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Identification of Implementation of School Health Education Through Physical Education

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Abstract. The implementation of important school health education is optimized. Optimization can be done if the PE teacher as the supervisor, is quite capable in implementing the program in affecting the healthy degree of students. At least PE teachers have a healthy lifestyle, weight status, health literacy, and nutritional knowledge. This cross-sectional study aims to identify the implementation of school health education based on a healthy lifestyle, weight status, health literacy, and nutritional knowledge possessed by teachers. The subjects of the study were 16 primary school teachers ($f = 1$, $m = 15$). The research instrument consists of a closed questionnaire (health related lifestyle, health literacy, and nutritional knowledge) and an open questionnaire measuring the implementation of health education in schools. Data analysis uses descriptive statistics, percentages, and qualitative. The results showed that it was still found that PE teachers who had an unhealthy lifestyle, high PE teacher health literacy, teacher nutrition knowledge had supported the optimization of the implementation of school health education. The open questionnaire revealed that there were obstacles for teachers in carrying out school health education in the form of the absence of student growth and development measuring instruments and monitoring tools outside the school (such as: physical activity, diet, and student lifestyle). An encouraging finding is that teachers have been able to collaborate with relevant agencies in implementing school health education.

Keywords: School health education · Monitoring · Student growth · Development · PE quality

1 Introduction

School Health Education is an effort by the education unit in instilling, growing, developing and improving the ability to live a healthy life, with the application of Clean and Healthy Living Behavior, as well as the degree of health of students through the implementation of the Trias Health Education, namely: (1) Health Education: through knowledge improvement activities intracurricularly, cocurricularly and extracurricularly and habituation perilaku of healthy clean living; (2) Health Services: through disease prevention such as by immunization and taking deworming drugs; and (3) Healthy School

Environment Development: by equipping PHBS infrastructure, including clean water, toilets, hand washing stations, trash cans, drainage channels [1]. School Health Efforts aim to improve the health, quality of education and learning achievements of students which are reflected in the life of a healthy clean life and a healthy school environment so as to enable students to experience optimal growth and development.

Habituation of healthy living behaviors in schools, seems to be recognized in several other countries such as in Australia, health education in schools is held as a form of school concern to provide facilities for students in improving student health that can be achieved through pedagogical functions, especially those involving technology, which produce learner activities an interesting and relevant to [2]. Whereas in America, an-important displace of the PK-12 education system is to improve literacy, including health literacy integrated into school curricula at all levels [3]. This effort can enable the optimization of important displaces of public health systems in informing, educating, and empowering communities through schools. This method is believed to be effective in improving health literacy.

Viewed from any side, school health education is guided by PE teachers. Pe teachers as teachers of school health education should be a proper role model so that every teaching becomes credible supported by evidence of their healthy lifestyle. For this reason, the health-related lifestyle variables owned by teachers need to be studied. Health related lifestyle is defined as a lifestyle that supports reducing the risk of health problems, especially those caused by overweight and obesity [4]. The most logical reason for this condition is that it was found in other studies that PE teachers were still in an overweight BMI state [5].

The variable that needs to be examined in relation to body proportion management is health literacy. From many existing studies, Health literacy has been shown to have an impact on business optimization in managing obesity and BMI status [6]. In addition, health literacy becomes the dominant characteristic of weight status, therefore, school planning for health education should emphasize on the ability of the child's capacity to obtain, process and understand basic health information [7]. If students need health literacy, then teachers should have good health literacy, so they can teach students. In addition, knowledge about nutrition also needs to be studied considering that nutrient intake plays a core role in determining a person's weight status. For this reason, health literacy must be complemented by nutritional knowledge.

Healthy lifestyle, weight status, health literacy, and nutritional knowledge by PE teachers are important to study to analyze how school health education is implemented. The implementation of school health education programs is believed to be carried out collaboratively with other parties. Considering the objectives of school health education in various countries, the implementation of health education in schools is important to be optimized. However, other research results explain that there has been no discussion about the use of a social critical approach to the implementation of health education in schools [2]. A socially critical approach should be implemented through collaboration between relevant parties in optimizing the role of school health education.

Based on the explanation above, the purpose of this study is to identify the application of school health education through PE subjects. Identification is carried out based on a healthy lifestyle, weight status, health literacy, and nutritional knowledge by PE teachers.

2 Method

The research used was a *cross sectional study* [8]. The study subjects were 16 primary school PE teachers (m = 15, f = 1, age = 30–47 years). The selection of subjects is carried out by *accidental sampling* when the PE teachers who fill out the questionnaire participate in teacher certification activities in the position.

Data collection is carried out to reveal 5 things, namely: (1) health related lifestyle; (2) health literacy; (3) BMI; (4) knowledge of nutrition; and (5) implementation of school health education programs. Health related lifestyle is measured using closed questions that ask about: smoking habits, regular checkups, and physical activity [9]. Health literacy was measured using the eHealth Literacy Scales (eHEALS) questionnaire with internally consistent ($\alpha = 0.94$) and stable ($t[244] = -1.48, p = 0.140$), EVA yielded a single factor structure explaining 67.3% of the variance [10]. BMI is calculated based on the teacher's height and weight [11], data obtained from self-report [12]. Knowledge of nutrition is adopted from the parental knowledge about health and obesity measurements that ask about diet, portions of food, obesity and obesity, health risks due to obesity, and the environment [12]. Meanwhile, the implementation of school health education is revealed through 4 open questions about: obstacles faced by teachers and collaborative efforts of teachers and/or schools with other agencies.

Quantitative data analysis from closed questionnaires using descriptive statistics and percentages. As for the data obtained from the open question questionnaire, it will be analyzed using qualitative techniques.

3 Result and Discussion

The results of the study are presented into five sub-chapters, namely: (1) health related lifestyle; (2) health literacy; (3) BMI; (4) knowledge of nutrition; and (5) the implementation of school health education programs.

4 Health Related Lifestyle

Health related lifestyle is defined as the lifestyle of PE teachers who support health degrees, namely: smoking habits, regular checkups, and physical activities. The results of the measurements made can be described in Table 1.

Based on Table 1, it can be explained that as many as 75% of PE teachers do not smoke, and 25% smoke. The habit of smoking for PE teachers is very ugly. As a subject that teaches about healthy living habits, PE teachers should not behave unhealthy. These findings are reinforced by the results of another study that alcohol addict teachers will lose their credibility and PE teachers who are seen smoking are not entitled to talk about health in front of students [13].

As many as 37.5% of PE teachers never have a health checkup, 56.3% perform a random health checkup (indeterminately), and as many as 6.2% of PE teachers perform regular health checkups once a year. Regular checkups are important to provide early warning of serious health problems [14].

Table 1. Health related lifestyle

Variables	Category	%
Smoking habits	Yes	25.0
	Not	75.0
Regular checkup	Never	37.5
	Indeterminate	56.3
	once a year	6.2
PA frequency/week	1–2	31.2
	3–4	37.6
	5–7	31.2
PA Duration/Week	0–140m	25.0
	140m and above	75.0
Intensity	Light	62.4
	Fair	18.8
	Heavy	18.8

Meanwhile, data on the level of physical activity of teachers, it can be explained that as many as 31.2% of PE teachers do physical activities only 1–2 times a week, 37.6% do physical activity 3–4 times a week, and as many as 31.2% of PE teachers do physical activity 5–7 times a week. Unfortunately, few teachers have fulfilled physical activity in accordance with WHO recommendations, that is, physical activity in a week is 5–7 times [15].

4.1 Health Literacy

The health literacy of PE teachers shows the level of understanding and proficiency of PE teachers in preventing health problems. The results of measuring the health literacy of PE teachers can be seen in Fig. 1 as follows.

Health literacy measurements showed that the average was 25.5, the standard deviation was 6066, the skewness was -1876, the kurtosis was 3282, the lowest value was 10 and the highest was 32. Based on the formed graph a small part (12.5%) of the data is below the value of 25, the remaining 87.5% is in the average area upwards. This means that the health literacy level of PE teachers belongs to the upper group.

4.2 BMI

The BMI shows the proportions of the pe teacher's body shape based on the comparison of body weight and height squared. The measurement results can be seen in Fig. 2.

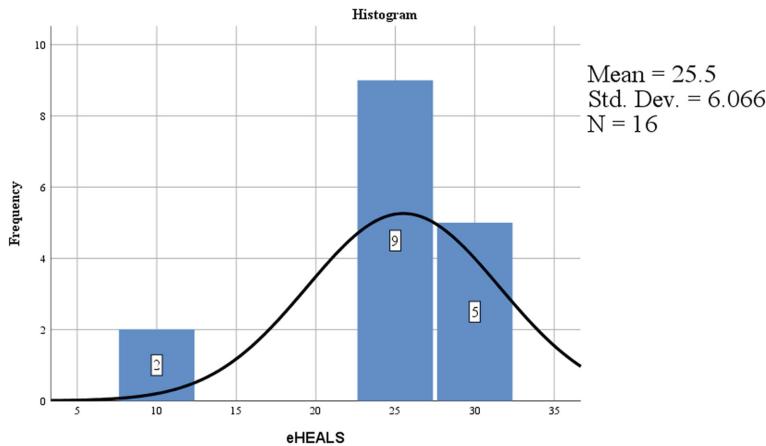


Fig. 1. Level of health literacy

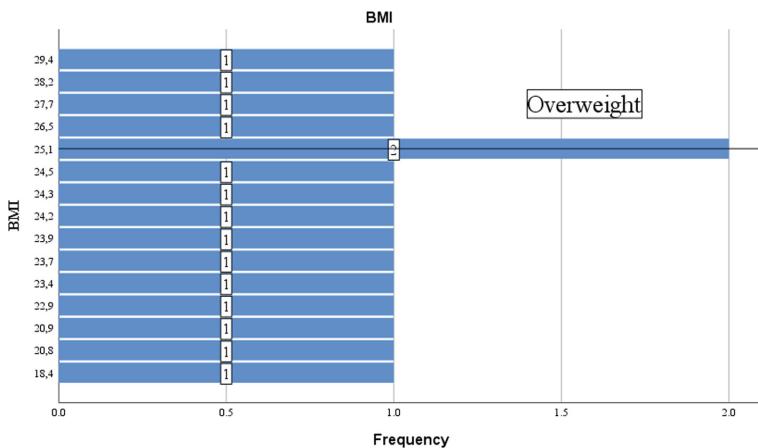


Fig. 2. BMI of PE Teacher

Based on the BMI ratio, most PE teachers (as many as 68.7%) have normal body proportions, while a small percentage (as many as 31.3%) have overweight body proportions. Categories are determined based on the WHO which states that $BMI > 25$ is overweight [16].

4.3 Knowledge of Nutrition

Knowledge of nutrition is described in the results in Table 2 as follows.

PE teachers' knowledge of nutrition is expressed through their perception of a healthy diet. Most teachers give the answer of eating a good diet, which is balanced, and that may be edible is the definition of a healthy diet. The rest give the answer that a healthy diet is to eat low-fat foods, avoid fast food, eat a lot of fruits and vegetables, and eat natural

Table 2. Knowledge of Nutrition

	%
Definition of a healthy diet	
“Eating sensibly,” “Eating a balanced diet,” “Eating good foods.”	43.8
Eating more fruits and vegetables.	25.0
Limiting high-fat foods and fast food.	25.0
Eating natural or unprocessed foods.	6.2
Portion size of meals for a child	%
Don’t know.	31.3
As much as child will eat.	6.3
Spoons or measuring cups	31.3
Size of child’s fist/palm.	18.8
Food labels/portion size charts.	12.5
The difference between overweight and obese?	%
Obese is more than overweight.	37.5
Obese has health risks, overweight does not.	12.5
Based on body mass index.	50
Some health risks associated with childhood obesity	%
Diabetes.	14.3
Heart disease.	50
Hypertension.	7.1
Respiratory problems.	14.3
Elevated cholesterol.	14.3
The impact of childhood obesity on the general public	%
Financial (healthcare costs, taxes, insurance premiums).	6.3
Don’t know.	25
Loss of productivity.	62.5
No societal burden.	6.3

foods. The results of this study are in accordance with the explanation of a healthy diet from various sources that mention that a healthy diet can be done by regulating the type of food and the size of food that enters the body and is not just expensive food [17], eating a lot of vegetables and fruits [18]. That is, the teacher has been able to define a healthy diet well. So that PE teachers have sufficient knowledge in preventing the occurrence of wrong diets in children. Wrong diet in children has a risk of chronic diseases, including cancer, heart disease and diabetes [19].

The second nutritional knowledge is related to the portion size of the child’s meal. PE teachers need this knowledge because they need to provide education to students so that they consume food according to the right size. Unfortunately, few PE teachers

have sufficient knowledge in determining the size of students' meals (12.5% = food labels/portion size chart). This condition is very worrying because teachers will provide less and less education related to nutrient intake. Teachers should be able to regulate nutrient intake through lunch habits in schools that are proven to be able to regulate optimal nutrient intake [20]. Such school efforts are expected to provide improvements to children's eating habits which are currently heavily influenced by the destruction of parenting quality due to smartphones [21].

The knowledge of overweight and obesity possessed by PE teachers has been qualified. It's just that there are still teachers who think that overweight does not pose a health risk to children (12.5%). Whereas obviously, many studies have proven that overweight and obesity clearly pose a risk to health [22]. For this reason, it is not uncommon for developed countries to have formulated policies in regulating the diet of their people so that they can have a healthy diet. Policies related to a healthy diet have been shown to reduce health risks due to overweight and obesity [23].

Based on the perception of PE teachers, obesity gives rise to various diseases. The order of health risks due to obesity from the most is heart disease (50%), diabetes (14.3%), respiratory problems (14.3%), elevated cholesterol (14.3%), hypertension (7.1%). These findings are consistent with the results of other studies that obesity will provide a risk of health disorders [23].

The impact of obesity on children, furthermore, is believed by PE teachers to be the cause of the loss of productivity (62.5%). Analyzed based on physical activity, BMI was significantly correlated to physical activity [25]. These findings clearly reinforce the notion that the problem of obese children in losing weight is the lack of physical activity. Meanwhile, those who are obese have less capable movement skills so they become reluctant to move.

4.4 Implementation of School Health Education Programs

The application of school health education by PE teachers is explained based on the results of research from open questions. The research data were analyzed using qualitative techniques with the results in Table 3 as follows.

Based on the findings of the researchers, Table 3 shows that teachers have obstacles to measuring instruments and monitoring student growth and development, especially in diet and physical activity outside of school. To deal with the problem, teachers have partnered with Public health center, the Food and Drug Administration, Coaches, Parents, Teachers of other subjects, nutritionists. As a result of this collaboration, it was found that the school education program had a health report card, vaccines, immunizations, periodic monitoring, and learning materials about nutrition from nutritionists. The involvement of parents in monitoring student growth and development seems to have an impact on the implementation of school health education can be carried out optimally. Because parents can provide authentic data from diet, physical activity, and even things that teachers in schools can't know.

Table 3. Application of School Health Education

Focus of the question	PE Teacher Answers
Obstacles	No measuring instruments, Student attitudes, Children's diet, Monitoring, Teacher awareness, Family dietary habits, The number of students is large, Actual information.
Collaboration partners	Public health center, Food and Drug Administration, Coaches, Parents, Teachers of other subjects, nutritionists
Forms of collaboration	Public health center: Regular monitoring, nutritional status screening, immunization, and vaccines. Food and Drug Administration: snacks that are distributed in schools are safe for students to consume Nutritionist: nutrition consultation and providing learning for nutrition materials Parents: involvement in monitoring student growth outside of school
Collaboration Results	Public health center: health report card, BMI Food and Drug Supervisory Agency: safety of snacks circulating in schools Nutritionists: learning about nutrition Parents: collaboration between schools and parents in maintaining student growth and development

5 Conclusion

PE is a course that promotes a healthy lifestyle through the learning process and school health education programs. Based on the results of the study, this goal must be really confirmed to be achievable because there are still PE teachers who smoke, have low physical activity, and have BMI which is included in overweight and obesity. An encouraging finding is that the level of teacher health literacy is classified as high in the group. In addition, guru PE has been able to define the notion of a healthy diet. A healthy diet can be taught to students so that they can avoid the risk of health problems due to overweight and obesity. The obstacles for PE teachers in monitoring student growth and development are the absence of measuring instruments, monitoring tools outside the school, the lifestyle of the student's family that the teacher cannot know, let alone be controlled by the teacher.

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