in this study, further research could be conducted with male participants to gain an insight into possible gender differences with regards to attitudes, beliefs and salt practices. As mentioned within the pre-intervention study, anecdotal data from Haringey suggests that the Turkish community tend to consume a diet high in salt, which was expressed within the accounts of the two Turkish participants. However, it is important to note that the findings from this study only refer to those who took part and so cannot be generalised to the population. In the future it would be interesting to replicate this study with Turkish participants to explore the topic under investigation further.

A limitation to the qualitative study was that there were no male participants. Further research in this area should be conducted with the male population in order to gain insight into any commonalities between male and female views on salt behaviour and on the link between salt and health. A further consideration would be to replicate this study with a larger sample size, which would produce richer data and increase our understanding of the topic under investigation. The initial aim was to have three participants in each BME group. However, due to difficulties experienced in recruiting participants to take part in the study, this was not possible. The analysis gives an in-depth insight into the participants understanding of the link between health and salt, attitudes, beliefs and gaps in their knowledge which will help to inform the development of the 'Salt it Out' programme.

The purpose of the post-intervention qualitative study was to explore changes to the participants' attitudes and beliefs regarding the link between salt and health, in addition to any behavioural changes made to their salt practices following attendance at the FSA Cook and Eat programme. The findings suggest that all participants have reduced their salt intake by reducing the amount of salt added when cooking and through their food choices when shopping. In addition, the participants appear to better understand the importance of consuming a low-salt diet and the implications of eating a diet high in salt. The IPA analysis revealed shared themes across the participants' accounts. The pre-intervention accounts reflected the participants' desire to understand food labelling. After attendance on the Cook and Eat programme participants reported feeling more confidence in their ability to read and interpret food labels, which as a result has influenced their food choices when shopping, as they are now able to identify food low in salt. In addition, participants were more aware of the significant contribution of everyday processed food such as bread, cheese, cereals and beans can make to salt intake.

Prior to attending the Cook and Eat programme participants expressed an interest in learning new ways of cooking using alternatives to salt. However, they had concerns that family members would not adapt to the new taste of the food. These concerns were confirmed within some of the post-intervention accounts. Interestingly, it tended to be the husbands of the participants who struggled to adapt, and who were less satisfied with the taste of the low-salt dishes, whereas other family members, such as the children, were less likely to notice any difference. However,

the participants seemed determined to persevere and remained hopeful that their husbands would adapt to the new taste in time. A further issue the participants struggled with was everyday processed foods such as bread and cheese, commenting on the significant levels of salt added by the manufacturers. Of those participants who had young children, they felt positive and much more in control of their ability to reduce the salt in their children's diet.

The accounts of the two Turkish participants suggest that the level of salt consumed within the diet of Turkish people is high. This is supported by anecdotal evidence gathered from the Nutrition and Dietetics Department at St Ann's hospital. There is a large community of Turkish people living in Haringey, and based on the above, further research could be conducted into this area to gain more of an insight into salt practices within this BME group. The Turkish participants were the only BME group to discuss cultural aspects of salt behaviour. Within the theme 'Cultural Aspects of Salt Behaviour', participants reported that although salt is added to all foods they consume, they highlighted the fact that they felt that their children's diet was low in salt. The analysis illustrates a range of shared experiences of participant's salt behaviour and their understanding of the link between salt and health.

The Cook and Eat programmes were viewed favourably and seen as useful, in terms of gaining knowledge and practical cooking skills. The participants also reported the social benefits of the programme in that they were enjoyable and served as a way to meet new people. One participant commented on the organisation of the programme, highlighting the disruption of having more than one facilitator delivering the 4-week programme. This point should be considered for the future.

#### **KEY LEARNING POINTS – General**

1. **Over recruit for cook and eat sessions** – It is clear from our experiences that cook and eat sessions with BME groups may have drop out rates as high as 50% and for these reasons it will be important to over recruit at the start to ensure the initiative is as cost effective as possible
2. **Recruit through community groups using many different channels of communication** – from our experiences it was difficult to recruit participants for the interventions. The most effective model was to target individuals through their participation in groups within the voluntary/community sector.

#### **CONCLUSIONS**

The 'Salt It Out' Programme provided effective methods for improving participants' knowledge, understanding and practice concerning the consumption of salt. The aim of the "Salt It Out" project to assist people from BME groups in the East of Haringey to improve salt practices by reducing salt consumption was successfully achieved. Many of the specific objectives designed

to achieve this aim such as encouraging participants to add less salt when preparing food, encouraging participants to read food labels to check salt levels, and increasing participants' confidence in their ability to prepare well balanced meals were also achieved. The recipe book was a main output of the intervention and added value to the intervention, by providing a resource for participants to use following the interventions to support behavioural changes.

There were several limitations to this study, including the fact that fewer numbers than originally planned were involved in the programme owing to recruitment difficulties and attrition. In light of this, the findings of the quantitative aspect of the study need to be interpreted with caution due to the small sample size. As there were only female participants who took part in the qualitative study, further research could be conducted with male participants to gain an insight into possible gender differences with regards to attitudes, beliefs and salt practices.

The findings of the qualitative study suggested that, compared to participants from other BME groups, Turkish participants consume a higher salt diet. In the future it would also be interesting to replicate this study with Turkish participants to explore further any cultural differences regarding salt practices within this BME group. This study gave some insight into potential differences in salt practices between certain BME groups. A further area of study would be to apply this model to other BME or non-BME communities in the UK.

It is essential that projects such as this be given a longer time span. It was extremely difficult to carry out the project to successful completion within 12 months. This was the main reason for the small sample size. The added value of small scale projects such as these contribute greatly to the understanding of salt intake amongst BMG groups. However, they need to be properly audited and evaluated. It is the view of the evaluators that 'small and quick' is not beautiful. Statistical power, organising protocols, implementing methods, in-depth analysis of results, and reflecting properly on their significance are sub-optimal under the conditions of the current 12-month contract cycle.

The resource needed to develop, run and evaluate such an intervention should not be underestimated which in our experience had vast financial and manpower implications. However, It was felt that this type of intervention could be mainstreamed into routine health promotion work with adequate levels of resources.

## REFERENCES

Department of Health (2001). High blood pressure - ending the rule of halves: The Annual Report of the Chief Medical Officer. London.

Food Standards Agency (2003). National Diet and Nutrition Survey of Adults. London.

Miller, W.R., and Rollnick, S. (2002) *Motivational Interviewing: Preparing people for change* (2<sup>nd</sup> edition). New York: Guildford Press.

Smith, J.A. Harre, R. & Langenhove, L.V. (1995). *Rethinking methods in Psychology*. Sage Publications, London.

World Health Organisation (2002). *World Health Report, Reducing Risks, Promoting Healthy Life*. Geneva, Switzerland.

## APPENDIX A. EVALUATION INDICATORS

### Performance Indicators

#### Output Indicators

- Number of cook and eat sessions delivered
- Number of grocery shopping tours delivered
- Number of participants who attended the cook and eat sessions
- Number of participants who attended the grocery shopping tours
- Number of participants from the target BME groups who attended the cook and eat sessions
- Number of participants from the target BME groups who attended the grocery shopping tours
- The proportion of men and women attending the cook and eat sessions
- The proportion of men and women attending the grocery shopping tours
- The age profile of the participants attending the cook and eat sessions
  
- The age profile of the participants attending the grocery shopping tours
- The number of participants attending the cook and eat programme living in the East of the Borough
- The number of participants attending the grocery shopping tours living in the East of the Borough
- Number of participants attending the cook and eat programme who are confident in their ability to prepare well balanced meals.

#### Outcome Indicators

- How often participants add salt when preparing food
- How often participants add salt to their food at home
- How often participants read labels to check salt levels and choose lower salt options
- How often participants prepare well balanced meals
- An increase in scores assessing motivation levels for behavioural change (ie. confidence and important)
- Knowledge regarding the link between salt intake and health
- Ability to be able to identify high and low salt food products from reading the label
- A record of changes to importance and confidence scores relating to changes in salt practices

## **Monitoring**

### Outputs

- Record of how often cook and eat programmes and grocery shopping tours were delivered
- A register showing how many people attended the cook and eat programmes and grocery shopping tours
- A record of home address, age, ethnicity and gender of participants who attended the cook and eat programmes and grocery shopping tours

### Outcomes

- Use of a self-report salt behaviour questionnaire to ask participants whether they add less salt when preparing food, how often they prepare well balanced meals low in salt, add less salt to food at home, whether they read labels to check the salt content in food and whether they are able to interpret information on food labels.
- 15-20 minute semi-structured interviews to examine participants' attitudes and beliefs regarding salt consumption patterns, salt consumption patterns, barriers to changing behaviour and salt levels consumed. This approach will also collect data regarding participants' experience of attending the cook and eat and grocery store tours.