Consumers find food labels confusing and too small to read

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Abstract

The aim of this research was to determine whether consumers are able to read and understand food labels.

A structured interview was conducted during September 2009 with 176 consumers from a cross section of the population. Consumers, from teenagers to pensioners, were interviewed in a variety of locations including a town centre, a cafe, a supermarket, a commercial workplace, a leisure centre and a fast food restaurant.

The majority of respondents (n=155, 88%) try to lead a healthy lifestyle with 149 (85%) reporting that eating healthily is important to them. Over half of respondents (n=102, 58%) read food labels when purchasing food and drink. When presented with a sample of food labels, more than half of consumers (n=96, 55%) interviewed stated that they did not understand the nutritional information and 108 (61%) reported that the labelling information is too small to read. Three out of four consumers (n=134, 76%) announced that they would value educational material with an integral magnifying glass to help them read and understand food labels. There were no significant differences in the findings attributable to the location of interview.

It was concluded that the majority of consumers try to lead a healthy lifestyle and eat a healthy diet but find food labels confusing and too small to read. Educational material with an integral magnifying glass may assist consumers in making healthier food choices.

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Key words

food labels; structured interview; healthy eating; educational material; magnifying glass

Introduction

Consumers need to have access to clear, consistent and evidence-based information when deciding which foods to buy.[1] Diet is one of the cornerstones of diabetes care. People with diabetes can eat all foods recommended to the general population, as part of a balanced diet. With sufficient nutritional information, they can adequately manage their condition.[2] In 2004, a systematic review exploring published and unpublished research into consumer understanding and use of nutrition labelling, concluded that there was consumer confusion and that improvements in nutrition labelling could make a small but important contribution towards the selection of healthier choices.[3] In Europe, manufacturers are not obliged to display nutritional information unless they are making a nutrition or health claim, i.e. any claim which states, suggests or implies that a food has particular beneficial nutritional properties such as: fat free/sugar free; low fat/less than 5% fat; reduced fat/sugar; no added sugar; 80% fat free; suitable for people with diabetes.[4] Nutritional information can be used to detect whether a food has a little or a lot of the nutrients. It is often displayed per 100g and per serving. The 'per 100g' is useful for comparing two similar products to see which one is the healthiest. For foods that are eaten in larger quantities, it is more suitable to use the nutrition information per serving.

Since 2004, two additional systems for food labelling have been introduced in the UK: the traffic light signposting system and guideline daily amounts (GDAs).

Traffic light labelling was introduced by the Food Standards Agency in March 2006 and is usually found on the front of packaging. The colours inform the consumer how healthy or unhealthy a food may be, making the comparison between different brands of similar foods much easier. The traffic light colours are used to look at whether the product has low, medium or high amounts of fat, saturated fat, sugar and salt per serving. Most foods are labelled with a combination of the three colours and consumers are encouraged to

Figure 1. Traffic light labelling

choose products with more green and amber lights and fewer red lights. (Figure 1.)

GDA labelling is intended to translate science into consumer-friendly information and provide guidelines to help consumers put the nutrition information they read on the label into the context of their overall diet. They were initially introduced in 1996 as Daily Guideline Intakes by the Ministry of Agriculture Fisheries and Food but then in 1998, for food labelling purposes, GDAs for calories (energy), fat and saturated fat were developed by a consortium of experts from the UK government, consumer organisations and the food industry, overseen by the Institute of Grocery Distribution. In 2005, the GDAs were reviewed, developed for males, females and children and extended to include values for carbohydrates, sugars, protein, salt and fibre.[5] All values are based on the recommendations of the UK Committee on Medical Aspects of Food Policy report on Dietary Reference Values[6] with the exception of fibre, which has been based on the American Association of Analytical Chemists.[7]

GDAs for calories, fat, saturated fat, carbohydrate, total sugars, protein, fibre, salt and sodium have been identified for healthy adults and children (Table 1). Although GDAs are population guidelines not individual guidelines, they are a useful benchmark to show how much of a particular nutrient is obtained in a serving of food. They are also a useful tool to compare different brands of the same food (Figure 2). To keep things simple, the labelling system is based on the GDAs for women.

The aim of this research was to determine whether consumers are better able to read and understand food labels following the introduction of the traffic light signposting system and GDAs that have been introduced since the 2004 systematic review which concluded that improvements in nutrition labelling could make a small but important contribution towards the selection of healthier choices.

Materials and methods

The following six questions were devised to form a template for a structured interview:

1. Do you try to lead a healthy lifestyle?
2. Is eating healthily important to you? If so, why?
3. Do you look at labelling on foods to help you decide which products to buy? If so, what do you look at?
4. Do you find the text size and layout of the nutritional information easy to read?
5. Do you understand the nutritional information?
6. Do you think educational resources will help you to read and understand the nutritional information in food packaging? (Sample shown: explanation of traffic light and GDA labelling with a magnifying glass.)

Consumers, from teenagers to pensioners, were interviewed in a variety of locations in West Yorkshire and East Lancashire during September 2009. These included a town centre, a cafe, a supermarket, a commercial workplace, a leisure centre and a fast food restaurant. Demographics were collected for the following age ranges: 16–29 years; 30–59 years; 60+ years.

Each question was answered 'Yes', 'No' or 'Don't know/unsure', and detailed answers were written in the free text section adjacent to the question.

The questionnaires were analysed to assess the responses to each question and to determine: whether consumers are trying to lead a healthy life; whether healthy eating is important to them and if so, why?; whether they look at the labelling on food to choose healthier options and if so, what do they look at?; whether they find the text on the label easy to read and the information easy to understand; and whether they will find educational resources helpful in reading and understanding the nutritional information on food labels.

Results

Consumers were from a cross section of the population (n=176). The majority of respondents (n=155, 88%) would like a healthy lifestyle, with 149 (85%) reporting that eating healthily is important to them. Over half of respondents (n=102, 58%) read food labels when purchasing food and drink. When presented with a sample of food labels, more than half of consumers (n=108, 61%) reported that the nutritional information is too small to read and 96 (55%) stated that they did not understand the nutritional information. Three out of four consumers (n=134, 76%) announced that they would value educational material and a magnifying glass to assist them in reading and understanding food labels (Table 2).

Appendices 1–6 show the following data in graph form (available online at www.practicaldiabetes.com).

- Older consumers (60+ years versus 16–29 year olds) were more likely to report an interest in healthy living (97% versus 78%; Appendix 1) and healthy eating (95% versus 74%; Appendix 2), but it was the 30–59

	Calories	Carbohydrate	Sugars	Fat	Saturates	Fibre	Salt: less than
Men	2500	300g	120g	95g	30g	24g	6g
Women	2000	230g	90g	70g	20g	24g	6g
Children (aged 5–10)	1800	220g	85g	70g	20g	15g	4g

Table 1. Guideline daily amounts for healthy adults and children

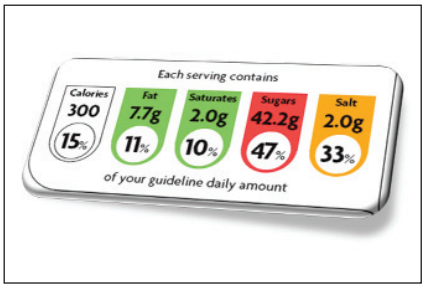

Figure 2. Guideline daily amount (GDA) labelling

year olds who were more likely to look at food labels to help them decide what to buy (74% versus 39% [16–29 year olds] and 50% [60+ year olds]; Appendix 3).

- None of the consumers over the age of 60 reported that food labels were easy to read whereas one-third of 16–29 year olds (37%) stated that they could easily read them (Appendix 4).
- When magnifying glasses were supplied to assist with reading the food labels, 50–60% of all consumers (all age groups) stated that food labels were not easy to understand (Appendix 5) and 72–84% stated that the educational resource with the integral magnifying glass would help them to read and understand the food labels (Appendix 6).

Males in the 16–29 age range were less interested in healthy eating unless they participated in sporting activities, and females of the same age were more likely to look at food labels if they were following a weight loss diet when they would mainly look at the calorie content of the food product. Older consumers reported being more interested in the total fat and saturated fat content of the product. No consumers stated salt as a reason to look at food labels.

Many consumers reported that the vast array of methods by manufacturers and supermarkets to present nutritional information on food packaging added to their confusion, and that they would find it easier to understand if there was just one system in place.

There was little variation in the findings attributable to the location of interview, i.e. town centre, cafe, supermarket, workplace, leisure centre or fast food restaurant (Appendix 7; available online at www.practicaldiabetes.com).

Discussion

This was a small piece of research using a structured questionnaire technique to survey a cross section of the population on the use, and ease of reading and understanding the nutritional information displayed on food packaging. The limitation of the survey is that it included a small sample size that is not powered to determine a statistical difference between the age groups, and therefore the findings should be interpreted with caution. However, the findings do put forward some interesting themes. Consumers generally become more interested in trying to live a healthy life and eat healthily as they get older, but then struggle to read the nutritional information on the food packages due to the small text size. It appears that consumers of all ages find the nutritional information on food packages difficult to understand and confusing even though the reason for the launch of the traffic light and GDA labelling systems in recent years was to help the consumer choose healthier products. The respondents felt strongly that a simple, single approach is required to enable the public to understand the nutritional content of the food they purchase.

The traffic light labelling system may falsely inform consumers that foods are either good (green), OK (amber) or bad (red) when in reality all foods contain a range of nutrients and can be consumed as part of a healthy balanced diet. Traffic light labelling may discourage consumers from purchasing some foods that are beneficial for health such as oily fish, milk and dairy food and fruit products because they will be labelled red for fat or sugar.

Questions	Age range (years) 16–29 (n=54)	30–59 (n=84)	60+ (n=38)	Total n (%)
Q1: Healthy living				
Yes	42 (78)	76 (90)	37 (97)	155 (88)
No	9 (17)	8 (10)	1 (3)	18 (10)
Don't know/unsure	3 (6)	0 (0)	0 (0)	3 (2)
Q2: Healthy eating				
Yes	40 (74)	73 (87)	36 (95)	149 (85)
No	9 (17)	7 (8)	1 (2.5)	17 (9)
Don't know/unsure	5 (9)	4 (5)	1 (2.5)	10 (6)
Q3: Look at food labels				
Yes	21 (39)	62 (74)	19 (50)	102 (58)
No	27 (50)	14 (17)	13 (34)	54 (31)
Don't know/unsure	6 (11)	8 (9)	6 (16)	20 (11)
Q4: Easy to read				
Yes	20 (37)	25 (30)	0 (0)	45 (26)
No	31 (57)	47 (56)	30 (79)	108 (61)
Don't know/unsure	3 (6)	12 (14)	8 (21)	23 (13)
Q5: Easy to understand				
Yes	16 (30)	23 (27)	9 (24)	48 (27)
No	27 (50)	46 (55)	23 (60)	96 (55)
Don't know/unsure	11 (20)	15 (18)	6 (16)	32 (18)
Q6: Educational resources helpful				
Yes	39 (72)	63 (75)	32 (84)	134 (76)
No	11 (20)	10 (12)	2 (5)	23 (13)
Don't know/unsure	4 (8)	11 (13)	4 (11)	19 (11)
	54 (31)	84 (48)	38 (21)	176 (100)

Table 2. Age range and questionnaire results. (Values shown are n [%])

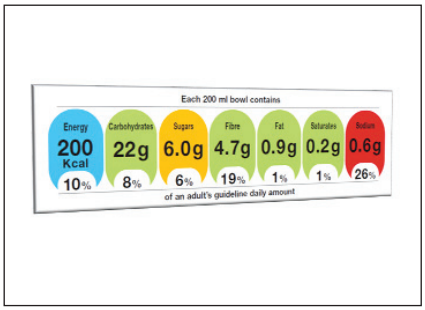

Figure 3. IDF proposal for the front of the pack labelling

In 2008 the Department of Health made a commitment to working towards a single, simple and effective approach to food labelling[8] and the European Union (EU) is currently proposing new legislation on food labelling.[9] The proposals include making nutrition information mandatory on nearly all prepackaged processed foods and also ensuring that consumers can rely on a basic uniformity in the information with which they are presented. If the proposal is implemented, there will be front of packaging information for fat, saturated fat, carbohydrates with specific reference to sugars and salt content of the product, expressed in terms of per 100ml/100g or per portion. In order to avoid the common problem of essential facts being too small or hidden for the consumer to easily read on food labels, the EU proposals state that mandatory information must be printed in a minimum size (3mm), with a significant contrast between the writing and the background.

The International Diabetes Federation (IDF) has responded to the EU proposal for food labelling by commenting that people with diabetes taking insulin or glucose-lowering tablets must match the timing and dosage of their medication to the quantity of the carbohydrate contained in the meal. It has therefore supported a proposal for carbohydrate information to be displayed on the front of the pack label including that of alcohol beverages (Figure 3).[10]

However, although Diabetes UK supports carbohydrate labelling being mandatory on the back of packaging to enable people with diabetes to count carbohydrates, they do not support the IDF Europe position on front of packaging labelling for carbohydrates, believing that this may confuse healthy eating messages such as reducing saturated fat and salt.

Implementing European, and, perhaps in the future, international nutrition labelling would improve the consistency of the messages provided to the consumer. Owing to the nature of nutrition research and to media interest, many, often conflicting, results are generated. This results in the general population being exposed to confusing messages. It is therefore essential that governments, health professionals and consumers have a set of authoritative nutrition recommendations that represent the consensus opinion of nutrition experts. Such recommendations have yet to be agreed for some nutrients such as dietary fibre.[7] Recommendations can be set in one of two ways. First, there are recommended nutrient intakes, which state a desired level for population intakes of the major nutrients in the diet. Second, dietary goals or guidelines which help consumers to choose foods that are most likely to bring about improvements in long-term health can be set. Such guidelines include advice to 'eat more whole grain foods' or to 'cut down on salt'.

In the meantime, until there is a simpler, universal method of presenting nutritional information on food packaging, educational resources that assist people to read and understand food labels are required. Many online resources and leaflets to inform the public are available,[11,12] and leading supermarkets also provide educational resources. However, the provision of a credit card size resource with an internal magnifying glass, available through X-PERT Health, would add value by assisting consumers to more easily read and therefore understand the nutritional information, allowing them to identify and purchase healthier food.

Declaration of interests

Dr Trudi Deakin is Chief Executive of the charitable not-for-profit organisation, X-PERT Health.

Key points

- Traffic light and GDA labelling have been introduced in recent years to help consumers select healthier choices when purchasing food products
- Consumers seek a healthy lifestyle and report that eating healthily is important to them
- The nutritional information on food packages remains too small for consumers to read and is still difficult to understand
- The EU has proposed a simple and easy to read food labelling system that will include carbohydrate labelling on the front of packages
- Until new guidance is adopted, educational resources including a magnifying glass and explanatory information will be required to assist consumers in choosing healthier food products

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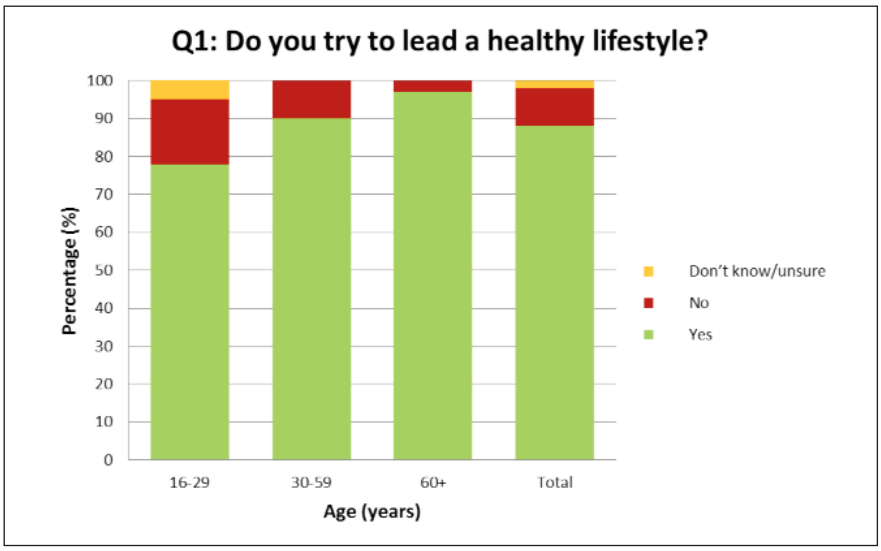
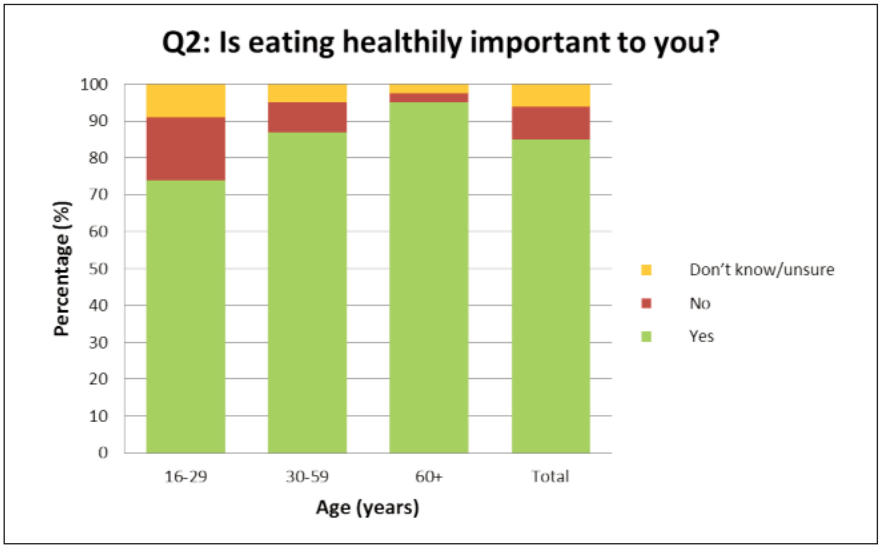
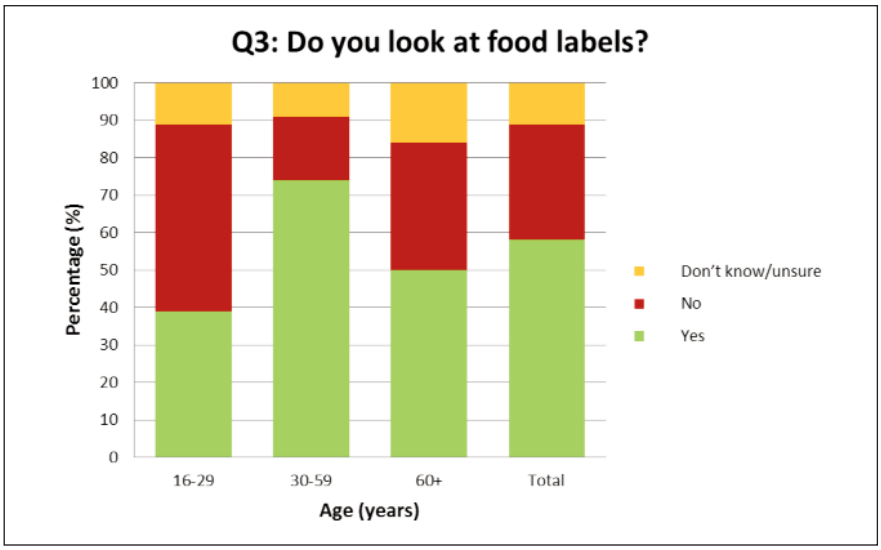


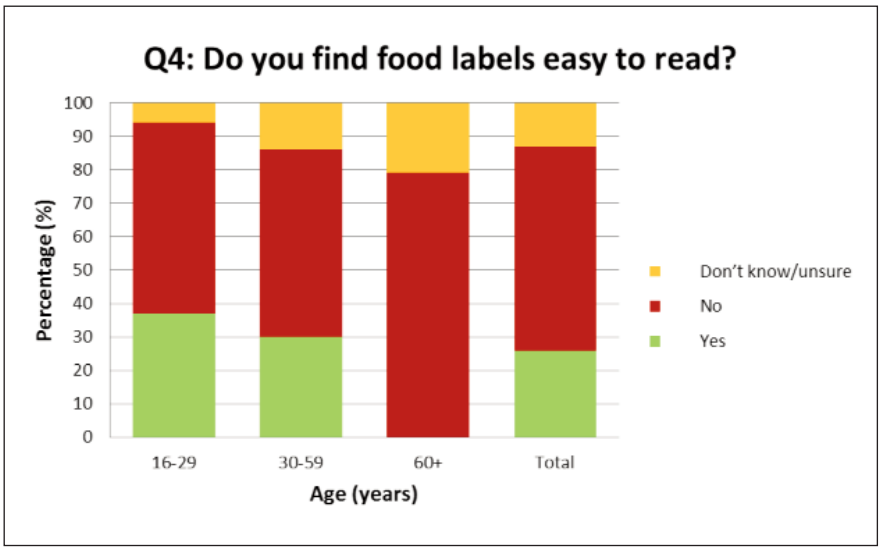
Appendix 1. Replies to Question 1



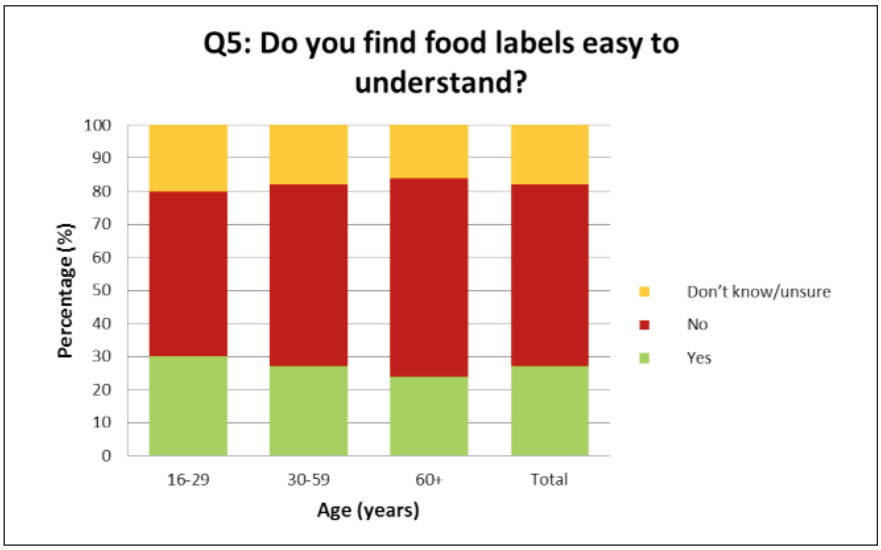
Appendix 2. Replies to Question 2



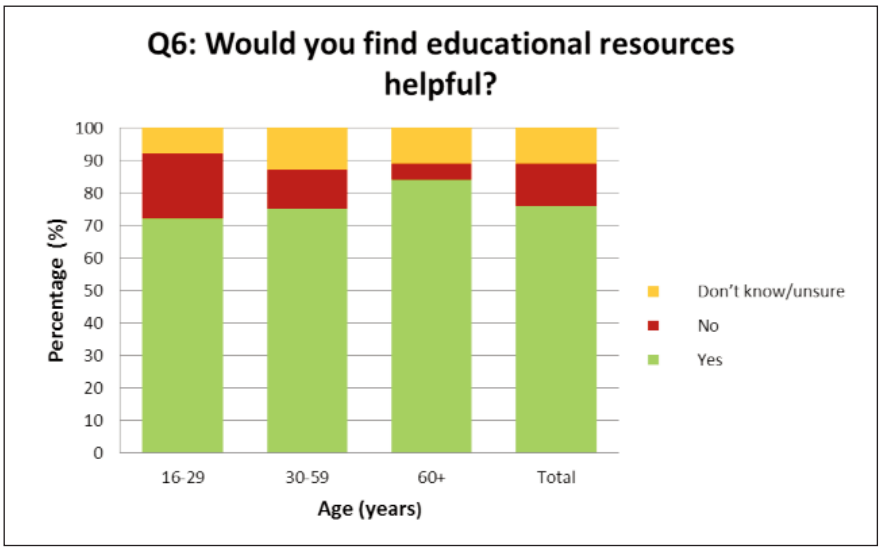
Appendix 3. Replies to Question 3



Appendix 4. Replies to Question 4



Appendix 5. Replies to Question 5



Appendix 6. Replies to Question 6

Questions	Town centre (n=56)	Cafe (n=15)	Supermarket (n=34)	Workplace (n=20)	Leisure centre (n=33)	Fast food eatery (n=18)	Total n (%)
Q1: Healthy living							
Yes	49 (88)	13 (87)	31 (91)	18 (90)	29 (88)	15 (83)	155 (88)
No	5 (9)	2 (13)	3 (9)	2 (10)	4 (12)	2 (11)	18 (10)
Don't know/unsure	2 (3)	0 (0)	0 (0)	0 (0)	0 (0)	1 (6)	3 (2)
Q2: Healthy eating							
Yes	47 (84)	13 (87)	29 (85)	17 (85)	28 (85)	15 (83)	149 (85)
No	7 (13)	1 (6.5)	3 (9)	2 (10)	2 (6)	2 (11)	17 (9)
Don't know/unsure	2 (3)	1 (6.5)	2 (6)	1 (5)	3 (9)	1 (6)	10 (6)
Q3: Look at food labels							
Yes	32 (57)	9 (60)	20 (59)	12 (60)	19 (58)	10 (56)	102 (58)
No	20 (36)	2 (13)	12 (35)	3 (15)	10 (30)	7 (39)	54 (31)
Don't know/unsure	4 (7)	4 (27)	2 (6)	5 (25)	4 (12)	1 (5)	20 (11)
Q4: Easy to read							
Yes	11 (20)	4 (27)	10 (29)	6 (30)	10 (30)	4 (22)	45 (26)
No	39 (70)	8 (53)	20 (59)	12 (60)	19 (58)	10 (56)	108 (61)
Don't know/unsure	6 (10)	3 (20)	4 (12)	2 (10)	4 (12)	4 (22)	23 (13)
Q5: Easy to understand							
Yes	12 (21)	4 (27)	10 (29)	7 (35)	10 (30)	5 (28)	48 (27)
No	30 (54)	8 (53)	20 (59)	10 (50)	18 (55)	10 (56)	96 (55)
Don't know/unsure	14 (25)	3 (20)	4 (12)	3 (15)	5 (15)	3 (16)	32 (18)
Q6: Educational resources helpful							
Yes	44 (79)	10 (67)	27 (79)	13 (65)	26 (79)	14 (78)	134 (76)
No	8 (14)	1 (6)	5 (15)	5 (25)	3 (9)	1 (5)	23 (13)
Don't know/unsure	4 (7)	4 (27)	2 (6)	2 (10)	4 (12)	3 (17)	19 (11)
	56 (32)	15 (9)	34 (19)	20 (11)	33 (19)	18 (10)	176 (100)

Appendix 7. Interview location and questionnaire results. (Values shown are n [%])