



# Counseling, health check-up, and nutritional status to improve nutritional health at Al-Fitrah Islamic Boarding School

Penyuluhan, pemeriksaan kesehatan dan status gizi untuk peningkatan kesehatan gizi di Pondok Pesantren Al-Fitrah

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## ABSTRACT

Islamic boarding schools are places of learning for students who focus on Islamic religious education. One of them is the Assalafi Al Fitrah Islamic Boarding School located in the city of Surabaya, with approximately 3,344 students. Based on demographic analysis and the origin of students from various groups, awareness about food security and nutritional health is still lacking and has not been monitored properly. This can be seen from the situation in Islamic boarding schools where the nutritional status of students is still lacking. So, this community service aims to improve the nutritional health of adolescents through counseling, health checks, and the nutritional status of students. From the results of the community service program that have been carried out, it was found that the level of knowledge about adolescent nutrition in students was very good, with the results of the BMI examination, 25% were in normal conditions and 25% were categorized as having obesity-1 nutritional problems. The activity concludes that the level of knowledge of students about balanced nutrition is very good, but it needs to be balanced with the composition of balanced nutritional it needs every day.

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## 1. INTRODUCTION

The success of the development of a nation is determined by the availability of human resources. Quality human resources are the main key for national productivity and strengthening the nation's competitiveness. In Indonesia's development report based on the Human Development Index (HDI), where the average HDI in 2020 is 0.2 and rises to 0.35 in 2021, the determinants of HDI, namely education,

health and the economy, are closely related to the nutritional status of the community. This shows that the nutritional status of the community is still not optimal, including in adolescents. Indonesia has three nutritional problems (triple burden), namely stunting, wasting and obesity as well as micronutrient deficiencies such as Anemia (Badan Pusat Statistik, 2021). Based on the 2018 RISKESDAS data, it shows that 25.7% of adolescents aged 13-15 years and 26.9% of adolescents aged 16-18 years with short and very short nutritional status (RISKESDAS, 2018). These data represent the nutritional condition of adolescents in Indonesia that must be improved. Based on the UNICEF baseline survey in 2017, it was found that there were changes in the diet and physical activity of adolescents (UNICEF, 2021).

Islamic boarding schools are one of the places of education that have an important role in Indonesia in the advancement of Islamic education in Indonesia based on boarding schools, where students are teenagers. In general, health conditions in Islamic boarding schools still require attention, especially from various related parties, both in terms of access to health services, healthy behavior, and health aspects, including the nutritional status of students and boarding school administrators (Efendi & Makhfudli, 2010). Community empowerment in Islamic boarding schools is an effort so that residents of Islamic boarding schools know the problems they face, plan and make efforts to solve them by utilizing local potential according to local situations, conditions and needs.

Health monitoring in Islamic boarding schools is carried out by the Islamic boarding school health care center (Poskestren), which has the principle of, by and for the residents of Islamic boarding schools, which prioritizes promotive (improvement) and preventive (prevention) services without neglecting curative (treatment) and rehabilitative (health restoration), under the guidance of the local health center. However, in its implementation, Poskestren in Islamic boarding schools are still not optimal, especially in health services at Poskestren, this is due to the lack of health workers who are willing to be placed in poskestren. (Rif'ah, 2019). The government's efforts to address the nutritional status of adolescents and women of childbearing age include health development programs through community nutrition programs, including creating a Nutrition Awareness Family (Kadarzi), namely weighing regularly, eating a variety of foods, using iodized salt, nutritional supplementation, and nutrition education efforts at school. The community supports and participates in government programs to realize promotive and preventive services in realizing Kadarzi so that adolescents and WUS can maintain body health regarding nutrition through community nutrition programs and nutrition education in schools or nutrition education (Kementerian Kesehatan Republik Indonesia, 2020).

## **2. METHOD**

### **Approach Method**

Poskestren is a promotive (improvement) and preventive service without neglecting curative (treatment) and rehabilitative (health recovery) which is still not optimal in its role in efforts to improve the nutritional status of adolescents in Islamic boarding schools. As an effort to deal with these health problems, the solutions offered to this community service include: (1) Medical examination such as history taking and general physical examination; (2) Examination of nutritional status by measuring height and weight to determine body mass index (BMI); (3) Providing socialization to students and boarding school administrators regarding the problem of nutritional intake in adolescents and the right composition, as well as evaluating the level of knowledge related to adolescent nutrition problems.

## **Activity and Evaluation Method**

### **Preparation**

The preparation stages are: (1) Conducting a survey to the location of the Al-Fitrah Islamic boarding school; (2) Obtaining permits with local parties for the implementation of activities; (3) Forum group discussion (FGD) to discuss related activities.

### **Implementation**

At the implementation stage there are several activities: (1) Conducting oral socialization with PPT media which is presented directly in the hall with santri participants and boarding school administrators; (2) Pre-test and post-test to determine the level of understanding of students related to the material given; (3) Measuring body mass index (BMI) by checking height using a stadiometer and weight with a scale as an effort to screen nutritional status; (4) General health examination includes history taking, physical examination, additional random blood sugar (GDA) measurement using a glucometer and administration of vitamin supplements. The entire implementation of this activity was carried out together with undergraduate medical students and young doctors from Nahdlatul Ulama University Surabaya.

**Table 1.** Questionnaire

<b>Inquiry</b>
Nutritional problems in adolescents include eating disorders, obesity, anemia and energy disorders
Eating disorders can lead to obesity
Energy requirements in adolescent males are 55-60 Kcal/KgBW/day
The protein requirement in adolescents is 60 g/day
Balanced nutrition is a daily diet that contains nutrients in the types and amounts that are in accordance with the body's needs
Food variety, physical activity and weight monitoring are the principles of maintaining nutritional balance
The total daily calorie requirement for adolescents is 2,200-2,600 kcal
1 serving of rice has 200 Kcal calories
1 serving (2 pieces) of tempeh has 75kcal calories
1 serving (1 piece) of meat has 75 kcal kalori calories

**Table 2.** Types of activities and outputs

<b>Activities</b>	<b>Outputs</b>
Making socialization materials	Socialization material in the form of posters
Oral presentation	Posts on social media
Evaluation of socialization	Reports given to Islamic boarding schools and publication of articles
BMI Check	Nutritional status data and articles
Medical examination	General health status data collection
Administration of vitamin supplements	Additional intake in balancing nutrition

### 3. RESULTS AND DISCUSSION

#### Results

Prior to carrying out the activities, FGDs were conducted to convey the activities to be carried out and their preparations. From the results of the FGD, it was agreed that all activities were carried out on June 19, 2022 and involved Husada students and the doctors who were in charge of the Poskestren. This community service activity was carried out at the Al-Fitrah Kedinding Islamic boarding school, Surabaya. This activity refers to the problems found in Islamic boarding schools in general, where the health and fulfillment of balanced nutrition in adolescents is still not optimal. By trying to empower Husada and Posketren students in Islamic boarding schools, this activity is carried out to provide socialization of nutritional problems in adolescents and balanced nutritional health needed at a young age.



Figure 1. Youth nutrition health socialization activities

Evaluation of socialization results in the form of pre-test and post-test, there are ten questions given to students to be filled before and after the oral presentation. The results of the evaluation are described in Table 3.

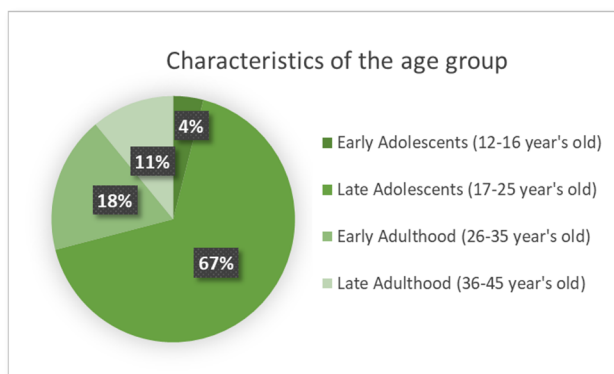
Table 3. Distribution of students' knowledge about adolescent nutrition problems and nutritional needs

Inquiry	Pre-Test N (%)	Post-Test N (%)
Nutritional problems in adolescents include eating disorders, obesity, anemia and energy disorders	22 (88%)	25 (100%)
Eating disorders can lead to obesity	20 (80%)	23 (92%)
Energy requirements in adolescent males are 55-60 Kcal/KgBW/day	22 (88%)	24 (96%)
The protein requirement in adolescents is 60 g/day	23 (92%)	25 (100%)
Balanced nutrition is a daily diet that contains nutrients in the types and amounts that are in accordance with the body's needs	23 (92%)	25 (100%)
Food variety, physical activity and weight monitoring are the principles of maintaining nutritional balance	24 (96%)	25 (100%)
The total daily calorie requirement for adolescents is 2,200-2,600 kcal	23 (92%)	25 (100%)
1 serving of rice has 200 Kcal calories	23 (92%)	25 (100%)
1 serving (2 pieces) of tempeh has 75kcal calories	22 (88%)	24 (96%)
1 serving (1 piece) of meat has 75 kcal calories	22 (88%)	24 (96%)
<b>Score mean</b>	<b>22.4</b>	<b>24.5</b>

Based on Table 3 shows that there is an increase in the number of respondents who answered correctly on each question point. The increase in the pretest who answered correctly was on average 22.4 to 24.5 in the post-test. After providing counseling, the expected target has been achieved which can

be seen from the increase in students' knowledge about nutritional problems and adolescent nutritional needs.

The next activity is a health screening to see the nutritional status of the Al-Fitrah Islamic boarding school. Characteristics based on the age group of participants who take part in the nutritional status examination can be seen in Figure 2.



**Figure 2.** Characteristics of the age group of participants in nutritional status screening

The health examination does not only assess the distribution of age groups, but also checks for height, weight, brief interview (anamnesis), blood pressure check, and random blood sugar check. This is done as an effort to screen health as an initial step in preventing nutritional disorders which can also manifest as metabolic syndrome in adolescents.

**Table 4.** The results of the examination of the nutritional status and health of students at the Al-Fitrah Islamic Boarding School, Kedinding, Surabaya.

<b>Body Mass Index (BMI) Classification</b>	<b>Amount (N)</b>	<b>Percentage (%)</b>
BMI 18.8 (Thin)	3	11.11
BMI 18.5-24.9 (Normal)	7	25.93
BMI 25-29.9 (Overweight)	4	14.81
BMI 30-39.9 (Obesity-1)	7	25.93
BMI >40 (Obesity-2)	6	22.22
<b>Total</b>	<b>27</b>	<b>100</b>
<b>Adolescent with Nutritional Problems</b>		<b>74.07%</b>
<b>Random blood sugar (gr/dl)</b>		
Not diabetic	5	18.52
Pre-diabetic	17	62.96
Diabetic (mellitus)	1	3.70
<b>Total</b>	<b>27</b>	<b>100</b>
<b>Blood Pressure (mmHg)</b>		
Optimal	4	14.81
Normal	12	44.44
Pre hypertension	7	25.93
Hypertension-1	4	14.81
Hypertension-2	0	0
<b>Total</b>	<b>27</b>	<b>100</b>

Based on the results of the nutritional status examination, it was found that 25.93% of students with normal BMI, 14.81% with overweight BMI, 25.93% with 1st degree obesity BMI, and 22.22% with 2nd degree obesity BMI. In addition, there are 11.11% of students with a thin BMI status. Based on these data, it shows that 74.07% of student's experience nutritional problems, namely malnutrition and obesity.

In this community service activity, it also showed that the results of random blood sugar examinations in students were 62.96% in the pre-diabetic category, and 18.52% were found in the non-diabetic category. This result can be influenced by one of the risk factors, namely nutritional disorders which can be seen from the results of the BMI examination, which are mostly overweight and obesity.



**Figure 3.** BMI and random blood sugar checks as well as health checks

In addition, blood pressure examination showed that 44.44% were in the normal category, and 25.93% in the prehypertension category. The results of this blood pressure examination can also be influenced by nutritional status. Based on the theory that the risk factors for obesity, high blood pressure and increased GDA are the risk factors for metabolic syndrome. So, from the results of this health examination, it was found that there had been disturbances from the metabolic syndrome due to problems with unbalanced nutritional intake.

## Discussion

This community service program is an effort to improve nutritional health through counseling, health checks and the nutritional status of students at the Al-Fitrah Islamic Boarding School. The target involves clerics and students. Based on the results of the socialization in the form of counseling entitled "Efforts to improve the nutritional health of adolescents" there was an increase in the level of understanding of the participants. Previous research has explained that educational socialization activities can show significant differences in the form of increasing community knowledge and understanding ([Hartiningsih et al., 2022](#); [Hendryani et al., 2022](#)). This educational activity is a promotive and preventive effort to help increase public knowledge.

The implementation of this program is to conduct general health checks and nutritional status checks. It was found that the most age group that followed was late adolescence, followed by early adulthood, late adulthood and early adolescence. This age characteristic is based on the fact that the population participating in this screening activity varies, not only students but also *ustad* and boarding school administrators. The results of this screening examination showed that in general their health was good. From the blood pressure examination conducted at the Al-Fitrah Islamic Boarding School, it was found that the average blood pressure condition was normal and the second highest was pre-

hypertension, followed by the first stage of hypertension. These results indicate that students at the Al-Fitrah Islamic Boarding School must be aware of the symptoms of the metabolic syndrome. Metabolic syndrome is closely related to cardiovascular disease, where the risk factor is hypertension (Briawan et al., 2020; Soleha & Bimandama, 2016). In addition to checking blood pressure, this activity also carried out random blood sugar checks. The results of the examination showed that 62% of participants who took part in the screening were in the pre-diabetic category, which can change to a diabetic condition if the diet is not properly regulated. This condition is closely related to the number of students in the first-degree obesity category which has a relationship with the occurrence of risk factors for diabetes mellitus (Rini, 2015).

This community service also screens nutritional status based on body mass index (BMI), which is found in students at the Al-Fitrah Islamic Boarding School's most BMI is obesity level one, normal, followed by the following order, namely obesity level two, overweight and underweight. These results are similar to the results of previous studies where it was found that 6.5% of students were obese at level one (Choiriyah et al., 2021). Nutritional problems are often experienced by adolescents as a result of unbalanced nutritional consumption, namely being underweight and overweight (Sari, 2012; Syahfitri, 2017; Kartikasari et al., 2021). In addition, energy and protein intake affect nutritional status in adolescents, as evidenced by research conducted by Fakri & Jananda (2021) which states that there is a relationship between energy and protein intake in students at the Nurul Falah Islamic boarding school Meulaboh. Previous research has shown that nutritional status as seen from BMI with blood pressure and GDA has a relationship as a predictor of the occurrence of metabolic syndrome (Wati & Ernawati, 2016). Other studies also get the same results (Annajmi et al., 2014). In the pilot study conducted by Firouzi et al. (2015) found that nutritional status affects the incidence of diabetes mellitus. Nutritional status in adolescents can affect the prediction of metabolic syndromes such as hypertension, diabetes mellitus and dyslipidemia (Fakri & Jananda, 2021).

#### **4. CONCLUSION AND RECOMMENDATIONS**

The conclusion of community service that has been carried out at the Al-Fitrah Kedinding Islamic Boarding School Surabaya is that socialization with counseling is effective in increasing knowledge of nutritional health in students. From the results of the general examination, the students were good in health with the most BMI being grade one obesity and normal.

This community service activity has several obstacles and limitations, including activities carried out during the COVID-19 pandemic, so that participants are limited and still comply with health protocols. This service program is expected to have further follow-ups from year to year, especially in handling adolescent nutritional disorders which have been seen with other innovations and further examinations for micro and macronutrient needs by using healthy kitchens in Islamic boarding schools.

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