

Blueberry Muffins Survey

A report by Obesity Health Alliance and Action on Sugar

We are all eating too much sugar, and this is one of the key drivers of the UK's obesity epidemic. Children are consuming nearly three times more than the 5% maximum recommended level in school-aged children and teenagers and adults consume around twice the maximum recommended level in adults.¹ As part of plans to significantly reduce childhood obesity, Public Health England (PHE) is leading a programme of sugar reduction, to reduce sugar in the foods eaten by children by 20% by 2020.²

Around 18% of the food we eat is eaten out of home³ – therefore it's important that this sector plays its role in helping make everyday on-the-go foods healthier. In addition, many out of home outlets don't typically display or publish nutrition information, making it hard for people to know how much sugar (and calories) they are consuming.

Obesity Health Alliance and Action on Sugar carried out a survey of blueberry muffins to compare sugar content and portion size in products from popular out of home outlets. We chose blueberry muffins due to their wide availability, indicating their popularity. We focused on outlets in busy railway stations where people might typically pick up a muffin as a snack to be eaten while on-the-go. We analysed the sugar content of muffins from outlets where nutrition information is not available to the consumer and compared this information to nutrition information (either on pack or online) on similar blueberry muffin products from other out of home (OOH) outlets and supermarkets.

Key Findings

- Blueberry muffins are not a healthy snack option and contribute a significant amount towards total daily sugar limits. 61% (17 out of 28) of all the muffins included in the survey³ contained six teaspoons of sugar or more, which is the upper DAILY limit of a child aged 7-10 years.
- Muffins bought from OOH outlets were more sugary and bigger than those available in supermarkets.
 - The average muffin bought from an OOH outlet had 19% more sugar, the equivalent of 1.2 more teaspoons of sugar, than the average supermarket muffin.
 - The average muffin bought from an OOH outlet was 32% bigger than the average supermarket muffin (115g compared to 78g).
- There is large variation in the sugar content of blueberry muffins from the different outlets
 - There was a 55% difference in sugar content between the most and least sugary muffin from OOH outlets.
 - There was a 53% difference in sugar content between the most and least sugary muffin from supermarkets.
- The variation in sugar content and portion size of the muffins surveyed shows there is plenty of opportunity for manufacturers to significantly reduce the sugar content and portion size of this product – and meet PHE's targets for 20% sugar reduction by 2020.

^a This relates to muffins with per serving nutrition information available (28 muffins out of 31)

- Only 42% of products provided full nutrition information per muffin at the point of sale in both OOH outlets and supermarkets, whilst 29% of products surveyed displayed limited nutritional information at the point of sale (i.e. per 100g values only, calories per muffin only, calories + sugar per muffin, calories+ saturated fat per muffin)

Recommendations

- All manufacturers across the retail and out of home sector should reformulate their products to reduce sugar content and muffin size (and therefore calorie content) in line with PHE's target to reduce sugar by 20% by 2020.
- All manufacturers, retailers and OOH outlets should publish nutrition information, including front of pack traffic light labelling at the point of sale, to enable consumers to make informed decisions.

Methods

- We identified blueberry muffins as a readily available (and therefore likely to be popular) snack option in multiple OOH and supermarket outlets. Muffins are included in PHE's sugar reduction programme with manufacturers expected to reduce sugar by 20% by 2020.
- We mapped food outlets at the three busiest UK train stations in London (Waterloo, Victoria and Liverpool Street) and the three busiest stations outside London (Birmingham New Street, Leeds and Manchester Piccadilly).⁴
- Outlets were chosen to be surveyed if they had an outlet in one of the busiest stations identified, plus at least five other outlets in the UK.
- We identified seven outlets that sell blueberry muffins but do not provide any nutrition information at the point of sale or online. Three blueberry muffins were collected from each of the selected station outlets across the UK and analysed by Kent Scientific Services in January 2018. However, due to product availability it wasn't possible to collect all the samples from the outlets in the locations chosen and some samples were collected from outlets in alternative locations. See table 2 for more information.
- Data from outlets that provide nutrition information at point of sale or online were included if they met the criteria above (i.e. they sell blueberry muffins and have outlets at the busiest stations).
- Supermarket blueberry muffins were included from each of the major retailers. This data was collected in store or online.
- A total of 31 products were surveyed from 23 outlets:
 - Seven OOH outlets where nutrition information was not available (AMT Coffee, Camden Food Co., Delice de France, Patisserie Valerie, Pumpkin, Ritazza and Upper Crust).
 - Seven OOH outlets where nutrition information was available, either at point of sale or online (Caffe Nero, Costa, Starbucks, EAT, Pret A Manger, Benugo and McDonald's)
 - Nine retailers where nutrition information was available, either at point of sale or online (Aldi, ASDA, Co-Op, Lidl, Marks & Spencer, Morrisons, Sainsbury's, Tesco and Waitrose)
- All data collected in Jan-Mar 2018 by Obesity Health Alliance members and Action on Sugar.

Results

Overview

- Of the muffins that provided nutrition information per serving, 61% (17 out of 28) of muffins contained the same or more sugar per muffin than the maximum recommended limit for a child aged 7-10 years per day.
- Muffins from OOH outlets were generally more sugary than those from supermarkets. On average, total sugar per muffin for OOH muffins was 26.0g and for supermarket muffins was 21.2g – 19% difference.
- Portion size was typically bigger for out of home muffins than for supermarket muffins (115g vs 78g respectively) – 32% difference.
 - Only 42% (13 out of 31) of products provided full nutrition information per muffin at the point of sale in both OOH outlets and supermarkets, whilst 29% (9 out of 31) of products surveyed displayed limited nutritional information at the point of sale (i.e. per 100g values only, calories per muffin only, calories + sugar per muffin, calories+ saturated fat per muffin)
 - This was a particular problem in the OOH sector where only one outlet provided full nutrition information at the point of sale, six provided limited information and seven provided no information at all.

Findings from muffins from out of home outlets

- Of the 14 OOH outlets included overall, Costa had the highest sugar content per muffin (40.3g per 122g muffin/10 teaspoons of sugar) and the lowest was Pumpkin. (18.3g on average per 92g muffin/ five teaspoons of sugar), meaning Costa’s muffin had more than twice the amount of sugar as Pumpkin’s muffin.
- The range in portion sizes for all OOH outlet muffins was 92g – 124g - a 26% difference.
- The fructose content of the blueberry muffins analysed was very small (approx. 0.7g per 100g). This could suggest that there is hardly any actual blueberry in the muffins as the fructose is likely to come from the actual fruit added to the muffin.
- Only one (Benugo’s) provided full nutrition information at the point of purchase. Of the rest, four (Costa, Pret, McDonald’s and Caffe Nero) only provided information for the total calories per muffin, one (Starbucks) provided total calories and sugar content, one (EAT) provided total calories and saturated fat content per muffin, and the other seven provided no nutrition information at the point of sale (AMT Coffee, Camden Food Co., Delice de France, Patisserie Valerie, Pumpkin, Ritazza and Upper Crust).

Findings from muffins from supermarket outlets

- 17 supermarket blueberry muffins were included, of which 14 had nutrition information per muffin available either at point of sale or online.
- There was a 53% difference in sugar content per muffin: Tesco Blueberry Muffins 4 Pack had the highest sugar content (29.0g per 82g muffin/7 teaspoons of sugar) and Marks and Spencer’s blueberry muffins had the least (13.7 per 65g muffin/ 3 teaspoons of sugar). Therefore, the Tesco muffin has over twice as much sugar as the Marks and Spencer muffin.
- Only 11 of the 17 supermarket muffins stated the portion size. Of these, the range in portion sizes was 64g- 103g – a 38% difference
- All of the supermarket products surveyed provided nutrition information either at the point of sale or online. However, only 12 of the 17 (71%) provided per serving information on pack (i.e. the values per muffin). Three products provided information per 100g and the other two only had information available online.

Table 1: Full results

Brand/retailer/outlet	Product name	Portion size (g)	Sugars (g) per 100g	Sugar (g) per muffin	Sugar (tsp)* per muffin	Nutrition information available (Y/N)
Costa	Blueberry Muffin	122	33.0	40.3	10	Y – online Y (calories) – POS
McDonalds	Blueberry Muffin	not stated	not provided	32.0	8	Y – online Y (calories) - POS
Pret A Manger	Double Berry Muffin	124	24.6	30.5	8	Y – online Y (calories) - POS
Caffe Nero	Blueberry Muffin	115	25.3	29.1	7	Y – online Y (calories) - POS
Tesco	Blueberry Muffins 4 Pack	82	35.4	29.0	7	Y – online
Starbucks	Blueberry Muffin	122	21.6	26.3	7	Y – online Y (calories and sugar) - POS
Genius	Blueberry Muffin	95	27.1	25.7	6	Y

Brand/retailer/outlet	Product name	Portion size (g)	Sugars (g) per 100g	Sugar (g) per muffin	Sugar (tsp)* per muffin	Nutrition information available (Y/N)
Patisserie Valerie***	Blueberry Muffin	122	20.9	25.7	6	N
Waitrose	Deep Filled Blueberry Muffin	not stated	22.6	25.5	6	Y - online
EAT	Berry & Granola muffin	115	21.0	25.0	6	Y – online Y (calories and sat fat) - POS
AMT Coffee***	Blueberry Muffin	115	21.1	24.7	6	N
Ritazza***	Blueberry Muffin	113	21.2	24.3	6	N
Benugo	Blueberry Muffin	not stated	not provided	23.9	6	Y
Tesco	Triple Berry Muffin	103	23.0	23.7	6	Y
Camden Food Co.***	Blueberry Muffin	122	18.8	23.0	6	N
Upper Crust***	Blueberry Muffin	121	19.0	22.7	6	N
Co Op	Bakery 4 Blueberry Muffins	80	27.0	22.0	6	Y
Sainsbury's	Bakery Blueberry Muffins x 4	86	23.8	21.9	5	Y
Waitrose	Wild Blueberry Muffins	not stated	20.8	21.8	5	Y
Sainsbury's	Deliciously Freefrom Blueberry Muffin	70	27.8	20.9	5	Y
Sainsbury's	Blueberry Muffins by Sainsbury's	67.5	27.8	20.0	5	Y
Rowan Hill Bakery (Lidl)	Blueberry Muffins	72	27.5	19.8	5	Y
Delice De France***	Blueberry Muffin	97	19.3	18.7	5	N
Pumpkin***	Blueberry Muffin	92	20.1	18.3	5	N
ASDA	Baker's Selection 4 Blueberry Muffins	not stated	25.0	18.0	5	Y
Holly Lane (Aldi)	4 Blueberry Muffins	75	25.0	18.0	5	Y
Co Op	Bakery 4 Blueberry Muffins	64	26.0	17.0	4	Y
M&S	4 Blueberry Muffins	65	21.0	13.7	3	Y
Lidl	Filled blueberry Muffin	not stated	25.8	not provided	n/a	Y**
Morrisons	Market St 4 Blueberry Muffins	not stated	22.9	not provided	n/a	Y**
Tesco	4 Blueberry Muffins	not stated	23.6	not provided	n/a	Y**

*1 sugar teaspoon = 4g

**Nutrition information given per 100g only, not per muffin

*** Data for these outlets are average figures from the three samples tested

Table 2: Outlets surveyed

Outlet Name	Number of UK branches	Outlet to be surveyed
Outlets where samples were collected (no nutrition information provided)		
Pumpkin	126	Leeds ^b
Ritazza	31	Manchester Piccadilly
Upper Crust	50 plus	Birmingham New St ^c
AMT Coffee	28	Liverpool Street ^d
Delice De France	9	Waterloo ^e
Camden Food Company	6	Victoria ^f
Patisserie Valerie	150 plus	Victoria
OOH outlets where nutrition information was collected online		
Costa Coffee	2000 plus	n/a
McDonalds	1200	n/a
Caffe Nero	650	n/a
Pret a Manger	300 plus	n/a
Benugo	70	n/a
Eat	100 plus	n/a
Starbucks	345	n/a
Retail outlets where nutrition information was collected online		
ASDA		
Co Op		
Aldi		
Lidl		
M&S		
Morrisons		
Sainsbury's		
Tesco		
Waitrose		

Limitations

- Due to limited product availability we had to collect samples from alternative locations to those originally identified. This is outlined in table 2.
- Nutrition information as listed online/on pack only gives the figure for total sugars, so we were unable to deduce how much of this is naturally occurring sugar from the blueberries and/or milk. However, this is likely to be minimal, with the majority of the sugar content coming from added sugar.

^b Only one sample was available for purchase at Leeds, so alternative samples collected at Clapham Junction outlet.

^c Only two samples were available at Birmingham New St, so the third sample was obtained from Waterloo station outlet.

^d Only two samples were available at Liverpool St, so the third sample was obtained from Euston station outlet.

^e Only one sample could be obtained from Waterloo, so the other two were obtained from Victoria station outlet.

^f Only one sample was available for purchase at Victoria, so alternative samples collected at Euston station outlet.

References

¹ National Diet and Nutrition Survey (2016): results from Year 5 and 6 (combined).

<https://www.gov.uk/government/collections/national-diet-and-nutrition-survey>

² Sugar Reduction: Achieving the 20% A technical report outlining progress to date, guidelines for industry, 2015 baseline levels in key foods and next steps -

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/604336/Sugar_reduction_achieving_the_20.pdf

³ Kantar World Panel, subsample of 4000 homes completing the online consumption diary 2014 vs. 2015

⁴ Office of Rail and Road 2016 data http://orr.gov.uk/data/assets/pdf_file/0016/23353/estimates-of-station-usage-2015-16-key-facts.pdf