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The Nutritional Value of Children's Menus in Chain Restaurants in the United Kingdom and Ireland

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Abstract

Objective: Obesity in the UK and the Republic of Ireland is rising, as is the frequency of eating out in restaurants. The aim of this study was to investigate the nutritional quality of children's menus in restaurants.

Design: Cross sectional review of menus aimed at children from 20 popular chain restaurants in the UK and Ireland.

Main Outcome Measures: Total energy, fat, saturated fat and salt were collected from every food item on the menu in each restaurant. All potential meal combinations were created. A total of 39266 meals were analysed.

Analysis: Meals were compared to UK nutritional guidelines. Meals from fast food and full-service restaurants and, main meals and meal deals were compared.

Results: The average meal for younger children (aged 2-5 years) contained 609 ±117 kcal and for older children (6-12 years) 653 ± 136 kcal compared to guidelines of 364 kcal and 550 kcal, respectively. A total 68% of younger children's and 55% of older children's meals contained more total fat than recommended and more than four times the amount of saturated fat. Fast food restaurant meals contained less energy, fat and salt than full-service restaurants and meal deals were less likely to meet dietary guidelines than main meals alone.

Conclusion and Implications: Eating in chain restaurants, and in particular meal deals do not contribute positively to the diet of children in the UK and Ireland.

Introduction

The rise of overweight and obesity in the UK and Ireland is well reported.[1] Data from the UK National Child Measurement Programme show that a quarter of children entering primary school at 5 years old are overweight or obese, rising to one third by the end of primary school at age eleven years.[2] In the Republic of Ireland it is currently estimated that 60% of adults and 25% of children are overweight or obese.[3]

In 2017, Public Health England (PHE) reported that 27.1% of adults and 20% of children eat food away from home at least once a week.[4] In Ireland it has been reported that 24% of total energy from food and drink is now consumed outside the home.[5] In a study of 27 countries between 1998 and 2005 the UK and Ireland were both categorised in a group where spending on food had fallen but spending in restaurants had increased.[6] Furthermore, in the UK, there has been a 34% increase in fast food outlets over the past decade.[7], whilst in some locations this is up to 45%[8], with a greater density of fast food outlets in deprived areas.[9] However, a new study in the UK has shown that meals served in full service restaurants tend to be higher in energy than fast food meals and only a minority meet public health recommendations.[10] An investigation into how the culture of eating out has changed in the UK between 1998 and 2015 concluded that eating in restaurants has become a regular, even spontaneous occurrence rather than something undertaken occasionally for a special event.[11] The increase in eating out means the nutritional content of the food served in restaurants is more relevant, as it now makes a significant contribution to diet.

Data from the European Investigation into Cancer and Nutrition (EPIC) study[12] concluded that there was an association between eating out of the home and increased energy intake, with eating out of home being related to increased energy contribution from fat, higher salt intakes

and lower micronutrients intakes.[13] In a systematic review, 7 out of 8 prospective cohort studies highlighted a positive relationship between eating out of the home and increased body weight. However, just half of the cross-sectional studies made the same conclusion.[14] Data from the UK National Diet and Nutrition survey[15] showed that adults who ate out most frequently had increased daily calorie intake. However, this finding was not replicated in children; instead children, particularly from lower socio-economic backgrounds, who consumed take-away meals at home had a higher daily energy intake.[15]

Food consumed outside the home is typically of higher energy density and could include the types of food that are not associated with recommendations for a healthy diet.[16,17] Researchers have reported that restaurant meals for children, adolescents and also adults were typically too energy dense, contained too much fat[18,19] and too much sodium.[20,21] Adolescents have also been reported to consume more sugar sweetened beverages (SSB) when eating in a restaurant compared to the home. In an American study where fast food restaurants were scored on the Healthy Eating Index, children's meals scored higher than adult meals, however the overall quality of food was poor compared to dietary recommendations.[22] Likewise, in a study that created all possible meal combinations at 10 fast food restaurants in Houston, Texas (USA) it was found only 3% conformed to the National School Lunch Programme standards.[23] An in-depth review of children's meals at US fast food and full-service restaurants concluded meals did not comply with recommendations for total and saturated fat and salt.[24] Furthermore, it has been reported that there has been little progress in improving the nutritional content of children's meals in the USA, in both fast food and full-service restaurants.[25] In a UK study of 22 chain restaurants it was found that few restaurants provided nutrition and portion size information and that fast food restaurants were significantly cheaper, provided fewer portions of fruit and vegetables but had smaller

portion sizes than table-service restaurants.[26] To date there have no studies of a similar nature in the Republic of Ireland.

Behaviour may also change when eating out of home; a small study[27] showed that parents tend to make or let their children make less healthy food choices when eating in a restaurant. This highlights the environmental influence and the need for the food sector to support healthier meal choices for parents and children. An element of the obesogenic environment are the marketing practices that are used to increase consumption, for example meal bundling and the promotion of meal deals. By presenting food in a certain way, restauranteurs can help override decisions an individual might logically make when taking nutritional content into account.[28]

The aim of this study is to compare children's meals in chain restaurants in the UK and the Republic of Ireland to the UK dietary recommendations. Meals from fast food and full-service restaurants were compared and a comparison of meal deals (where different items were bundled for a set price), compared to single course main meals were also considered. The hypothesis is that eating at restaurants does not contribute positively to the diet of children in the UK and Ireland.

Methodology

This study set out to analyse children's meals using online data provided by restaurants. The Mintel Eating out Review for the UK[29] and Euromonitor for Ireland[30] provided a list of the leading chain restaurants in both countries. Given some restaurants were found in both countries data from the UK and the Republic of Ireland were combined.

105 The study was approved by and in accordance with the ethical procedures of the University
106 of Roehampton. No participants were directly involved in this study.
107 The study criteria required that restaurants needed to have a specific children's menu and to
108 have nutritional data available online. In the UK 39 restaurants were identified; of those 30
109 had a specific children's menu, of which 18 had online data available. The 11 restaurants
110 where nutritional data was not available online were emailed to request if the data could be
111 provided; 2 restaurants responded that data was not currently available and 9 did not
112 respond. There were 35 Irish restaurants that were reviewed, 21 had a specific children's
113 menu and of these, 8 had data online. The restaurants that had did not have online data were
114 emailed, 3 responded but could not provide nutritional data. Of the 8 restaurants that had
115 both a children's menu and online data, 6 of these were also on the UK list. In total data was
116 collated from 20 restaurants (12 from the UK, 2 from the Republic of Ireland and 6 found in
117 both countries). Data were collected in June and July 2017.

118 Each restaurant provided the information in different formats and included various nutrient
119 profiles in their online data. However, all restaurants provided data for energy, total fat, total
120 saturated fat, and salt (sugar was presented inconsistently in a number of different ways,
121 which limited comparisons between restaurants and the recommendations for carbohydrate
122 and sugar intakes). These categories were used as the basis for the analysis and the data were
123 recorded in Microsoft Excel (Version 2016) for each item on the children's menu.

124 A total of 18 restaurants offered a children's meal deal option (where different items were
125 bundled for a set price). In some restaurants the meal deal included a starter, main course,
126 dessert and drink. In others, it was a main course and a dessert or a main course and a drink.
127 Where side orders or drinks were available as choices, these were also included in the meal

128 combinations that were created. For those restaurants that did not offer a meal deal, the
129 meal combinations were built from the items on the children's menu.

130 All but one of the 20 restaurants provided complete nutritional information on their website
131 for the children's meals provided at their restaurants. One restaurant did not include the
132 portion size for younger children for their side orders. However, nutritional data per 100g
133 was provided, so a portion size as recommended in the School Food Plan[31] was used and
134 additional data was obtained from Diet Plan 7 (Forestfield Software, Sussex UK); a dietary
135 analysis package that includes both UK and Irish food composition databases.

136 Nutritional standards were based on UK government recommendations: the Scientific
137 Advisory Committee for Nutrition (SACN) standards for energy requirements,[32] salt[33] and the
138 Department of Health recommendations for total and saturated fat.[34] The standards include
139 recommendations for younger (aged 2-5 years) and older (aged 6-12 years) children. Public
140 Health England's (PHE) guidelines for healthy and sustainable catering were assumed and so
141 for a single meal, 30% of daily energy requirements was referred to.[35]

142 Comparisons were made between fast food and full service restaurants and single course
143 meals and meal deals; a fast food restaurant was defined as a restaurant where food was
144 ordered and received at the counter and a full service restaurant involved waiter service.
145 The data was analysed using the pivot table functionality in Microsoft Excel (version 2016)
146 and all the possible meal combinations were created for each restaurant. In total, there were
147 39266 meal combinations created. Summary statistics are presented as weighted means
148 across restaurants to take into consideration the variation in the number of meal
149 combinations each restaurant contributed to the overall analysis unless otherwise stated, in
150 accordance with the methods adopted by Sliwa et al.[24] Statistical analysis was conducted

using SPSS (version 23) and at restaurant level, the mean and standard deviation was calculated for each nutrient, and compared to the nutritional standards. The effect size was calculated using the equation $r = \frac{Z}{\sqrt{N}}$.[32] Where normality tests showed that the data were not normally distributed, medians are presented with the inter-quartile range and Mann Whitney U tests were used to test for differences.

Results

Of the children's menus from the 20 restaurants that were analysed, 6 restaurants offered 1 course (a main meal); 9 offered 2 courses (a main meal and a dessert) and 5 offered 3 courses (starter, main meal and dessert). A dessert course was offered on the menus more frequently than a starter, with 75% of restaurants offering a dessert compared to 25% offering a starter. Younger and older children were generally offered the same number of courses, although in 20% of the restaurants, the menu was annotated to suggest older children could choose an additional side order. Over three quarters (78%) of restaurants offered breaded chicken, 67% offered fish fingers and 61% had a burger. In addition, 14 of these 20 restaurants offered chips (fries) as a side option. In total, 12 restaurants offered a drink as part of a meal deal with one restaurant offering a choice between a drink and dessert. Five restaurants had at least one SSB on their menu, with 11 offering fruit juice and 10 including milk or water as a drinks option. Fruit was on offer in place of fries in 50% of the fast food restaurants included. In total there were 6 fast food and 14 full service restaurants included in this study.

The nutritional data for each restaurant with meals aimed at young children is shown in Table 1. For a younger child, the average meal contained 609 ± 117 kcal, 22.9 ± 6.8 g of fat, 8.5 ±

174 3.4 g of saturated fat and 1.8 ± 0.6 g of salt. This was greater than the calorie and salt
175 recommendations (364 kcal and 0.8 g respectively), and the fat recommendation (16.6g) and
176 more than 4 times the amount of saturated fat (1.8g) recommended for one meal. A
177 comparison of the number of meals that met recommendations is shown in Table 2. A total
178 of 87% of meals exceeded recommendations for energy and saturated fat and in 12
179 restaurants, all meals offered contained more than the recommended amount of salt.

180 There were 23,256 meals analysed for older children. 20% of restaurants had extra options
181 for older children; typically additional main courses and more side orders. The nutritional data
182 is presented in Table 3. For older children, the average meal for all restaurants contained 653
183 ± 136 kcal, 25.0 ± 8.0 g total fat, 10.0 ± 4.0 g saturated fat and 2.0 g ± 1 g of salt. In total, 66%
184 of meals were above the 550 kcal recommended amount[28] and 87% of meals exceeded the
185 saturated fat guidelines[34] (Table 4). The average meal for an older child contained almost 4
186 times the recommend amount of saturated fat of 2.4g.[34] In half of the restaurants analysed,
187 the average meal contained over 2 g of salt compared to the recommended amount of 1.5g.[33]
188
189 This study also investigated meal deals, which typically included more than one course. The
190 analysis was replicated with a main course and any side order options that came with it and
191 highlighted the extent to which bundling i.e. meal deals, increased the energy content of
192 meals. For younger children the mean calorie difference between all meal deals and all main
193 courses was 271 (± 133) kcal and was significant (t=142, p=0.000; bootstrapped BCa 95% CI
194 267 to 274). For older children the mean calorie difference was also significant, the mean
195 difference for all meals was 260 (±154) kcal, (t= 151, p=0.000; bootstrapped BCa 95% CL 257
196 to 264).

When analysing only the main course, 60% of meals met or were under the recommended energy amount for younger children, compared to just 13% of meal deals. For older children 58% of main meals met standards for energy compared to 34% of meal deals. Fast food restaurants did not generally include a dessert course as part of the meal deal but three included a SSB in their offering (the other two restaurants had just 12 meal combinations in total). Comparing the main course and the meal deal at fast food restaurants, an independent t test, (t =8.1) showed a significant difference of 82 kcal between a main course and a meal deal (bootstrapped BCa 95% CI 60 to 100 kcal, p= 0.001). This suggests that in three of the fast food restaurants, a drink on average added 82 kcal to a meal deal. For younger children, 82 kcal is over 20% of their recommended calorie intake for a single meal and adds to the energy content but not the overall nutrient quality of the meal.

In total, 6 fast food restaurants and 14 full-service restaurants that offered meals for both younger and older children combined were compared. For energy the fast food median was 417 (345 - 559) kcal compared to 684 (593 - 871) kcal for the full-service restaurants (U=9.0, z=-3.001, p=0.001). Total fat for the fast food restaurants was 15.9 (10.6 – 18.9) g compared to 25.9 (22.6 – 39.0.9) g for full service restaurants (U= 17, z=-2.467 p= 0.014). Saturated fat was 4.8 (4.0 – 8.4) g for fast food restaurants compared to 11.3 (8.1 – 12.7) g for full service restaurants (U= 17.0, z=-2.467, p=0.014). The salt content for fast food restaurants was 1.3 (1.2- 1.6) g compared to 2.3 (1.5 - 2.6) g for full-service restaurants (U= 19.5, z= -2.311, p=0.021).

Discussion

This study found that meals in UK and Ireland chain restaurants were, in general, too energy dense, contained too much fat (particularly saturated fat) and had too much salt for both older and younger children. These findings are in line with other studies of this nature.[19,21,24,25]

Despite a choice of over 16,000 meals, it is still potentially difficult for parents of younger children to select a meal that provides the recommended number of calories for their age group, as 87% meals contained more than 354 kcal, which is the recommended amount. For older children, the picture was slightly better, with 66% of meals over the guidelines for energy. This contrasts with one study on USA full-service and fast food restaurants, where 63% of full-service and 72% of fast food restaurants complied with national nutritional recommendations.[24] In a study looking at choice in fast food chains in Australia, it was highlighted that the range of choice of items drove the calorie content of meals.[37] For example, by choosing water rather than a SSB, the calorie content of a meal could be significantly reduced. From the data collated in this study, a SSB added between 71 and 142 kcal and a milkshake could add up to 357 kcal. There has been pressure on fast food restaurants to remove SSB's from their menus in the USA[38] and this is now reflected in the UK and Ireland with the introduction of the Soft Drink Levy in the UK,[39] (colloquially known as the sugar tax) and the Sugar Sweetened Drinks Tax in Ireland.[40] The sugar levy was first announced in March 2016. From this date onwards, reformulation and changes to menus commenced in preparation for the deadline of April 2018.

In the current study, only 5 restaurants offered a SSB beverage. Dessert, on the other hand, is more commonly offered as part of a children's meal deal, with 14 of the 20 restaurants offering dessert in their meal deal. As with the SSB, a dessert can significantly add to the

calorie content of a meal; for example a single scoop of ice-cream can add 120 kcal, while an ice-cream sundae up to 636 kcal. Given parents are likely to be more lenient with food choices in restaurants,[27] if a SSB and/or a dessert is included in a meal deal as a default option, it is more likely to be ordered and consumed.[41]

This study also found the total fat content, and in particular saturated fat content, of meals was higher than recommended. The restaurants did not always provide information on how specific foods were cooked but this is worth considering since deep frying can increase fat content by up to 50%.[42]

The salt content of food provided for both younger and older children was also higher than recommended. A study of salt intake of children in South London using the 24-hour urinary sodium excretion method found that two thirds of 5-6-year olds and three quarters of 8-9 and 13-17-year olds had higher salt intakes than recommended.[43] High salt intake can raise blood pressure in children[44] and research has shown that high blood pressure during childhood is predictive of hypertension in adults.[45] This study concludes that restaurants still have some work to do to achieve PHE's republished salt reduction targets of 1.8g of salt in children's main meals consumed outside of the home.[46]

The study found that fast food restaurants had lower energy, total fat, saturated fat and salt content in their meals compared to full service restaurants. However fast food restaurants typically offer fewer courses and side orders, which likely reduces the total energy content of the entire meal. Similarly to an American study,[24] this research also found that shorter menus and healthier meals were correlated. Fast food restaurants offered on average 56 meal choices, compared to 298 meal choices at full-service restaurants. Yet, fast food restaurant meals were still above the guidelines for energy, saturated fat and salt for younger children

and above guidelines for saturated fat for older children. This is similar to findings on fast food restaurants in previous studies.[22,47] Although fruit was an option in place of fries at 50% of the fast food restaurants in this study, which could reduce both the calorie and fat content of meals, previous research has found that these choices aren't popular. In 2011, McDonalds reported that although 80% of customers knew that they served apples slices instead of fries, only 11% of consumers in the U.S.A. made the apple choice.[48]

Menu bundling i.e. meal deals in restaurants, increased an adult's energy consumption[49] and consumers who selected a meal bundle consumed more energy than those who choose individual items, especially when calorie knowledge is low.[50] This study also confirmed the extent to which bundling can increase the energy content of meals. As a marketing tool, a meal bundle that creates a default option, offers the consumer advantages; it saves time, money and effort.[48] It has been estimated that individuals make in the region of 200 food related decisions in a single day and these decisions may be influenced by a few key factors.[50] In a qualitative study, mothers' commonly perceived a meal deal to be easier, quicker and less expensive; however, there was concern about items such as SSB's, and it was important to be able to select alternatives.[48] The presence of a meal deal also influences consumption norms i.e. creates the perception that the bundle items should all be consumed together.[50] In this study, meal deals were available at 18 of the 20 restaurants. It has been reported that as children's meals are not major revenue generators, changing the menu is unlikely unless there is regulatory or parent pressure.[52] In August 2018, the Californian state legislature passed a bill requiring milk or water be offered as the default option in a child's meal (Senate Bill 1192).[53] It will be interesting to ascertain whether or not this law has had an impact on the diet quality of children in California.

The prevalence of meal bundling could be used as an opportunity to promote healthier eating in restaurants. In a study examining the power of the default option, it found that parents overwhelmingly stuck to the default option and children ate the same amount of food regardless of the option given.[41] In 2008, Walt Disney made healthy sides and drinks the default option in meals in restaurants at their theme parks and reported that consumers stuck with these healthier defaults.[54] In another study from the USA, it was reported that the number of bundled meals that included fries as a side order halved when fries were not the automatic default, but could be substituted at the same price.[55] Given that it has been highlighted that only one third of parents knew the appropriate calorie range for a meal for a 5-12-year-old at a restaurant, and confidence in their assessment was low, meal bundling may well prove to be an effective tool in contributing to parents or children choosing the healthier option by default.[48]

This study collated all the potential meal combinations available at chain restaurants from the UK and Ireland, and in doing so, created a very comprehensive picture of the meal choices available to children and their parents. However it is noted we needed to exclude from the study restaurants who could not provide nutritional data. Furthermore, it should be remembered this research presents the options available in restaurants and not consumption data. This study focused on nutritional and meal options available online and therefore expected that all restaurants in the chain serve the same menu and employ the same cooking procedures. There may, however, have been variations in cooking methods between restaurants in the same chain. Restaurants may also change a menu depending on food availability and regional preferences. Furthermore, a study by WRAP (Waste and Resources

312 Action Programme) suggested that almost one third of diners left food on their plate and the
313 biggest reason for leaving food was that the portion size was too big.[56] As consumption and
314 wastage was not accounted for in this study, it is possible that the nutritional data on the
315 menu overestimates what would actually be consumed.

316 The density and locations of fast food outlets in the UK and Ireland remains a concern and
317 some councils have now introduced planning restrictions on the opening of new fast food
318 outlets within 400 m of schools[57,58] Furthermore, this year, a ban on fast food advertising has
319 been put into operation on the whole of the London transport network, which if successful,
320 could be replicated in other parts of the UK and Ireland.[59] Such policies emphasise the role of
321 fast food outlets and restaurants in the food environment and their impact on public health.

322 Our study aimed to investigate what is offered to children on menus in chain restaurants,
323 rather than what is consumed; nor did this study obtain data on which meal combinations
324 were more popular and, therefore, consumed more frequently. We are also aware that not
325 all children will choose and eat from the children's menu; some will prefer to choose from the
326 main restaurant menu. Despite this, it is very much part of UK and Irish restaurant culture
327 that on arrival, families are offered the children's menu alongside the main menu. However,
328 one American study[60] found that the majority of children did, in fact, order from the children's
329 menu. It would also be interesting to see if children's menus have changed since the sugar
330 levy deadline and thus, this warrants further study. Whilst this study was based on nutritional
331 information that was provided by the restaurants online, this does not take into account
332 variations in serving size or other factors such as presentation and taste that affect the
333 amount consumed. Yet, by using online data, we were able to include a greater number of

restaurants, since it would have been unfeasible to physically visit all restaurants in both the UK and Ireland.

Implications for Research and Practice

This study confirms that meals presented on children's menus in restaurants are typically higher than recommended for energy, total and saturated fat and salt. As children continue to eat out more frequently, it is concerning that healthy options are not readily available. Comparing meal deals and the single main course highlighted the extent to which additional courses and drinks contribute to the energy and fat content of a meal. In particular, by choosing the meal deal option, which appears quick, convenient and looks economically attractive, parents are perhaps unwittingly ordering meals with more energy, fat and salt than recommended. Further research is needed to identify the barriers that result in restaurants failing to offer healthy options and how best to improve the food environment.

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514 **Table 1. Nutritional data for restaurants chains with a menu for young children.**

Restaurant	Meal Combinations (n)	Calories (kcal) ±SD	Total Fat (g) ± SD	Saturated Fat (g) ± SD	Salt (g) ± SD
1	6	304 ± 27	2.1 ± 0.5	0.8 ± 0.1	0.7 ± 0.3
2	210	428 ± 131	14.7 ± 6.1	3.9 ± 2.4	1.3 ± 0.5
3	3	325 ± 62	9.2 ± 0.7	4.3 ± 3.7	1.3 ± 0.4

4	504	684 ± 164	24.3 ± 7.4	10.3 ± 4.8	2.0 ± 0.4
5	80	482 ± 119	17.1 ± 5.4	5.3 ± 1.9	2.0 ± 0.7
6	660	684 ± 98	22.8 ± 4.8	11.7 ± 3.5	2.7 ± 0.8
7	980	566 ± 143	20.5 ± 9.4	6.3 ± 4.0	2.3 ± 0.5
8	8064	691 ± 162	25.9 ± 8.9	11.2 ± 4.4	1.5 ± 0.6
9	28	472 ± 100	19.4 ± 7.9	11.4 ± 6.3	1.0 ± 0.4
10	6	463 ± 27	16.5 ± 6.8	6.2 ± 3.4	1.5 ± 0.5
11	231	876 ± 171	36.7 ± 11.0	13.8 ± 4.4	2.4 ± 1.1
12	231	878 ± 156	33.7 ± 9.1	12.4 ± 4.3	2.8 ± 1.0
13	282	587 ± 99	23.2 ± 8.3	8.1 ± 3.3	2.3 ± 0.7
14	330	646 ± 115	22.6 ± 8.1	8.1 ± 4.0	2.3 ± 0.9
15	16	590 ± 81	15.0 ± 4.0	2.5 ± 0.8	1.0 ± 0.7
16	4032	854 ± 224	39.0 ± 16.9	13.3 ± 4.7	2.3 ± 1.2
17	256	908 ± 216	41.6 ± 12.1	12.2 ± 5.8	2.8 ± 0.9
18	56	702 ± 168	25.9 ± 11.8	8.5 ± 5.0	1.6 ± 0.6
19	32	641 ±57	27.8 ± 4.0	9.8 ± 1.0	1.7 ± 0.5
20	3	405 ±25	19.2 ± 2.3	9.4 ± 1.0	1.2 ± 0.4
Overall	**801**	**609 ± 117**	**22.9± 6.8**	**8.5 ± 3.4**	**1.8 ± 0.6**

Table 2. Comparison of nutritional data compared to the recommendations* for younger children.

	Meal Combinations (n)	**Energy % of Meals> Standard**	**Total Fat % of Meals> Standard**	**Saturated Fat % of Meals> Standard**	**Salt % of Meals> Standard**
1	6	0%	0%	0%	67%
2	210	64%	34%	74%	83%
3	3	33%	0%	67%	100%
4	504	99%	73%	98%	100%
5	80	80%	51%	100%	100%
6	660	100%	83%	100%	96%
7	980	93%	63%	86%	100%
8	8064	98%	84%	99%	90%
9	28	82%	64%	89%	57%
10	6	100%	33%	100%	100%
11	231	100%	98%	100%	100%
12	231	100%	97%	100%	100%
13	282	100%	83%	100%	100%
14	330	100%	79%	100%	100%
15	16	100%	38%	75%	50%
16	4032	99%	94%	100%	94%
17	256	100%	100%	100%	100%
18	56	100%	79%	93%	93%
19	32	100%	100%	100%	100%
20	3	100%	100%	100%	100%
Overall	**801**	**87%**	**68%**	**89%**	**91%**

*The Scientific Advisory Committee for Nutrition (SACN) standards for energy requirements (SACN, 2011), salt (SACN, 2003) and the Department of Health recommendations for total and saturated fat (Department of Health, 1991).

Table 3. Nutritional data for restaurants chains with a menu for older children.

Restaurant	Meal Combinations (n)	Energy (kcal) ±SD	Total Fat (g) ± SD	Saturated Fat (g) ± SD	Salt (g) ± SD
1	6	304 ± 27	2.1 ± 0.5	0.8 ± 0.1	0.7 ± 0.3
2	210	428 ± 131	14.7 ± 6.1	3.9 ± 2.4	1.3 ± 0.5
3	3	325 ± 62	9.2 ± 0.7	4.3 ± 3.7	1.3 ± 0.4
4	7560	887 ± 193	34.8 ± 9.2	12.8 ± 5.4	2.9 ± 0.6
5	80	482 ± 119	17.1 ± 5.4	5.3 ± 1.9	2.0 ± 0.7
6	660	684 ± 98	22.8 ± 4.8	11.7 ± 3.5	2.7 ± 0.8
7	980	566 ± 143	20.5 ± 9.4	6.3 ± 4.0	2.3 ± 0.5
8	8064	691 ± 162	25.9 ± 8.9	11.2 ± 4.4	1.5 ± 0.6
9	92	621 ± 166	24.2 ± 9.0	13.5 ± 6.8	1.5 ± 0.7
10	360	602 ± 125	18.8 ± 5.4	8.0 ± 3.2	1.9 ± 1.1
11	231	876 ± 171	36.7 ± 11.0	13.8 ± 4.4	2.4 ± 1.1
12	231	878 ± 156	33.7 ± 9.1	12.4 ± 4.3	2.8 ± 1.0
13	54	978 ± 276	51.1 ± 18.8	23.3 ± 10.3	2.8 ± 1.2
14	330	646 ± 115	22.6 ± 8.1	8.1 ± 4.0	2.3 ± 0.9
15	16	590 ± 81	15.0 ± 4.0	2.5 ± 0.8	1.0 ± 0.7
16	4032	854 ± 224	39.0 ± 16.9	13.3 ± 4.7	2.3 ± 1.2
17	256	908 ± 216	41.6 ± 12.1	12.2 ± 5.8	2.8 ± 0.9
18	56	702 ± 168	25.9 ± 11.8	8.5 ± 5.0	1.6 ± 0.6
19	32	641 ± 57	27.8 ± 4.0	9.8 ± 1.2	1.7 ± 0.5
20	3	405 ± 25	19.2 ± 2.3	9.4 ± 1.0	1.2 ± 0.4
Overall	**1163**	**653 ± 136**	**25.0 ± 8.0**	**10.0 ± 4.0**	**2.0 ± 1.0**

Table 4. Comparison of nutritional data compared to the recommendations* for older children.

	Meal Combinations (n)	Energy % of Meals> Standard	Total Fat % of Meals> Standard	Saturated Fat % of Meals> Standard	Salt % of Meals> Standard
1	6	0%	0%	0%	0%
2	210	17%	16%	61%	33%
3	3	0%	0%	67%	33%
4	7560	96%	93%	99%	100%
5	80	34%	41%	100%	80%
6	660	88%	56%	100%	71%
7	980	52%	43%	80%	89%
8	8064	79%	69%	97%	44%
9	92	65%	62%	97%	54%
10	360	60%	28%	100%	67%
11	231	97%	91%	100%	73%
12	231	97%	89%	99%	91%
13	54	96%	96%	100%	91%
14	330	78%	48%	97%	73%
15	16	69%	13%	69%	13%
16	4032	88%	87%	100%	71%
17	256	94%	98%	100%	94%

18	56	80%	63%	93%	64%
19	32	97%	100%	100%	53%
20	3	0%	33%	100%	33%
Overall	**1163**	**66%**	**55%**	**87%**	**63%**

* The Scientific Advisory Committee for Nutrition (SACN) standards for energy requirements (SACN, 2011), salt (SACN, 2003) and the Department of Health recommendations for total and saturated fat (Department of Health, 1991).

Table 5. List of restaurants included in the study that provided online nutritional information

Restaurant	**Type**
All Bar One	Full Service
Apache Pizza	Fast Food
Beefeater	Full Service
Brewers Fayre	Full Service
Burger King	Fast Food
Crown Carveries	Full Service
Ember Inns & Ember Pub & Dining	Full Service
Gourmet Burger Kitchen	Full Service
Harvester	Full Service
KFC	Fast Food
McDonalds	Fast Food
Nando's UK & Ireland	Full Service
Pizza Express	Full Service
Pizza Hut	Full Service
Sizzling Pub Co	Full Service
Subway	Fast Food
SuperMacs	Fast Food
Toby Carvery	Full Service
Wagamama	Full Service
Zizzi	Full Service