Approaches to Improving Food Allergy Knowledge: Children with Food Allergy’s Quality of Life

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Abstract
Food allergy commonly affects many people, including children regardless of their age. Their life could be threatened if they are exposed to food allergens. Therefore, nursery employees need to take extra precaution when dealing with children with food allergy compared to ordinary children. Thus, this paper warrants to assess the knowledge of caregivers of children with food allergy and determines the approaches needed to improve their knowledge on how to manage this susceptible population.

Keywords: Food allergy, children, nursery employees, knowledge

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1.0 Introduction
Food provides nutrients that are needed by the body, therefore consuming healthy and safe food is crucial regardless of the age of the person. However, extra caution is needed to provide food that is safe to be consumed by food allergy sufferers. This is due to the fact that, wrongly ingested food can lead to food allergy reactions and death for severe food allergy sufferers (Carrard, Rizzuti, & Sokollik, 2015). There is no cure for food allergy. Hence, prevention is the best and only way to avoid a food allergy reaction (Sicherer & Sampson, 2018). For that reason, food allergy is considered as a global health burden (Anagnostou & Orange, 2018 and Pawankar, Canonica, Holgate, & Lockey, 2011).

While a person can develop food allergy at the early stage of his/her life (Muraro et al., 2017), food allergies are found to be present across all ages from infancy, toddlerhood, childhood, or in adulthood (Muraro et al., 2017). Consequently, food allergy sufferers must take extra precaution about the foods they consume to avoid accidental ingestion (Carrard et al., 2015). There are more than 170 foods that have been identified as food allergens that could trigger food allergic reactions (Boyce, 2012). However, the most common food items identified to cause food allergy are classified as the “Big 8 Allergens” (Wen, 2015). The “Big 8 Allergens” include milk, soy, fish, crustacean shellfish, eggs, tree nuts, wheat, and peanuts (Sasaki et al., 2018). The types of fish including sea bass and flounder while crustaceans and shellfish comprise of crab, shrimp, and lobster. Meanwhile, tree nuts include walnuts, almonds, and pecan.

Unlike other chronic diseases, “allergy does not enjoy the same level of public and governmental attention as other chronic diseases like cancer or cardiovascular diseases and it is certainly the most pervasive disorder globally” (Pawankar et al; 2011 p.7). Therefore, the objective of the study is to assess general knowledge of food allergy. This is because assessing the level of food allergy knowledge is crucial at this stage due to the need for intervention to be developed. In this regard, accurate diagnosis of food allergy is crucial because misdiagnosis will lead to life-threatening and excessive diet restriction (Živanović, Marković, & Medjo, 2017).

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Polloni et al., (2013) had conducted a study among teachers and principals to investigate food allergy knowledge, feeling, and perception in Italy. 1184 school teachers and principal were assessed before and after attending a food allergy course. The results showed that after the food allergy course, 79.3% were able to identify the food allergen and 90.8% could recognize the most common symptoms of food allergy (Polloni et al., 2013). The authors further emphasized the need to develop a specific educational intervention and improvements to deal with food allergy sufferers to ensure the safety and well-being of food allergy sufferers (Polloni et al., 2013).

There are some misunderstandings about food allergy among medical students (Redwan et al., 2011). It is proposed that there is a need to the continuous medical education, especially on allergy to these students because they will become physicians in the future (Redwan et al., 2011). This is crucial because with the growing population of Malaysians with food allergy therefore public, including parents, doctors, teacher, nursery employees, and food service staff must understand the need of food allergy sufferers.

3.0 Methodology
A cross-sectional study using online survey was conducted among employees of public nurseries in Penang to determine the general food allergy knowledge and the types of intervention. Nursery employee is because as emphasized by Polloni et al., (2013), the chances of the school personnel fronting the food allergic reactions are at risk and at least one case of food allergic reactions occurred at school or nurseries. Therefore, the school or nurseries need to manage this susceptible population and need to ensure that the safety of this susceptible population (Polloni et al., 2013). In addition, the food allergies sufferers spend more time there and rely on the nursery employee while their parents working (Kim, Yoon, Kwon, Kim, & Han, 2012). The age of the study is between 2 to 6 years old.

The questionnaire was developed and adapted by the researcher based on Al-herz et al., (2017) and Gupta et al., (2009). The study asked about the respondents’ profile, general food allergy knowledge and the types of intervention that can improve their knowledge. A total of 297 out of 600 nursery employees participated in the survey. Based on Krcjie and Morgan (1970), the population is 600 therefore sample sizes is 234. Thus, the total populations of this study are acceptable that is more than it required for sampling size based on Krcjie and Morgan (1970). The data analyzed by using Statistical Package for the Social Science (SPSS) version 22.

4.0 Findings & Discussions
4.1 Demographic profile
Understanding the demographic profile is crucial to assess the information needed by the researcher before the instrument could be developed for further research. The questionnaire comprise of items on the general knowledge on food allergy. Specific questions to assess the food allergy knowledge in detail would be formulated based on the respondents’ demographic profile. First, the result reveals that the majority of the respondents possess certification of formal education, including Sijil Rendah Peperiksaan/ Penilaian Menengah Rendah (SRP/PMR), Sijil Pelajaran Malaysia (SPM), Sijil Pelajaran Tinggi Malaysia (STPM), diploma and degree. In terms of education level, the majority of the respondents graduated with diploma (51.2%, n=152), followed by Sijil Pelajaran Malaysia (SPM) (37%, n=109). Only one respondent has no formal education certificate (0.3%). This shows that most respondents have formal education. The majority of the respondents are working as a teacher (79.5%, n=236). Meanwhile, all of the respondents are female and Malay (100%, n = 297). The majority of the respondents are aged between 26-35 (99%, n=33), followed by 46-55 (27%, n=81), 36-45 (23%, n=67), 18-25 (9%, n=27) and lastly, 55 and above (7.7%, n=23).

Nursery employees in this study refer to people working in the nurseries who are direct and indirectly involved in handling the children in the nursery. The majority of the respondents are teachers (79.5%, n=236) followed by nursery cooks (16.5%, n=49) and supervisors (2%, n=6). In addition, the majority of the respondents had worked experience more than 5 years (77.4%, n=230) while others worked less than 6 months (9%, n=27), followed by working experience between 3-4 years (7.1%, n=21) and lastly is 1-2 years working experience (6.4%, n=19).

According to Lanser, Covar, & Bird (2016), the place of childcare like nurseries is important because the person in charge will encounter the food allergies. However, the authors further added that the level of education and understanding of food allergy as well as anaphylaxis is deficient in information. Therefore, this study warrants investigating the general knowledge of food allergy among nursery employee.

4.2 Food allergy knowledge and Intervention
Out of the 297 nursery employees participated in this survey, 250 (84%) of them claimed to having knowledge on food allergy, whereas 47 (16%) of them claimed to have no knowledge about food allergy. Lack of awareness towards food allergy is one of the reasons for the lack of knowledge on food allergy. In addition, some of the respondents are newly appointed workers with little experience on handling children with food allergy. The respondents were asked only general questions because this is an exploratory study to investigate the awareness and understanding of the respondents towards food allergy. The data obtained were used as inputs to develop food allergy knowledge instrument for future research.

<table>
<thead>
<tr>
<th>Types of intervention</th>
<th>Frequency (n=297)</th>
<th>Percentage (%)</th>
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</thead>
<tbody>
<tr>
<td>Food allergy poster</td>
<td>43</td>
<td>15</td>
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<tr>
<td>Food allergy training</td>
<td>76</td>
<td>26</td>
</tr>
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