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EDUCATION ON FOOD ADDITIVES IN SCHOOL SNACKS FOR STUDENTS AND TEACHERS AT SMAN 11 BANDUNG

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Abstract

This community service activity aimed to address the high consumption of snacks containing food additives (BTP) among students who lack sufficient understanding of their types, functions, and health impacts. Many school-sold snacks use artificial colors, preservatives, or sweeteners that may exceed the limits set by the Food and Drug Administration (BPOM). To respond to this issue, lecturers from the Department of Food Technology, Universitas Pasundan, conducted educational outreach at SMAN 11 Bandung to enhance food literacy—especially in recognizing and managing the presence of BTP in school snacks. The outreach was delivered interactively through presentations, group discussions, simulations of reading BTP information on packaging labels, and distribution of educational leaflets. Key materials included: types of commonly used food additives, health risks of excessive BTP consumption, BPOM regulations, identification of BTP through E-numbers and packaging labels, and promotion of local foods and healthy snack alternatives. The activity was well-received by students and staff. Participants showed high enthusiasm, demonstrated by active engagement and many questions during discussions. Teacher involvement also suggested potential for ongoing knowledge dissemination within the school community. As tangible outputs, the team produced a final activity report, two popular articles submitted to national media, and video documentation to be used as teaching materials and promotional tools for similar educational initiatives in other schools.

Keywords: Food Safety, Food Additives, Training and Outreach, School Environmental Health

INTRODUCTION

Community service activities that solve problems comprehensively, meaningfully, completely, and sustainably with non-singular targets. These are the reasons for developing Community Service programs. This activity was conducted for students and teaching staff at SMAN 11 Bandung.

SMAN 11 Bandung is one of the Senior High Schools located in Bandung City, precisely at Jl. Kembar Baru No. 23, Cigereleng, Regol Sub-district, Bandung City, West Java 40253. This school was established in 1967/1968, strengthened by the Decision of the Ministry of

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Education and Culture Number 132/UKK/3219/1968 dated April 8, 1968, with the name SMA XI Bandung.

One important issue raised in this activity is education and outreach regarding food additives (BTP). This outreach aims to prevent the consumption of dangerous food additives in school snacks and increase students' understanding of food additives in food products, including school snacks. This education also includes introduction to signs of food containing hazardous substances. Several studies show that the use of dangerous BTP in various types of food in several regions in Indonesia is still massive.

According to Nurkholidah et al. (2012), many people, especially traders or food processors, still use dangerous BTP because these substances are cheaper, more effective and efficient when used, easy to use and obtain, low public awareness about the dangers of these substances, and weak supervision and law enforcement from relevant authorities. Based on observations in food ingredients conducted by BPOM, borax, formalin, rhodamine B, and methanyl yellow are four types of dangerous chemicals that are often added (Ministry of Health of the Republic of Indonesia, 2011).

One group of foods vulnerable to contamination by dangerous BTP is school children's snack foods (PJAS). BTP are substances added to food to maintain or improve safety, freshness, taste, texture, or food appearance (Blekas, 2016). Some examples of BTP include preservatives, colors, sweeteners, antioxidants, emulsifiers, and thickeners (BPOM, 2019; Hemalatha and Parameshwari, 2021).

The objectives of implementing this community service activity are to increase the knowledge of students and teaching staff at SMAN 11 Bandung regarding safe food and reduce the potential for food poisoning, specifically to: increase understanding of students and teaching staff regarding food additives commonly used in school snacks, provide education about the importance of reading food labels, foster critical awareness among school teenagers to become smart consumers, encourage schools and teachers to play active roles in creating a healthier school environment, foster partnerships between universities and schools, and produce educational outputs such as popular articles, information leaflets, and video documentation.

IMPELEMENTATION METHOD

This activity was in the form of outreach for students and teaching staff at SMAN 11 Bandung, so they could learn about safe and dangerous food additives and their proper use. With this, it is hoped that students and teaching staff can be more vigilant and more concerned about the food around them. Several methods were used in this outreach on food additives, including:

Socialization

The program began with a comprehensive socialization stage to build understanding and support from all parties. Socialization activities were carried out through several systematic stages. First, coordination meetings were held with the school, including the principal, relevant teachers, and school committees to present the program and obtain input and administrative support. Next, meetings were held with student representatives, student councils, and

extracurricular organizations to explain the program and identify potential active student involvement.

Training

After socialization, the program continued with a series of structured training for various target groups. The school canteen supervisory team consisting of selected teachers and staff received intensive training on food safety standards, techniques for identifying dangerous BTP, and canteen supervision procedures. Food sellers participated in food safety training covering aspects of hygiene and sanitation, safe BTP use, and standardization of production processes.

Technology Implementation

Technology implementation became an important component in supporting program effectiveness. Introduction of digital database systems owned by the Food and Drug Administration (BPOM) to target partners. Posters related to safe and dangerous BTP were developed to support continuous education about BTP and food safety, placed in school areas as a form of campaign and broader food safety education.

Mentoring and Evaluation

The mentoring program was conducted intensively and continuously to ensure implementation effectiveness. The mentoring team consisting of the service team conducted routine monitoring of program implementation. Evaluation was conducted at several levels: weekly evaluation to monitor program progress, monthly evaluation to measure target achievement, and semester evaluation to assess overall program impact. Evaluation instruments included student understanding surveys, measurement of seller compliance with food safety standards, and analysis of supervision system effectiveness.

RESULTS AND DISCUSSION

The Community Service activity aimed to increase understanding and awareness of students and teaching staff at SMAN 11 Bandung regarding food additives commonly found in school snacks. The problem of consuming food with inappropriate or excessive BTP content has become an important issue in public health and food safety, especially among school teenager groups who are very vulnerable to exposure to processed foods.

Through this activity, the Community Service team from the Food Technology Study Program at Universitas Pasundan conducted a comprehensive educational approach, ranging from material provision, interactive discussions, information media distribution, to mentoring. This activity also involved two students as part of strengthening the implementation of Merdeka Belajar Kampus Merdeka (MBKM) in the context of community service.

Implementation Process

The Community Service activity was carried out for 5 months, starting from March to July 2025. The activity stages included preparation and coordination with partner schools, preparation of materials and educational aids, implementation of outreach, and activity evaluation and follow-up.

The outreach was conducted in two main sessions: student sessions that were interactive and participatory, conducted in the form of presentations, questions and answers, and light quizzes; and teacher/teaching staff sessions with in-depth discussions about the role of teachers in supervising food consumption in schools and proposals for school-based follow-up programs.

Activity Results

Based on pre-test and post-test evaluations, there was a significant increase in participants' understanding of food additives. Students showed high enthusiasm in following the outreach sessions, as evidenced by numerous questions and active discussions. Teachers welcomed this activity positively and assessed that the educational approach used was very suitable for high school students.

Table 1. Pre-test and Post-test Results

Group	Pre-test Average Score	Post-test Average Score	Improvement (%)
Students	45.2	78.6	73.9
Teachers	52.8	84.2	59.5

Source: Activity evaluation data, 2025

The school principal expressed appreciation for the involvement of universities in providing outreach that was contextual and relevant to students' daily lives. They hoped that this cooperation could be continued with follow-up programs such as training for canteen vendors, development of teaching modules, and creation of healthy canteen policies.

Activity Outputs

As designed in the initial proposal, this activity successfully produced several main outputs: a final report as a formal document containing all activities, systematic evaluation data, and achievement results; two popular articles discussing food additive education for school teenagers and the role of teachers and schools in creating a safe food environment; video documentation showing the activity process, participant interviews, and educational messages related to healthy snack consumption; and educational leaflets containing simple information about BTP types, examples of dangerous BTP, ways to read food labels, and tips for choosing healthy snacks.

Community Impact and Sustainability

This activity provided real impact on increasing food literacy in the school environment. Education provided not only was one-way but successfully sparked discussion, reflection, and critical awareness from both students and teaching staff. The activity received positive responses from the school community and opened opportunities for collaboration across sectors.

Through this activity, initial communication was formed between the school and the proposing team from the university. If supported by agencies such as the Health Department, Education Department, and food supervisory agencies (BPOM), this activity can be expanded on a larger and more systematic scale.

CONCLUSION

The Community Service activity on "Education on Food Additives in School Snacks for Students and Teachers at SMAN 11 Bandung" was successfully implemented and achieved its main objectives. There was a significant increase in participants' understanding of food additives, as evidenced by pre-test and post-test results showing improvement of 73.9% for students and 59.5% for teachers.

This activity succeeded in raising awareness among students and teachers about the importance of recognizing additive content in food consumed daily, especially snacks in the school environment. The interactive and participatory approach proved effective in conveying educational messages and encouraging active participation from all participants.

The positive response from the school community and the commitment to continue cooperation in the form of follow-up programs shows that this activity has potential for sustainability and replication in other schools. Through outputs in the form of reports, articles, videos, and educational leaflets, the benefits of this activity can be felt by a wider community.

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