

# 1 Meal Deals, Combos and Bundling: the impact on the nutrition composition of children's 2 meals in restaurants.

3

## 4 Abstract

5 Increased consumption of food outside the home means that the nutritional content of meals served  
6 in restaurants now makes a significant contribution to overall diet. Children's menus in restaurants,  
7 usually aimed at those aged 10 years and younger, are frequently high in energy, fat, salt, sugar and  
8 lack variety. The food and drink on children's menus are often bundled together as a combo or meal  
9 deal that may be convenient to order and sometimes, but not always, cheaper. Bundling has the  
10 potential to add additional foods that may not have been selected individually thus increasing the  
11 amount ordered and consumed. Substituting some meal deal items for healthier options has the  
12 potential to make it easier to eat well when eating outside the home and improve dietary intakes.  
13 However the impact of such measures on child health have yet to be fully explored.

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16 In the UK it has been reported that 20% of children and 27% of adults eat out at least once every  
17 week<sup>(1)</sup>. In America it is stated that 36% of children aged 2-19 years eat at a fast-food restaurant on a  
18 typical day<sup>(2)</sup>. Eating in restaurants has now become a regular occurrence rather than an occasional  
19 treat<sup>(3,4)</sup>. Given that the incidence of overweight and obesity are still rising<sup>(5,6)</sup> and levels of obesity  
20 disproportionately affect children living in deprived areas<sup>(6,7)</sup> we need to consider the way unhealthy  
21 foods are promoted and how we can facilitate parents to make healthy choices for their children  
22 including when eating out of the home.

23

24 In the linked paper, Dunn and colleagues<sup>(8)</sup> consider the Nutrition Composition of Children's Meals in  
25 26 Large U.S. Chain Restaurants. The authors highlight that not only do restaurants frequently sell  
26 unhealthy individual menu items but they are often bundled into combinations such as a meal deal  
27 that include a main dish, a side order or a dessert and a beverage at a discounted price. Even when  
28 healthier sides and beverages are available they are rarely included as the default meal deal. This  
29 paper investigated and found that when the default meals advertised were compared with the  
30 minimum and maximum versions that can be chosen, nutrient values differed significantly. For  
31 example, they found default meals on average contained 584 kcal whereas the minimum option was  
32 400 kcal and the maximum was 792 kcal; similar patterns were seen for fat, sodium and sugar. Some  
33 items in particular were found to have a salient effect; substituting a beverage for a low calorie version

34 or water could reduce energy intakes by on average 100 kcal and sugar by 20 grams, and substituting  
35 side orders such as French fries resulted in the greatest reductions in fat and salt. They proposed that  
36 restaurants could repackage their meal deals by simply substituting healthier items that in most cases  
37 the restaurants already offered, a simple strategy requiring neither reformulation nor investment.  
38 Thus they showed that realistic modifications can significantly alter a meals nutrient composition, and  
39 that relatively simple changes to beverages and side dishes have the potential to reduce energy, fat,  
40 salt and sugar, paving the way for healthier options to be the default options. This confirms the  
41 findings from one of our own studies<sup>(9)</sup> that highlighted the extent to which additional courses and  
42 drinks in default meal deals offered on children's menus in restaurants substantially contribute to the  
43 energy content of a meal in the UK and Ireland. In particular, by choosing the meal deal option, often  
44 seen as more convenient and sometimes, but not always cheaper, parents are perhaps unknowingly  
45 ordering meals that have higher levels of energy, fat, salt and sugar.

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47 Marketing practices, that often include a toy<sup>(10)</sup>, can persuade increased consumption by using meal  
48 bundling and default meals to override individual decisions that encourage customers to buy items  
49 together that they may not have chosen if each item was listed separately<sup>(11)</sup>. Bundling may also give  
50 the perceived impression of better value for money<sup>(12,13)</sup>. Furthermore in some restaurants the sheer  
51 number of options to choose from can make selecting the healthier choice more complicated than it  
52 should be<sup>(12)</sup>. Bundling and meal deals also provide a perception norm<sup>(14)</sup> and gives the notion that  
53 the constituent items complement each other<sup>(13)</sup>. This includes desserts and drinks that when included  
54 in a meal deal are more likely to be ordered and consumed<sup>(15)</sup>. Thus bundles increase the purchase of  
55 calories which naturally leads to greater consumption<sup>(16)</sup>.

56

57 Given that customers often revert to the default menus<sup>(15)</sup>, simple substitutions have the potential to  
58 improve the nutrient composition of meals on children's menus in restaurants. There are other  
59 studies that have measured the effectiveness of substituting items in different meal deals<sup>(17,18)</sup>.  
60 Similarly to the Dunn *et al.*<sup>(8)</sup> findings, an Australian study found that choosing water rather than a  
61 sugar sweetened beverage could significantly reduce the amount of energy consumed. An American  
62 cross-sectional study of 483 restaurant receipts showed that 60% of beverages purchased were sugar  
63 sweetened and uncoupling sugary beverages from a meal deal could reduce calorie and sugar intakes,  
64 since in this study, meals with non-sugar sweetened beverage had on average 179 kcal less than meals  
65 with sugar sweetened beverage<sup>(17)</sup>. Thus it would appear that eliminating a sugar sweetened beverage  
66 offers the easiest way to reduce calories and sugar from a fast food meal. This highlights that a simple  
67 move, such as restaurants offering tap water as default, could have a significant effect<sup>(7,19)</sup>. Simple

68 modifications or optimal defaults can nudge choices in a positive direction<sup>(15)</sup>. Bundled meals have  
69 been reported as being popular with parents as long as they could choose the individual items that  
70 were included<sup>(12 20)</sup>. One qualitative study revealed that parents thought healthier defaults could  
71 facilitate ordering and in their view “help other parents”<sup>(12)</sup>. Modifications to children’s menus to  
72 make them healthier e.g. increasing fruit and vegetable dishes, providing water, and the removal of  
73 automatic defaults for fries and sugar sweetened beverages, can result in healthier offerings without  
74 removing choice or reducing revenue, so restaurants can remain competitive<sup>(21)</sup>.

75

76 In addition to bundling, children’s menus are often reported as generally lacking in variety<sup>(9)</sup>, and  
77 Hay<sup>(22)</sup> raised the question why do kid’s menus in the UK always have chicken nuggets? A study in  
78 Germany also noted that the range of dishes on offer for children is severely restricted and in need of  
79 improvement<sup>(23)</sup>. Of course children are not limited to only choosing from food from the children’s  
80 menus and can choose from the main restaurant menu; some restaurants may not even have a  
81 children’s menu. However an American study showed that 63% of parents do choose from the  
82 children’s menu and this was higher in children under the age of ten years<sup>(20)</sup>. Clearly, restaurants  
83 could consider designing their children’s menus to include some variety and make the healthy choice  
84 the easiest choice<sup>(12)</sup> however the full impact of such measures on child health have yet to be explored.

85

86 As reported in the linked paper by Dunn and colleagues<sup>(8)</sup>, in America, some states have taken  
87 legislative action to ensure restaurants provide healthy beverages with children meals as default,  
88 however less emphasis has been given to other parts of children’s menus. In the UK, the 2016 sugar  
89 levy was a positive step to help improve the quality of beverages on offer, however it is evident that  
90 there is still more work to be done on the menus in many chain restaurants<sup>(9,24,25)</sup>. The second chapter  
91 of the UK Childhood Obesity: a plan for action<sup>(26)</sup>, included proposals for several food environment  
92 interventions such as restrictions on unhealthy food advertising and greater support for using planning  
93 regulations to improve local food environments. A calorie reduction programme also challenged all  
94 food and drink companies including restaurants and takeaways to reduce energy by 20% in a range of  
95 everyday foods consumed by children by 2024 with additional recommendations to introduce  
96 legislation for consistent calorie labelling in the out of home sector. More recently the Chief Medical  
97 Officers independent report on child obesity<sup>(7)</sup> stated a number of recommendations including fiscal  
98 measures to favour healthier options such as calorie caps on food and drink sold outside the home,  
99 nutritional labelling, and free drinking water to be available for all customers in on-site premises.  
100 Emphasising that there is a clear need to consider the role of the food environment and the nutritional  
101 value of food and beverages consumed outside the home in relation to childhood obesity.

102

103 These studies show that there is a trend for families and young children to eat increasingly frequently  
104 outside of the home. This is not to say that families should not enjoy an occasional treat, however we  
105 do need to recognise that if opting to eat out on a more regular basis then the nutritional content of  
106 the food served in restaurants can make significant contributions to the overall diet. Changing the  
107 occasional restaurant meal to a healthier one may not have a great impact on obesity risk<sup>(27)</sup>, however  
108 it should be easier to eat out healthily and be possible, even sustainable, to eat in restaurants as part  
109 of an overall healthy diet<sup>(19, 28)</sup>. Furthermore it is recognised that children’s menus in restaurants are  
110 just one component of the complex problem that is obesity, and thus only an innovative and  
111 multifaceted approach<sup>(29, 30)</sup> that includes policy changes<sup>(31)</sup>, transformation of the food supply<sup>(32,33)</sup> as  
112 well as changes to the environment, will solve.

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