



Short communication

Food allergen labeling in developing countries: Insights based on current allergen labeling practices in Malawi



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ABSTRACT

Food allergen labeling is an important tool in minimizing the risk of exposure to foods allergens and the resultant adverse effects for individuals with food allergies. Unlike in the industrialized countries, there have been very few studies that have scrutinized food allergen labels and analyzed the robustness of food allergen regulation in developing countries. In the present study, food allergen labeling of 105 super-market food products in Malawi were evaluated. Furthermore, Malawi's allergen labeling regulation was compared with Codex general standard on labeling, and regulations in force in the E.U, U.S, and Republic of South Africa. About 54.3% of the surveyed products carried the special allergen declaration in addition to the declaration on the list of ingredients, 23.8% used special emphasis (bolding, italic, contrasting color and enlarged font) when declaring allergens on the ingredient list, and 28.6% used precautionary allergen labeling (PAL). Notably, none of the surveyed locally manufactured products had any of these features. However, all the surveyed products complied with the allergen labeling requirements stipulated in Malawi General Standard for Labeling of Prepacked Foods implying that the Malawi standard is not protective enough. Moreover, Malawi's allergen labeling regulation was found to be the least demanding. Although this study is based on data from Malawi, trends and implications for standards development may be applicable to other developing countries especially those in Sub-Saharan Africa.

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1. Introduction

Food allergy is a significant global public health issue known to affect up to 5% of children and 4% of adults in western countries (Sicherer & Sampson, 2010). Food allergies occur when one's immune system adversely reacts to food proteins, resulting in severe and life-threatening conditions (Derr, 2006; Sicherer & Sampson, 2006). Unfortunately, there is no cure for food allergy yet. The best allergy management strategy, so far, is for the allergic individuals to strictly avoid foods containing the allergens (Allen et al., 2014; Simons, Weiss, Furlong, & Sicherer, 2005). For manufactured products, proper food allergen labeling is, therefore, a lifesaver for allergic individuals.

To protect allergic consumers from accidental consumption of

allergenic foods, various regulatory bodies, especially in developed countries, have developed allergen labeling regulations and guidelines (Gendel, 2012). Likewise, studies are regularly carried out to assess adequacy of the regulations (Anandan & Sheikh, 2005; Derr, 2006; Gendel, 2012; Taylor & Hefle, 2006), compliance with such regulations by manufacturers (Pieretti, Chung, Pacenza, Slotkin, & Sicherer, 2009; Van Hengel, 2007), and the impact of the food allergen labeling practices on allergic consumers (Joshi, Mofidi, & Sicherer, 2002; Simons et al., 2005). Unfortunately, there has been sporadic research focusing on food allergies in developing countries (Obeng, Hartgers, Boakye, & Yazdanbakhsh, 2008). Consequently, there is a misconception that food allergies are just a Western phenomenon. However, the few studies in developing countries have shown that food allergies have no boundaries (Van Ree & Yazdanbakhsh, 2007; Van der Poel, Chen, & Penagos, 2009).

The present study was therefore carried out to gain insight into food allergen labeling practices in developing countries and the

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robustness of existing food allergen labeling regulations using a case study of Malawi, a country in the southern Africa. In this respect, the detail of food allergen labels of selected food products, found in Malawian supermarkets, was scrutinized. Furthermore, Malawi's allergen labeling regulation was compared with Codex General Standard for the Labeling of Prepackaged Food (Codex, 2001), E.U regulation No. 1169/2011 (EC, 2011), U.S Food Labeling and Consumer Protection Act (FALCPA) (U.S-Code, 2004), and South Africa's Regulation Relating to the Labeling and Advertising of Foods (RSA, 2014).

2. Materials and methods

A survey of 105 commercially packaged products was conducted in Lilongwe, Malawi, to determine current allergen labeling practices. Among the surveyed products were different brands of biscuits (100), and baby foods (5) found in one of the biggest supermarkets in Malawi. Biscuits and baby foods were specifically chosen as they are known to contain multiple ingredients of which some are common allergens (Davidson, 2016; IFR, 2017). Most of the products (74%) were imported from South Africa, Zambia, Zimbabwe, India, China and Europe. For each product, the surveyors collected information after reviewing the label. This included the product and brand names, country of origin, and a list of ingredients. Likewise, special emphasis on known allergens on the list of ingredients, how such emphasis was done, any special declaration of allergens, and other advisory statements were captured. Allergen labeling compliance was determined by comparing results with stipulated requirements in MS 19; Malawi General Standard for Labeling of Prepacked Foods (MBS, 2001). Robustness of Malawi's food allergen labeling regulation was assessed through a comparison with Codex General Standard for the Labeling of Prepackaged Food (Codex, 2001), E.U regulation No. 1169/2011 (EC, 2011), U.S. Food Labeling and Consumer Protection Act (FALCPA) (U.S-Code, 2004), and South Africa's Regulation Relating to the Labeling and Advertising of Foods (RSA, 2014). Summaries of descriptive statistics were generated using SPSS version 20.

3. Results

3.1. Declared allergens

Ten allergens were identified on one or more of the surveyed products. These were milk, wheat, soy, eggs, oats, rye, barley, sesame, peanuts, and sulfites. As shown in Fig. 1, wheat was the most

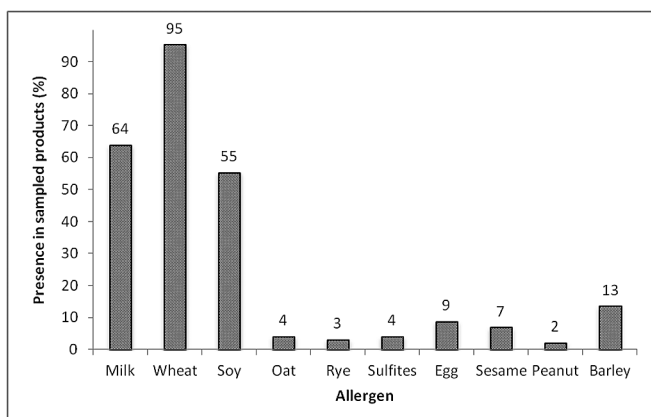


Fig. 1. Declared allergens on labels of the sampled products.

frequently declared allergen (95%) followed by milk (64%) and soy (55%). Biscuits contained a broad range of allergens compared to baby foods (Fig. 2). However, wheat, soy, and milk were still the most frequently declared allergens. Notably also is the broad range of allergens in imported biscuits compared to locally manufactured biscuits. Unlike imported biscuits, barley, oats, sesame, rye, peanuts and sulfites were not declared on any label of the locally manufactured biscuits. The number of declared allergens in a single product ranged from one to five as shown in Fig. 3. Imported biscuits showed the highest number (5) of allergens in a single product as compared to locally manufactured biscuits which mostly declared just one allergen. The surveyed baby foods mostly contained three allergens.

3.2. Allergen labeling practices

3.2.1. Declaration and emphasis of allergens on list of ingredients

All the labels for the sampled products had a list of ingredients. Allergens were included on the list of ingredients of all the products surveyed. Ingredient lists of locally manufactured products did not emphasize allergens in any way. Contrariwise, special emphasis was used for allergens declared on 25% and 67% of the imported biscuits and baby foods, respectively. The styles of emphasis used are shown in Table 1. Putting the font in bold was the most frequently used style of emphasis.

3.2.2. Special declaration of allergens

A separate allergen statement, immediately after or adjacent to list of ingredients, was not included on any of the locally manufactured products while 73% of the imported products carried the special allergen declaration, in addition to the declaration on the list of ingredients. Although the styles for special allergen declaration vary, a "Contains" statement was noted on all the surveyed products that used this kind of declaration.

3.2.3. Precautionary Allergen Labeling (PAL)

There was no use of PAL on any of the locally manufactured products. Contrariwise, 38.7% of imported biscuits and 20% of the imported baby foods had a "May Contain" precautionary statement. Other precautionary statements like "Manufactured on shared equipment with" or "Manufactured in a shared facility with" were not used on any of the surveyed products.

3.3. Compliance with Malawi's allergen labeling regulation

All the products surveyed complied with the allergen labeling requirements stipulated in MS 19; Malawi General Standard for Labeling of Prepacked Foods (MBS, 2001). The mandatory allergens (Milk, Egg, Fish, Crustaceans, Tree nuts, Peanuts, Soy, Wheat, Oats, Rye, Barley, and Sulfites ≥ 10 mg/kg), where applicable, were declared on the list of ingredients as required.

3.4. Robustness of Malawi's food allergen labeling regulation

A comparison matrix for the allergen labeling regulations of interest is given in Table 2. Malawi's food allergen labeling regulation is similar to Codex regulation but differs significantly from the E.U, U.S and RSA regulations, respectively. There are 12 priority allergens, under Malawi's regulation, that must be declared on the label of food products. The list of priority allergens in Malawi contains few items compared to the list of priority allergens listed under E.U and RSA regulations but slightly more than those under U.S regulation. However, milk, eggs, fish, crustaceans, tree nuts, peanuts, soy and wheat are common under all the selected regulations. Unlike under E.U, U.S and RSA regulations, Malawi's

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