



Food Safety Training Through Nutrition Education and the Dangers of Plastic Packaging for Parents of Students at PKBM An-Nur Jakarta

Imawati Eka Putri^{1*}, Awaluddin Hidayat Ramli Inaku², Luthfiana Nurkusuma Ningtyas¹

^{1*}Faculty of Health Sciences, Muhammadiyah Prof. Dr. Hamka University, Indonesia

²Faculty of Technic and Science, UPN Veteran, Indonesia

imawatiep@uhamka.ac.id^{1*} (corresponding author)

Abstrak

Pangan yang bermutu baik serta kemasan food grade merupakan indikator produk pangan yang terjamin kualitasnya. Kegiatan program kemitraan (PKM) ini bertujuan untuk melatih orangtua murid di PKBM An-Nur Jakarta untuk mampu membaca dan memahami isi dari label kemasan makanan seperti informasi nilai gizi, kode produksi, tanggal kadaluwarsa, logo halal, komposisi, dan kode kemasan pangan yang berguna bagi orangtua murid dalam menyiapkan kebutuhan gizi anak. Program ini diawali dengan pemberian pre-test, lalu penyampaian edukasi menggunakan Teknik ceramah kepada 50 peserta, dan pengisian post-test serta evaluasi program. Terdapat peningkatan nilai rerata post test (87) dibandingkan dengan nilai pre test (61). Teknik ceramah dan pemberian contoh realistis saat edukasi efektif meningkatkan pemahaman orangtua murid dalam memahami keamanan pangan dan pembacaan label gizi di PKBM An-Nur Jakarta.

Kata kunci: Edukasi, Halal, Kemasan, PKBM

Abstract

The indicators of food products quality are assessed by ingredients and packaging. This community partnership program activity aims to train parents of students at PKBM An-Nur East Jakarta to be able to read and understand the contents of food packaging labels such as nutritional information, production codes, expiration dates, halal logos, composition, and food packaging codes that are useful for parents of students in preparing their children's nutritional needs. This program began with the provision of a pre-test, education using lecture techniques to 50 participants (parents and teachers), filling out a post-test, and evaluating activities. There was an increase in the average post-test score (87) compared to the pre-test score (61). Lecture techniques and providing realistic examples effectively increased parents' understanding of food safety and reading nutrition labels at PKBM An-Nur Jakarta.

Keywords : Education, Halal, Packaging, PKBM

Introduction

Food and drugs Agency of Indonesia (BPOM) regulation No. 13 shown that food is anything that comes from biological sources, it comes from agricultural, plantation, forestry, livestock, and aquatic products whether processed or not which are used for human consumption (Perka BPOM, 2023). Food types also includes food additives, raw food, and other materials that used in the preparation and processing of products.



According to BPOM, food safety is a preventing efforts to decrease the possibility of contamination in food, including physical, biological, chemical, and other contaminant that can harm human health as consumers. Food safety is also a crucial factors in the food management system (Lestari, 2020). The WHO states that 1 of 10 people had a sick by food poisoning (WHO, 2020). Food contamination such as bacteria (*Salmonella typhi* (Putri, 2018), *E.Coli* (Arisanti, et al, 2018), *Taenia solium*, and others, norovirus, hepatitis virus, and toxins (aflatoxin) are components that can cause of illness in human and it known as foodborne disease. This disease that can cause 600 million illnesses and 420,000 deaths (Arisanti et al, 2018). Food contamination does not only come from microorganisms, Lestari (2020) stated that physical and chemical contamination also play a major role in triggering illness in cinsumers. This contamination includes the presence of hazardous metals, pesticides, herbicides, hair, and also packaging materials (Utami, 2021).

The contamination will certainly cause health problems and affect the nutritional value of the product, It meant that the contamination could decrease a protein value due to microorganism contamination and can physically change the color of food prooducts (Rorong & Wilar, 2020). This health problems incidents ever makes foodborne disease as an extra-ordinary cases in indonesia (Kejadian Luar Biasa/ KLB) (Kemenkes 2018; Arisanti et al, 2018). Inaku et al. (2023) also stated that the use of inappropriate plastic containers will cause health problems in humans and the waste can contaminate the environment. This is the main focus of this community service program (PKM) to increase participants awareness in preventing of food poisoning that caused by unhygienic food handlers, inappropriate food packaging, and low of nutritional information knowledge. Community Partnership Program (PKM) activities were carried out at PKBM An-Nur Jakarta due to the lack of information regarding food safety and the lack of knowledge of parents and teachers regarding food safety in school snacks. Based on a study conducted by the PKM team, it was seen that parents still do not understand how to read nutrition labels and also not yet aware of food safety. It was also found that parents are not aware of the potential dangers of plastic packaging, especially single-use plastic packaging (PET) which is widely used as a lunch box for children's snacks and supplies. Parents of students are familiar with food packaging labels but do not yet understand the meaning of the information printed on them. Unlike the halal logo, many parents are already familiar with the MUI halal logo, including its color, shape, and content, due to exposure to social media, which frequently promotes the MUI halal logo.

With the advancement of information technology, access to the latest information has become easier. However, accurate information and comprehensive education are needed to improve knowledge. This has never been done at PKBM An-Nur, so this presents an opportunity for the PKM team to provide training and education to parents and teachers at PKBM An-Nur Jakarta. This PKM activity aims to provide education and improve the literacy and skills of parents at PKBM An-Nur Jakarta in understanding balanced nutrition for children, the meaning of halal labels and logos, and the potential dangers of plastic packaging. The PKM results are expected to provide valuable education to parents to prevent food fraud, food poisoning, and health problems for students. Parents at PKBM An-Nur feel that their students' lunches and snacks are safe in terms of food sources, processing techniques, and packaging. However, based on observations, parents are more focused on single-use packaging, but are unaware of how to prevent potential hazards and their relevance to providing nutritious, balanced meals for children. This issue aligns with the PKM team's activity objective, which focuses on educating parents about the issues listed.

Implementation Method

This PKM activity was carried out in PKBM An-Nur Jakarta Timur on July 26, 2022. There are 42 participants including parents and one teacher as a facilitator. The goal of this program is to increase the nutritional knowledge and enhancing the halal awareness and also potential dangers of plastic packaging especially in food packaging. Three stages of the implementation are:

1. Planning

At this stage, PKM team was to coordinate the activity and established a common understanding to align program's goal both within the team and with partners (teachers and school's principal).

2. Program implementation

This training program begins with the preparation of educational materials by the PKM team the day before. Implementation started with a pre-test, delivery of the material using face-to-face lecture method, a Q & A session, and finished with post-test filling.

3. Program Evaluation

Evaluation is carried out by measuring the participants enthusiasm through a Q&A session, comparing post-test scores with pre-test scores.

Overall the planning matrix can be seen in the table 1.

Table 1. Project Planning Matrix of PKM's Program

Program: Food Safety Training Through Education on Nutritional Labels and the Dangers of Plastic Packaging for Parents of Students at PKBM An-Nur			
Place: PKBM An-Nur Jakarta Timur			
Goals	Indicator	Verification	Assumption
Increasing a knowledge of nutrition and were able to read food labels, halal awareness, and the dangers of plastic packaging for parents of students	80% participants experienced increased the knowledge of nutrition, halal, and food packaging	Pre and post-test questionnaire	Conducive environment
Results	Indicators	Place	Target
Participants are able to read nutritional information labels on food packaging, understand the basic nutrition for kids, halal logos, and the dangers of plastic packaging	80% of participant's post-test scores increased from their pre-test scores	PKBM	Parents of students in PKBM An-Nur

Result and Discussion

The result of the activity is that participants understand the concept of basic nutrition for kids as it known in nutritional balanced guidelines. Participants also able to understand the dangers of plastic packaging such as a contamination plastic materials to the food and able to read the food labels both nutritional information and halal logo. Based on the outcomes of the average pre-test and post-test scores, there was an increase from 61 to 87. It meant that PKM team success to deliver the material using a lecture and question-and-answer method (Figure 1). The questions distribution of pre and post-test shown in Table 1.



Figure 1. Delivery of material by PKM team



Figure 2. Food label and nutritional concept



Figure 3. Plastic packaging material

The inhibiting factors or obstacles encountered during the activity were technical constraints, as the PKM activity coincided with the first day of school and the school's accreditation preparation agenda, making the atmosphere less conducive. Supporting factors for the activity were the support from the school, which accommodated the event's continuity, and the enthusiasm of participants in participating in the training on reading food packaging labels and educating them about the dangers of plastic packaging. Participants reported receiving a lot of good input related to the dangers of plastic packaging and were more aware of packaging codes and the nutritional value of food on children's snack packaging.

Tabel 2. Pre and Post-Test

No.	<i>Pre and Post-Test</i>	Frequency of correct answer (<i>Pre-Test</i>)	Frequency of correct answer (<i>Post-Test</i>)
1	What is presented in the nutritional information table?	25%	87,5%
2	How many tablespoons of sugar is equivalent to the daily sugar consumption limit?	10%	90%
3	What is the daily limit for salt consumption?	72%	85%
4	The daily fat consumption limit is equivalent to?	20%	62,5%
5	The halal logo on food packaging can be changed in color so that it can be clearly seen by consumers (true/false)	65%	97,5%
6	The highest consumption of community waste based on its type is rubber waste (true/false)	65%	77,5%
7	PET type bottles are plastic code 1 which can only be used once (true/false)	92,5%	97,5%

No.	<i>Pre and Post-Test</i>	Frequency of correct answer (<i>Pre-Test</i>)	Frequency of correct answer (<i>Post-Test</i>)
8	Households are the largest source of waste compared to offices (true/false)	85%	95%
9	The amount of garbage in DKI Jakarta is highest than the waste management program (true/false)	97,5%	100%
10	The history of plastic began in Indonesia (true/false)	62,5%	87,5%
11	Plastic classification is divided into 2, namely thermosetting and thermoplastic (true/false)	75%	100%
12	Drinking bottles are a type of plastic material that falls into category number 3 (true/false)	32,5%	70%
13	Drinking bottles cannot be recycled (true/false)	47,5%	57,5%
14	BPA is a chemical element found in plastic food packaging and is dangerous to health (true/false)	77,5%	95%
15	The safe way to brew hot water is to use a non-plastic container (true/false)	87,5%	95%

Based on the table above, it is known that there is a significant increase in knowledge in terms of nutritional knowledge (questions no. 2, 3, and 4), the dangers of plastic packaging in food products (questions no. 6-15), and reading packaging labels (questions no. 1 and 5). In addition to education on reading food labels, participants also practiced reading food labels as an achievement of understanding the contents of food labels. The activity materials are as shown in figures 2 and 3. According to Mutingah & Rokhaidah (2021) that there is a relationship between mother's attitudes and stunting prevention behavior (p value 0,001). In line with this research, where mothers' knowledge and attitudes increased along with the delivery of educational materials by the PKM team, the next hope is that students, especially at PKBM An-Nur, will receive optimal nutrition and better nutritional status to prevent stunting. Descriptive statistics results shown Table 2.

Table 2. Statistic results of distribution of pre and post-test

	n	Min	Max	Mean	Std.Dev
Pre-Test	42	0	87	61,00	2,17
Post-Test	42	60	100	86,5	1,73

Conclusion

This Community Service Activity was carried out well with the attendance of 42 participants and proved that the participants' knowledge of the material presented was also significant as seen from the average post-test score (87) indicating that the

method of delivering material and the practice of reading food labels was effectively applied to parents of students at PKBM An-Nur Jakarta and became an alternative solution in preventing nutritional problems and health problems due to the use of non-food grade plastic packaging.

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