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LEVEL OF KNOWLEDGE, ATTITUDES AND ITS EFFECT TOWARDS HEALTHY LIFESTYLE PRACTICES AMONG PRIMARY SCHOOL STUDENTS

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Abstract

This study aimed to assess the levels of knowledge, attitudes, and healthy lifestyle practices among primary school students in East Lombok, Indonesia, and to examine the effects and correlations between these dimensions. The research sought to determine whether knowledge and attitudes significantly influence healthy lifestyle practices and to identify areas for intervention to improve health outcomes in this population. A quantitative survey design was employed, with data collected from 148 primary school students selected through random sampling. The research instrument, adapted from KIP-Questionaire, measured knowledge, attitudes, and healthy lifestyle practices. Descriptive and inferential statistical analyses, including linear regression and Pearson correlation, were conducted to evaluate the relationships between these variables. The results revealed moderate levels of knowledge, attitudes, and healthy lifestyle practices among students, with only 11.5–14.9% categorized as "high." Regression analysis showed that knowledge and attitudes collectively explained 23.2% of the variance in healthy practices, indicating a significant but modest influence. Correlation analysis demonstrated moderate positive relationships between knowledge, attitudes, and practices, with knowledge showing a slightly stronger correlation with practices ($r = 0.514$) than attitudes ($r = 0.445$). The findings highlight the need for integrated health education programs that address both knowledge gaps and attitudinal barriers while considering socio-environmental factors. Schools and policymakers should prioritize interventions that foster health literacy, positive attitudes, and supportive environments to promote sustainable healthy lifestyle practices among primary school students.

Keywords: Knowledge, Attitudes, Primary School, Healthy Life Style.

1. Introduction

A healthy lifestyle is a problem that is increasingly found in developing countries, including Indonesia, even though starting in 1996 the launch of a program entitled "Healthy Lifestyle Behavior" is encouraged in the education environment, workplaces, public places and sanitation facilities, all of which reflect the

commitment Indonesia in preventing diseases, especially children's health problems, is emphasized in Law No. 36 of 2009 Article 79 about School Health. Next President's Order No. 1 of 2017 regarding the Healthy Society Movement and Presidential Regulation No. 83 of 2017 regarding the Nutrition and Nutrition Strategy Policy. But in reality, Indonesia accounts for almost three out of four deaths with a drastic increase in bad eating patterns (Rozaki, 2021) in line with a survey report from Kementerian Kesehatan Republik Indonesia, (2018) that healthy lifestyle behaviour in the district still low, especially in schools, schools that implement only 35% while the achievement should be 70% in 2018, the average student has not practised a healthy lifestyle at school. Some surveys and research also show poor child health, such as in Indonesia still facing the problem of diseases caused by the environment and behavior. The United Nations International Children's Emergency Fund presents health problems through a survey report that one in three children suffers from slow growth, also presents problems of overweight and obesity similar to gender for all age groups, with differences that are more visible in the advantages weight of school children (boys 10.7%, girls 7.7%). There are also some modest variations depending on the place of residence, for example living in an urban area or living in a village, with comparisons of overweight and obesity being higher in cities than in villages for all age groups.

Promotion of healthy lifestyle habits at the childhood level is crucial in ensuring both physical and mental health across the lifespan (Kelly et al., 2016; Laddu et al., 2021), especially in the wake of increasing global issues of child obesity, malnutrition, and non-communicable diseases (NCDs) (Agostoni et al., 2023). Schools play a significant role in developing habits related to health (Storey et al., 2016); however, disparities in health literacy and behavior exist, predominantly among underprivileged groups . This research takes into account elementary school students in rural East Lombok, Indonesia, in which socio-economic and socio-cultural forces could have a distinct impact on health. By an examination of the inter-play among knowledge, attitudes, and health-promoting behaviors, this research aims to fill a void in understanding cognitive and affective factors' role in influencing behavioral outcomes in learning contexts constrained by resource limitations.

Theoretical frameworks, as exemplified in Bandura's Social Cognitive Theory (A. J. Bandura et al., 1977), emphasize the bidirectional interaction between personal characteristics, the environment, and behavior. Likewise, the Theory of Planned Behavior (Ajzen, 1991) highlights attitudes and perceived control as significant predictors of health behaviors. In Indonesia, cultural norm heterogeneity and differential access to resources suggest that contextual influences, including household practices and community infrastructure, have significant but understated effects on health behaviour.

1.1 Hypothesis
1. The level of knowledge, attitudes, and healthy lifestyle of the student categorise high.
2. There is a significant effect on the Level of Knowledge and attitude towards Healthy Lifestyle.
3. There is a positive and significant correlation towards Knowledge, Attitudes and Healthy Lifestyle among Primary School Students.

2. Methodology

In order to ascertain the level of knowledge, attitudes and healthy lifestyle practices of primary school students in the District of East Lombok, Indonesia, a quantitative research approach was adopted in the form of a survey. The survey was conducted on 148 samples from 232 populations (see Table 1). The number of samples was determined based on the table (Krejcie & Morgan, 1970), which was selected through random sampling.

Table 1. Data of Year 5 Primary School Students in East Lombok District

No	Village Place	School	M	F	Number of Students
1.	Kembang Sari	SD Islam Terpadu Nurul Fikri Selong	58	48	106
2.	Rakam	SDN 2 Rakam	19	28	47
3.	Pancor	SDN 3 Pancor	39	40	79
		Total Amount	116	116	232

Note: "M" is Male; "F" is Female

Source: DIKBUD East Lombok, West Nusa Tenggara (2023)

2.1 Measurement

The research instrument used in this study was adapted from the instrument of (Moitra et al., 2021), related to knowledge, attitudes and practices towards healthy eating patterns and activities among school students. The instrument developed is described in the constructs described in Table 2.

Table 2. The Instruments

Dimensions	Construct
Knowledge	Food groups and nutrients
	Eating habits
	NCDs
	Activity Pattern
Attitude	Perceived susceptibility and severity
	Perceived benefits
	Perceived barriers
	Readiness to change and self-efficacy
Healthy Lifestyle Practices	Personal Habits
	Family Influence
	Healthy vs. Unhealthy Choices
	Physical Activity

This instrument has been tested for validity with an i-CVI value of 0.8 and a reliability of 0.79, which is categorized as high.

2.2 Data analysis

Data analysis was conducted descriptively and inferentially, descriptive analysis showed the demographic distribution and Level of Knowledge, Attitudes and Healthy Lifestyle of each student. Then to determine the effect of Knowledge and Attitudes on the Healthy Lifestyle of each student, linear regressions and Pearson correlation analysis were conducted to determine the correlation between each dimension tested, this inference test was carried out by testing multivariate normality using Shapiro Wilk with the results (0.992; P=0.730).

3. Result

3.1 Student's Level of Knowledge, Attitudes, and Healthy Lifestyle Practice

Table 1 revealed that primary school students in East Lombok, Indonesia, generally exhibit moderate levels of knowledge, attitudes, and healthy lifestyle practices. The mean scores for knowledge (2.956), attitudes (2.921), and practices (2.926) on a scale up to 4.75 indicate that while students have a foundational understanding of healthy lifestyle concepts, there is significant room for improvement. The distribution of scores showed moderate variability, with most students clustering around the mean.

Table 3. Descriptive analysis of student Knowledge, Attitudes and Healthy Lifestyle Practice

	Knowledge_Score	Attitude_Score	Practice_Score
Valid	148	148	148
Missing	0	0	0
Mean	2.956	2.921	2.926
Std. Deviation	0.627	0.580	0.581
Skewness	-0.058	0.128	0.094
Std. Error of Skewness	0.199	0.199	0.199
Kurtosis	-0.247	-0.070	-0.160
Std. Error of Kurtosis	0.396	0.396	0.396
Minimum	1.250	1.500	1.500
Maximum	4.250	4.750	4.500

When Table 3 was categorized, the majority of students fell into the moderate category across all dimensions: 66.9% for knowledge, 71.6% for attitudes, and 71.6% for healthy lifestyle practices. Only a small percentage of students were classified as having high levels in these areas (14.9% for knowledge, 11.5% for attitudes, and 12.8% for practices). These findings suggest that while students are not entirely lacking in knowledge or positive attitudes, there is a clear need for targeted interventions to elevate their understanding and behaviours toward healthier lifestyles.

Table 4. Level of Knowledge, Attitudes and Healthy Lifestyle Practice

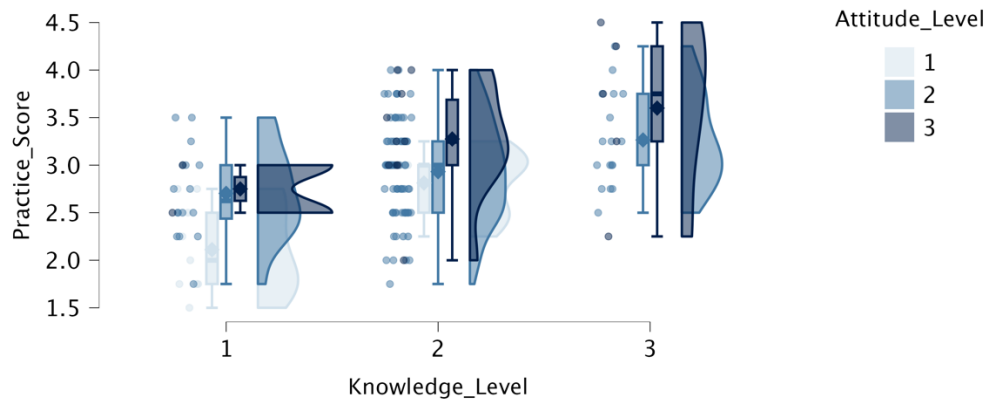|	low	%	moderate	%	high	%
Knowledge	27	18,2	99	66,9	22	14,9
Attitude	25	16,9	106	71,6	17	11,5
Healthy Lifestyle Practice	23	15,5	106	71,6	19	12,8

Figure 1. Raincloud Plots of data distribution of students's Level of Knowledge, Attitudes towards Healthy Lifestyle Practices

3.2 Level of Knowledge, Attitudes and Its Effect Towards Healthy Lifestyle Practices

The study found that knowledge and attitudes significantly influence healthy lifestyle practices among primary school students. Regression analysis showed that Model M_1, which included knowledge and attitudes, explained 23.2% of the variance in healthy lifestyle practices ($R^2 = 0.232$), with an adjusted R^2 of 0.211. This indicates a modest but statistically significant predictive power.

Table 5. Model Summary Practice Score

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	0.581
M_1	0.482	0.232	0.211	0.516

Note. M_1 includes Knowledge_Level, Attitude_Level

The ANOVA results further confirmed the model's significance ($F = 10.822$, $p < .001$), supporting the hypothesis that knowledge and attitudes have a meaningful impact on healthy practices. The reduction in RMSE from 0.581 (null model) to 0.516 (M_1) also demonstrated an improved fit. However, the fact that 77% of the variance remains unexplained suggests that other factors, such as environmental, socioeconomic, or cultural influences, may also play a significant role in shaping students' healthy lifestyle practices. These findings highlight the importance of addressing knowledge and attitudes in health promotion programs while also considering additional factors that may influence behaviour.

Table 6. Two Way ANOVA analysis of Student's Level of Knowledge, Attitudes effect towards Healthy Lifestyle Practices

Model		Sum of Squares	df	Mean Square	F	p
M_1	Regression	11.545	4	2.886	10.822	< .001
	Residual	38.138	143	0.267		
	Total	49.682	147			

Note. M_1 includes Knowledge_Level, Attitude_Level

Note. The intercept model is omitted, as no meaningful information can be shown.

3.3 Correlation of Knowledge, Attitudes and Healthy Lifestyle

The correlation analysis revealed moderate positive relationships between knowledge, attitudes, and healthy lifestyle practices. Knowledge showed a slightly stronger correlation with practices ($r = 0.514, p < .001$) compared to attitudes ($r = 0.445, p < .001$), suggesting that increasing students' knowledge may have a more direct impact on their health behaviors. Additionally, there was a moderate association between knowledge and attitudes ($r = 0.433, p < .001$), indicating that these two dimensions are interrelated. This suggests that improving one dimension may positively influence the other, reinforcing the importance of integrated approaches in health education. These findings support the hypothesis that there is a positive and significant correlation between knowledge, attitudes, and healthy lifestyle practices. They also underscore the need for health promotion programs that simultaneously address knowledge gaps and foster positive attitudes toward healthy living, as both dimensions are closely linked to students' health behaviors.

Table 7. Correlations analysis of Knowledge, Attitudes and Healthy Lifestyle

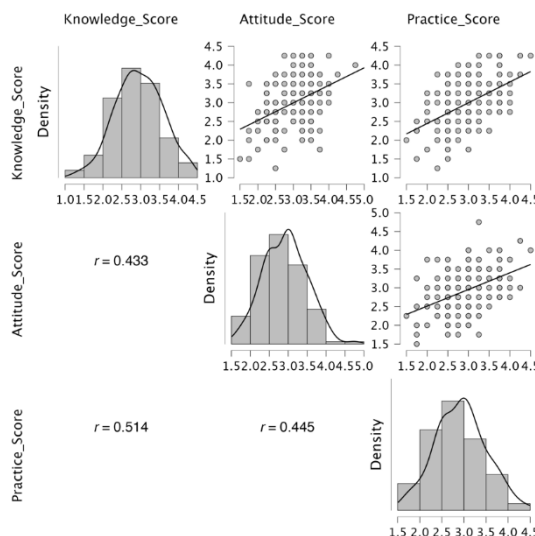| Variable		Knowledge_Score	Attitude_Score	Practice_Score
1. Knowledge_Score	Pearson's r	—		
	p-value	—		
2. Attitude_Score	Pearson's r	0.433	—	
	p-value	< .001	—	
3. Practice_Score	Pearson's r	0.514	0.445	—
	p-value	< .001	< .001	—

Figure 2. Correlations Analysis of Knowledge, Attitudes and Healthy Lifestyle

4. Discussion

The findings reveal that primary school students in East Lombok exhibit moderate levels of knowledge, attitudes, and healthy lifestyle practices, with only 11.5–14.9% categorized as "high." This aligns with social cognitive theory, which posits that personal factors (e.g., knowledge, and attitudes) interact with environmental influences to shape behavior (Usher & Schunk, 2017). The predominance of moderate

scores suggests foundational awareness of health concepts but insufficient internalization to drive consistent healthy practices. Similar patterns have been observed in studies by (Best et al., 2010; Saavedra & Prentice, 2023), where school-aged children often demonstrate partial understanding of nutrition and physical activity despite curricular exposure. The moderate variability in scores further implies that socio-environmental factors (Darfour-Oduro et al., 2020; Malczyk et al., 2024), such as family habits or community resources (Mahmood et al., 2021; Nix et al., 2021), may limit the translation of knowledge into sustained behaviors. These results underscore the need for targeted educational interventions to bridge gaps in health literacy and reinforce positive attitudes.

Furthermore, Regression analysis demonstrated that knowledge and attitudes collectively account for 23.2% of the variance in healthy lifestyle practices, highlighting their significant yet limited influence. This resonates with the theory of planned behavior (Ajzen, 1991), wherein attitudes and perceived behavioral control predict intentions but not fully actual behavior (Bosnjak et al., 2020; Kiriakidis, 2017). The modest R^2 value suggests additional variables—such as socioeconomic constraints, cultural norms, or school policies—play critical roles in shaping health practices. For instance, prior research in rural Indonesian communities identified limited access to nutritious food and safe recreational spaces as barriers to healthy lifestyles (Hanifah et al., 2023; Rahayu et al., 2024). Thus, while enhancing knowledge and attitudes is vital, holistic programs addressing structural inequities are equally necessary to amplify their impact.

Then the findings also explain that the stronger relationship between knowledge and practices ($r = 0.514$) versus attitudes and practices ($r = 0.445$) favors the information-motivation-behavioral skills (IMB) model in emphasizing knowledge as a prime driver of behaviour (Prakot et al., 2024; Sharma, 2012). The relationship between attitudes and knowledge ($r = 0.433$) also indicates that health education programs encouraging correct health information can simultaneously promote positive attitudes, as demonstrated in Bandura's theory of self-efficacy (A. Bandura, 1977, 1997; Lane et al., 2004). For example, students who understand the benefits of balanced diets may develop greater confidence in making healthy choices. These findings are in accordance with the research Kigaru et al. (2015) where children who have moderate nutritional knowledge and poor dietary practices are associated with negative dietary attitudes.

Generalizing these insights, the study underscores the interconnectedness of cognitive, affective, and behavioral domains in health education. Educational frameworks must adopt integrated strategies that not only disseminate knowledge but also nurture attitudes through experiential learning and community engagement. Additionally, aligning with ecological systems theory, interventions should address micro- (e.g., family habits) and macro-level (e.g., policy support) factors to sustain behavioral change. Future research should explore longitudinal designs to assess how evolving knowledge and attitudes interact with environmental shifts over time, ensuring health promotion programs remain responsive to the dynamic needs of primary school students.

5. Conclusion

This study highlights the necessity to target knowledge, attitudes, and healthy lifestyle habits as a package to enhance school children's health. The level of knowledge and attitudes seen on average suggests that

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students have basic awareness, yet there is tremendous potential for enhancing this knowledge into habitual healthy behaviors. The useful but limited ability of attitudes and knowledge to predict action suggests that we need more than cognition-based individual programs. Such programs should take into account general social and environmental determinants, like the influence of family and community, to affect individuals.

The stronger relationship between actions and knowledge and that between attitudes and actions suggest the influence of health literacy on behavior. However, the interplay between knowledge and attitudes suggests that education campaigns should utilize comprehensive strategies, improving knowledge and promoting positive attitudes at the same time. These results are consistent with educational theories like Social Cognitive Theory and the Theory of Planned Behavior, which stress the importance of personal, behavioral, and environmental determinants of health outcomes.

Therefore, the study provides relevant suggestions for educationalists, policy makers, and health practitioners who desire to create effective health promotion programs. Through the incorporation of cognitive, affective, and contextual strategies, stakeholders can facilitate conducive environments that have the ability to empower students to adopt and sustain healthy lifestyles, hence contributing to improved public health outcomes in East Lombok and beyond.

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