

Parents' attitudes when purchasing products for children with nut allergy: A UK perspective

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Food avoidance remains the main strategy in prevention of anaphylaxis in children with acute food allergies. To achieve this aim, product labelling needs to be clear and accurate and parents educated on optimal avoidance measures. Food product labelling although improved often still remains ambiguous. The aim of this study was to understand and quantify the attitudes of parents of children with nut allergy towards labels informing that the product could contain nuts. An anonymous questionnaire was filled out by parents of children with nut allergy attending a tertiary paediatric allergy clinic to assess response to differing descriptive labelling of foods containing nuts. In 184 questionnaire responses, 80% of parents would not purchase a product labelled 'not suitable for nut allergy sufferers' or 'may contain nuts'. However, other labels including 'this product does not contain any nuts but is made in a factory that uses nuts', 'cannot guarantee is nut free' and 'may contain traces of nuts' were avoided by only around 50% of parents. Previous allergic reaction to nut products had no bearing on outcome. Additionally, large numbers of parents did not read labels for the presence of nuts in non-food products. A large number of patients with nut allergy continue risk-taking by either ignoring warning labels on foods or assuming that there is a gradation of risk depending on the wording of label warnings. Further tightening of labelling legislation and improved education would help to decrease the risk of anaphylaxis.

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The prevalence of food allergy is increasing in the UK population (1), with peanut allergy now occurring in 1.8% of children (2). In the US, it is estimated that up to 8% of children and almost 4% of adults are food allergic (3). The main strategy in the treatment of these patients is food avoidance, initiated by advice from the allergist, with input from a dietician (4) and this relies heavily on accurate food labelling (5). Recent guidelines produced in the European Union by the European Food Safety Authority in November 2005 stated all foods comprising more than 5% of the formulation need to be included in the label. Additionally, any of a group of 12 major allergens (milk, egg, fish, crustaceans, peanuts, tree nuts, gluten, sesame, soya, celery, mustard

and sulphites) regardless of their quantity in the food is now required to be declared (6). In the US, the Food Allergen Labelling and Consumer Protection Act (FALCPA) has made labelling of many common allergens in plain English a requirement since January 2006 (7).

Since the introduction of the new labelling requirements, consumers have been given clearer information regarding the presence of intentionally added allergens in food. The guidelines although, have several failings including not covering possible 'hidden allergens' (8, 9), such as agents used in the food processing, for example, lecithin which can be derived from soya or egg. The EU legislation requires labelling of the 12 major allergens, even if they are present

in such minute quantities that they will not pose an allergic risk (10). This could give a false message to allergy sufferers who if they tolerate a particular product which is stated to contain an allergen may believe their allergy has resolved and relax their avoidance. Furthermore, the labelling legislation does not cover the possibility of cross-contamination with shared equipment (11). In response to public demand and pressure groups, food manufacturers are now providing this information to consumers with phrases such as 'may contain traces' or 'manufactured in a shared facility'. Although this information is of value, as if strictly adhered to it will decrease the likelihood of an allergic exposure, it further restricts the already limited choice of those children with multiple food allergies. Additionally, in our international society food manufactured in many different countries is available routinely on the supermarket shelves. This increases confusion as to which products are deemed safe and which pose a high risk.

In our tertiary food allergy clinic, we have a substantial number of children with peanut and/or tree nut allergy and if allergic to either, advise the avoidance of all products which might contain nuts (because of the risk of nut substitutions in both processed and freshly prepared foods). The purpose of this study was to ascertain the attitude of parents when faced with a variety of possible common 'nut containing labels' towards this advice when doing their weekly shop. The survey also questioned the level of awareness regarding the presence of nuts in health and beauty products.

Methods

An anonymous questionnaire was given to parents of children with previously diagnosed nut allergy [previous reaction to a peanut/tree nut or/with a positive peanut/tree nut skin prick test (SPT) equal to or larger than a 10% histamine control] when attending a tertiary referral paediatric allergy clinic in London, UK. All patients had previously been counselled and educated regarding restriction of nut products from their diet by a member of the allergy team (physician/nurse/dietician). Only one member from each family was permitted to answer the questionnaire, parent responding was not recorded. The questionnaire was completed after their initial consultation with the physician and collected by the allergy nurse during their session immediately after.

Five common labelling options were presented to parents who were requested to answer 'yes' or

'no' when asked if a product bearing such a label would be avoided. Additionally, details of their current practice when reviewing product ingredients in the purchase of skin-care products and over-the-counter medicaments was also requested. Finally, parents were asked whether they avoided three foods not considered nuts in the UK (coconut, nutmeg and chestnut – if they had not been previously instructed to avoid these products) which we find are generally confused and therefore avoided by patients with confirmed or suspected nut allergy.

Results were analyzed with the chi-squared test to determine if a difference existed between parents' reading of labels dependent on their child having had a previous allergic/anaphylactic episode when eating a peanut/tree nut. A reaction was deemed as the requirement for usage of an adrenaline device or anti-histamine.

Results

A total of 184 questionnaires were given to and then completed by parents of children with nut allergy in a 2-month period in 2007. Response rate was 100% as a result of the entire process taking place within allergy clinic. Greater than 80% of responders would avoid a product if labelled 'may contain nuts' or 'not suitable for nut allergy sufferers'. However, only approximately 60% of parents would not purchase a product labelled 'may contain traces of nuts' or 'cannot guarantee this is nut free' and only 40% would avoid 'this product does not contain any nuts but is made in a factory that uses nuts.' Comparison of the attitude of parents whose children had been diagnosed as nut allergic following a significant acute reaction ($n = 108$) compared with those with only a positive SPT (Fig. 1) revealed no significant difference in response to any of the five labelling categories $p > 0.1$.

With regard to non-food products slightly more than 50% would read the labels on individual products (Fig. 2). General knowledge of foods characterized as 'nuts' and therefore those to be avoided was poor. Forty-four per cent of those questioned stated they avoided coconut and a further 44% would also avoid nutmeg because of concerns that they were nuts. An even greater proportion 71%, also avoid consuming chestnut.

Discussion

The area of food labelling has never been as important as now with a significant increase (2)

Parents' attitudes when purchasing products for children with nut allergy

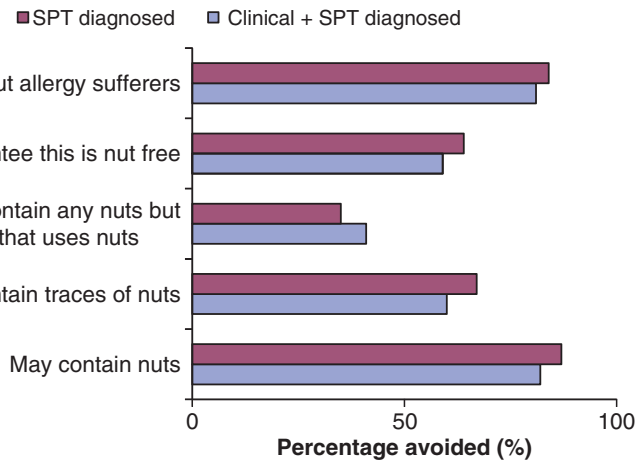


Fig. 1. Parents' attitudes towards products labelled with nut content warnings relative to the presence of a clinical reaction to a peanut/tree nut.

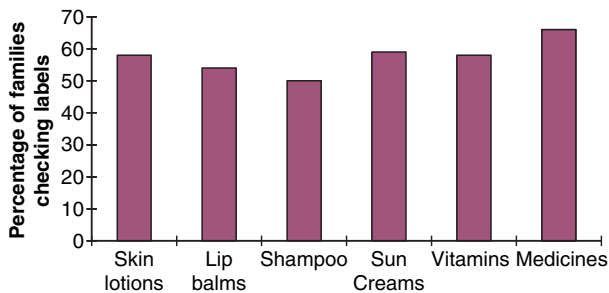


Fig. 2. Percentage of parents who checked product labels for content of nut derived additives.

in the number of children with food allergy. Although there has been a recognition of this by the food manufacturing industry with new European and American legislation enacted, a great deal of ambiguity still exists. The data procured in this study are similar to a Japanese study by Imamura et al. (12) also suggesting that certain labels are ignored by approximately 50% of parents despite their children being at risk of an anaphylactic reaction to nut. Labels stating 'this product is not fit for those with nut allergy' or 'may contain nuts' appear to be better received and thus avoided than other descriptions. This might be an overestimate of current attitude towards labels because this study was performed in a tertiary referral population of children with multiple food allergies and perhaps a more wary parent. Additionally, to what extent these descriptors may be viewed as indicating different risks of cross contamination is impossible to ascertain, but clearly parents may have made a judgement that this is the case. It is difficult to gauge exactly why parents avoid some warnings – perhaps, experience with a product previously tolerated and correspondingly those similarly labelled is a strong guiding force. Others appear

to trust certain manufacturers more than others, despite similar 'may-contain' labels, and this will be looked at in more detail in future studies. Above all, a strong force is the sheer difficulty in removing all possible nut-containing products from the diet making life very difficult and contributing adversely to a quality of life which is rated worse for those with nut allergy than children with insulin-dependent diabetes mellitus (13).

A study published by Hefle et al (14) showed similar reduced and even falling levels of vigilance in avoidance of products containing nut warnings, not involving the main ingredients. In their study, they also showed that the likelihood of a product with an allergy advisory warning actually containing peanut residue was 4.7%, but up to 7% of products showed some evidence of peanut residue in one or both lots of food items tested. Although the amount of peanut residue was variable and possibly a proportion would not elicit an allergic reaction, some products would definitely pose a significant risk. This highlights that the current advice given does not present a lifestyle choice, but that real danger lurks to the unsuspecting. Vierk et al. (15) also looked at food labelling in the US in adults with allergy concluding that more than 40% of allergic adults had 'serious' or 'very serious' concerns about an aspect of the product label. With the new legislation now passed in both Europe and the US, some of these concerns regarding difficult words used for allergens, technical ingredients and long ingredient lists will have improved. However, the laws are applied to packaged foods and do not necessarily cover 'take-away' food purchased in restaurants or in a separate category cosmetics. The laws also do not deal with the vague 'may contain' statement, and if anything for those strictly observant

of removing even trace amounts of allergen from the diet as is our recommendation, will find purchasing food products increasingly difficult.

The hidden danger of self-care products containing nut extract remains poorly recognized. Lack et al. (16) hypothesized based on data from the Avon Longitudinal Study of Parents and Children (ALSPAC) that exposing children to peanut oil via topical exposure on inflamed skin increased the risk of developing peanut allergy. Strid et al. (17) also showed an increased risk of sensitization to peanuts in mice exposed to peanut protein via cutaneous exposure even if they were previously tolerant to peanuts. In an atopic population, this suggests that exposing children with broken/inflamed skin to such products risk rendering them increasingly susceptible to allergy. Lack of awareness of the presence of nut protein in these products presents a further challenge in education and instruction to the allergic population. Importantly, these products are not covered by European guidance on allergen labelling of food products and therefore remain an unknown menace. Further evidence of the need for better understanding of nut allergy is revealed by the inability of a large percentage of nut allergic families to differentiate products which bear no risk to the nut allergic and thereby further restrict the diet.

This study highlights a number of difficulties facing the allergic consumer and the food manufacturing industries which although have made great progress still have some way to go. A number of interesting observations in the attitudes of parents of children with nut allergy are described, but further studies are urgently needed to try to look at these areas in more detail. Specific questions needing to be answered include why parents might buy an identical food from one manufacturer and not from another with an identical allergen warning. Alternatively, two different foods containing the same warning 'may contain traces' might lead to very different attitude from families. For example, a family might be happy to purchase a fruit juice with such a label, but not a cereal bar. Certainly, this study demonstrates a high rate of ignoring labelling and therefore more work should perhaps be done in improving its relevance, perhaps giving a likelihood of a food containing the potential allergen. Interestingly, in Japan, it is illegal to label a food item with 'may contain,' and even minute quantities of allergen must be included in the product label (12). One further area of concern remains those allergens currently not included within the European guidelines and constituting less than 5% of the food such as

lupin, which is increasingly being reported as causing anaphylaxis (18–20).

Overall, the responsibility to address the current food allergy epidemic is in the hands of the medical profession, the food industry and food safety authorities. Detailed guidance produced by the Food Standards Agency (21) already exists for manufacturers of pre-packaged products giving advice on allergen labelling emphasizing limitation of widespread vague labelling where possible. This was reiterated by recommendations in the recently published 'Allergy' (6th report of session 2006/07) report from the House of Lords Science and Technology committee (22). Certainly, manufacturers need to decide whether a product contains allergens, and try to label accurately, removing as much ambiguity as possible by phasing out phrases such as 'may contain traces' except where absolutely necessary. Labelling of non-food products should also become routine and this might impact on the increasing percentage of new cases of nut allergy. Lastly, in the multi-ethnic population that our clinic serves there are a large number of parents unable to read English. These families are served poorly by warnings on products and we therefore suggest a common symbol for individual allergens. Manufacturers universally could apply these to their products and the relevant symbol could be described to the allergic family in clinic, thus removing language barriers, difficulty understanding food ingredients and cutting down shopping times. Importantly, it would benefit and improve safety for the allergic patient!

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