

The Influence of School-Based Participatory Health Communication on Parents' Knowledge and Behavior Regarding the Free Nutritious Meal Program

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ABSTRACT

The Free Nutritious Meal Program (Program Makan Bergizi Gratis/MBG) requires active parental involvement, yet many parents still have limited understanding of balanced nutrition and the program's objectives. This study examines the effect of school-based participatory health communication on parents' knowledge and behavior, contributing empirical evidence to participatory health communication in school nutrition initiatives. The independent variable was school-based participatory health communication, while the dependent variables were parents' knowledge and behavior. Using a quantitative explanatory one-group pretest-posttest design, questionnaires were administered to parents of MBG participants during the intervention period. The results showed significant improvements in parents' knowledge and healthy behaviors, suggesting that participatory health communication effectively strengthens family engagement and supports the sustainability of school nutrition programs.

INTRODUCTION

Nutritional problems among school-age children remain one of the major public health challenges in Indonesia. Despite continuous government efforts to improve children's health status, the prevalence of undernutrition, stunting, and unhealthy eating habits remains relatively high. Data from the 2023 Indonesian Health Survey (SKI) indicate that nutritional imbalances continue to affect children aged 5–12 years, potentially influencing their physical growth, cognitive development, academic achievement, and overall quality of life (Kemenkes, 2023). This phenomenon demonstrates that nutritional interventions should not only focus on food provision but also address the behavioral and social dimensions that shape children's dietary practices.

To respond to these challenges, the Indonesian government introduced the Free Nutritious Meal Program (Program Makan Bergizi Gratis/MBG) as one of its flagship national policies aimed at improving the nutritional status of school-aged children through the provision of healthy meals in educational institutions. In addition to providing nutritious meals, the program is also expected to address nutritional issues among children, reduce the prevalence of stunting, and improve the quality of basic education in Indonesia (Ering et al., 2026). However, the effectiveness of such initiatives cannot be measured solely by meal distribution, since the sustainability of children's nutritional behavior is strongly influenced by parental understanding and support within the family environment (Taguwel et al., 2025).

From a health communication perspective, successful public health interventions require effective communication strategies capable of transforming knowledge into behavioral change (RAYHANIAH, 2022). Health communication functions not merely as a mechanism for disseminating information but also as a participatory process through which individuals and communities actively construct meaning, develop awareness, and adopt healthier behaviors. In the context of school nutrition programs, schools serve as strategic communication channels connecting policymakers, educators, students, and parents. Consequently, involving parents through participatory communication is expected to enhance their understanding of nutritional issues and encourage greater support for healthy practices at home (Unicef Indonesia, 2021).

The implementation of participatory health communication has become increasingly relevant because conventional one-way communication approaches often fail to generate meaningful engagement among target audiences (Widya Lusi Arisona, S.S.T. et al., 2025). Participatory communication emphasizes dialogue, collaboration, and active involvement, allowing parents to share experiences, express concerns, and collectively understand the objectives of health programs. Such an approach is particularly important in the MBG Program because parents remain the primary decision-makers regarding children's daily dietary habits outside the school environment. Without adequate parental involvement, the positive effects achieved through school-based nutrition programs may not be sustained in everyday family practices.

Several previous studies have demonstrated that school-based nutrition education and parental involvement contribute positively to improving nutritional knowledge and healthy eating behaviors. Research has consistently shown that educational interventions delivered through schools can enhance parents' awareness of balanced nutrition and increase their willingness to support healthy lifestyles among children. Likewise, participatory health communication has been recognized as more effective in promoting long-term behavioral change than top-down information dissemination (Ilham Yoga Pratama et al., 2026). Nevertheless, most existing studies primarily focus on students as the principal beneficiaries of nutrition interventions, while empirical investigations examining parents as the primary subjects of behavioral change remain relatively limited, particularly in relation to the implementation of Indonesia's Free Nutritious Meal Program.

This study addresses that research gap by positioning school-based participatory health communication as the principal explanatory variable influencing changes in parents' knowledge and behavior regarding the MBG Program. Unlike previous research that generally treats parents as complementary participants, this study explicitly evaluates the extent to which participatory communication activities conducted through schools affect parental understanding and behavioral support for children's nutritional practices. Therefore, the research contributes to the enrichment of participatory health communication theory by extending its application to national school nutrition policies and by providing empirical evidence on family engagement as an essential component of program effectiveness. Furthermore, the study offers practical implications for policymakers and educational institutions in designing communication strategies that strengthen collaboration between schools and families to achieve sustainable nutritional outcomes.

Based on these considerations, this study aims to analyze the influence of school-based participatory health communication on parents' knowledge and behavior regarding the implementation of the Free Nutritious Meal Program. Through a quantitative approach employing a quasi-experimental design, the research seeks to provide measurable evidence regarding the effectiveness of participatory communication interventions and to contribute to the development of health communication scholarship as well as evidence-based educational policy in Indonesia.

LITERATURE REVIEW

Participatory Health Communication

Health communication is a communication process that is strategically designed to convey health-related information to individuals and groups effectively, so that it can influence decision-making that supports improving the quality of health (Dr. Jean Henry Raule, S.Pd., SKM., 2024). According to Kreps, health communication not only functions as a means of conveying health messages, but also plays a role in increasing health literacy, community participation, and health behavior change (Kreps, 2012).

In the context of school-based nutrition programs, health communication is an important instrument in increasing parents' understanding of children's nutritional needs and the importance of implementing a healthy diet. The school serves as a communication channel that connects the government, educators, students, and parents in supporting the success of public health programs.

Participatory health communication emphasizes the importance of dialogue, collaboration, and active community involvement in the communication process. In contrast to one-way communication, participatory communication provides opportunities for people to exchange experiences, express opinions, and be involved in the decision-making process related to health issues (Rimal & Lapinski, 2009).

Supporting Model: Knowledge-Attitude-Practice (KAP)

The Knowledge-Attitude-Practice (KAP) model explains that behavioral change generally begins with an increase in knowledge, which then affects attitudes and is finally reflected in real actions or practices (Alifia Nur Zaida, Fajar Sodik, 2023). The better a person's knowledge of an issue, the greater the chance of forming a positive attitude that encourages behavior change.

In this study, the KAP model was used to explain the mechanism of change that is expected to occur after the implementation of school-based health communication. Communication programs provided to parents are projected to be able to improve their knowledge, build a more positive attitude towards healthy living behaviors, and encourage the application of appropriate practices in daily life.

Previous research has shown that health communication interventions based on community and school participation in general are able to increase knowledge and encourage change in target behavior. However, some studies have also found that knowledge improvement is not always followed by behavior change if it is not supported by environmental factors, social norms, or access to adequate resources. The difference in findings shows that the effectiveness of health communication is strongly influenced by the context of implementation and the characteristics of the intervention targets.

H1: The implementation of school-based participatory health communication has a positive effect on increasing parents' knowledge about the Free Nutritious Meal Program (MBG).

H2: Increasing parental knowledge has a positive effect on changing parental behavior in support of the Free Nutritious Meal Program (MBG).

H3: School-based participatory health communication has a positive effect on parental behavior change in support of the Free Nutritious Meal Program (MBG).

Conceptual Framework

This study uses a conceptual framework that illustrates that school-based participatory health communication as an intervention variable will increase parents' knowledge about the health issues presented. The increase in knowledge is further expected to encourage changes in parental behavior in implementing better health practices. Thus, the relationship between components in this study can be formulated as follows:

School-based participatory health communication → knowledge change

→ **parental behavior change.**

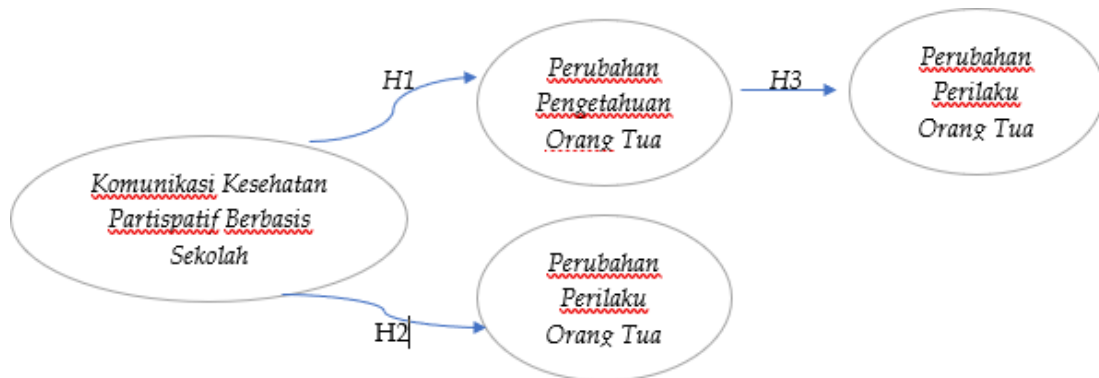
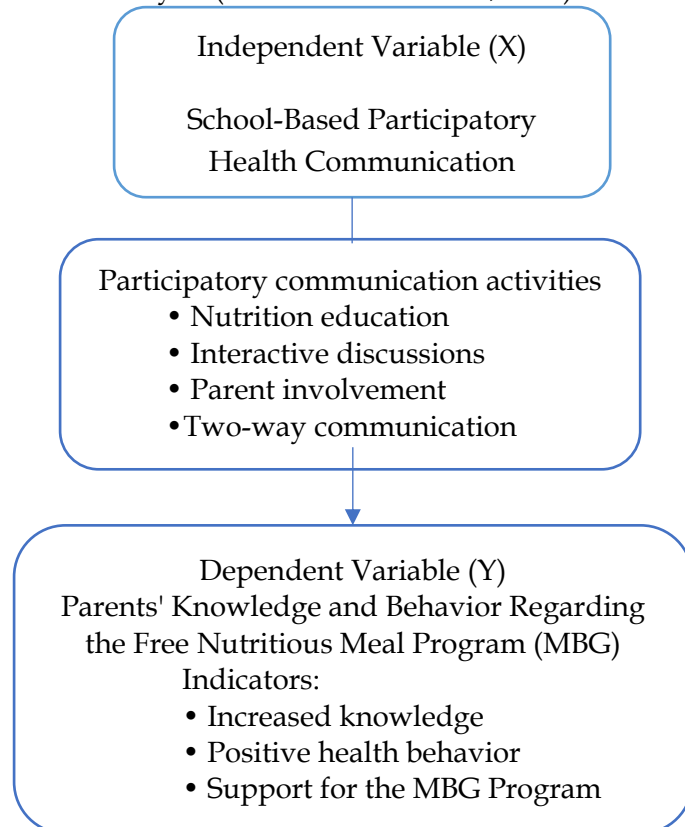


Figure 1. Conceptual Framework
Source: Processed Data, 2025

METHODOLOGY

This study employed a quantitative research method with an explanatory approach to analyze the influence of school-based participatory health communication on changes in parents' knowledge and behavior regarding the Free Nutritious Meal Program (Program Makan Bergizi Gratis/MBG). The quantitative approach was used to examine the relationship between the independent variable (school-based participatory health communication) and the dependent variable (changes in parents' knowledge and behavior) through statistical analysis (Creswell & Creswell, 2023).



The population in this study consisted of parents or guardians of elementary school students participating in the MBG Program. The research sample consisted of 100 respondents selected using a purposive sampling technique. The respondents were selected based on criteria including parents whose children participated in the MBG

Program and parents who were willing to provide information related to the implementation of school-based health communication activities (Etikan & Bala, 2023). The research was conducted at the UPTD of SD Negeri 16 Parepare, UPTD of SD Negeri 57 Parepare, and UPTD of SD Negeri 80 Parepare. The research subjects included one media expert, one material expert, three Islamic Religious Education and Character Education teachers, and all fifth-grade students at the three schools.

Data were collected using a structured questionnaire consisting of two main variables. The independent variable (X) was school-based participatory health communication, measured through 20 statement items, while the dependent variable (Y) was changes in parents' knowledge and behavior regarding the MBG Program, measured through 20 statement items. The questionnaire used a Likert scale to measure respondents' perceptions, understanding, and behavioral responses toward the program. The validity and reliability tests were conducted before hypothesis testing to ensure that the instrument was appropriate for data analysis (Hair et al, 2021).

The reliability test was performed using Cronbach's Alpha analysis. The results showed that the instrument for variable X obtained a Cronbach's Alpha value of 0.963, while variable Y obtained a Cronbach's Alpha value of 0.942. These values exceeded the minimum reliability standard of 0.60, indicating that all questionnaire items had a very high level of internal consistency and were suitable for further analysis.

Data collection was conducted by distributing questionnaires to respondents involved in the MBG Program. The collected data were processed using Statistical Package for the Social Sciences (SPSS) version 26. Data analysis included descriptive analysis to describe respondent characteristics, including gender, education level, occupation, and relationship with students. Inferential analysis was conducted using simple linear regression analysis to determine the effect of school-based participatory health communication on changes in parents' knowledge and behavior (Field, 2022).

The regression analysis was used to determine the direction and magnitude of the relationship between variables. The hypothesis testing was conducted using the t-test to examine the partial influence of variable X on variable Y and the F-test to assess the feasibility of the regression model. The coefficient of determination (R Square) was also analyzed to determine the contribution of school-based participatory health communication in explaining changes in parents' knowledge and behavior.

The research model was evaluated based on a significance level of 0.05. The regression model was considered significant when the significance value was below 0.05. The effectiveness of school-based participatory health communication was determined based on the extent to which it contributed to increasing parents' knowledge and encouraging behavioral changes in supporting the Free Nutritious Meal Program.

RESEARCH RESULT

Respondent Characteristics

Based on the results of the questionnaire distributed to parents of students who participated in the Free Nutritious Eating Program (MBG), the researcher obtained data on the characteristics of the respondents consisting of gender, education level, occupation, and relationship with students as follows.

1. Gender: based on the results of the study, 85 female respondents (84.16%), while male respondents amounted to 16 people (15.84%). This shows that the majority of respondents in this study are mothers or women who play an active role in assisting the education and fulfillment of child nutrition in the family environment.

2. Education level: based on the last level of education, the majority of respondents have a high school education background, which is 45 people (44.55%). Furthermore, respondents with elementary education amounted to 28 people (27.72%), junior high school education as many as 21 people (20.79%), S1 education as many as 7 people (6.93%), while respondents with education above S1 amounted to 1 person (0.99%). These findings show that most respondents have a high level of education.
3. Relationship with students: based on relationships with students, the majority of respondents were mothers, namely 78 people (77.23%). Meanwhile, 13 respondents who were fathers (12.87%), guardians as many as 6 people (5.94%), and respondents who filled in as fathers and mothers as many as 3 people (2.97%). The data indicates that mothers' involvement in school-based health communication activities is more dominant than other family members.

Validity Test

The data obtained from the questionnaire distribution was then tested for validity using Pearson's Product Moment correlation. The instrument is declared valid if the calculated r-value is greater than the r-value of the table at a significance level of 5%. Based on the test results, all items in the school-based participatory health communication variable had a greater r-count value than the r-table so that all statement items were declared valid. Similarly, in the variables of changes in parental knowledge and behavior, all items meet the validity criteria so that they are suitable for use as research instruments.

**Table 1. Variable X
(School-Based Participatory Health Communication)**

Item r count R table ($\alpha = 0.05$) Remarks			
X1	0,712	0,197	Valid
X2	0,685	0,197	Valid
X3	0,754	0,197	Valid
...	...	...	...
X20	0,691	0,197	Valid

Source: Processed Data, 2025

Based on the results of the validity test using Pearson Product Moment correlation, all statement items in the School-Based Participatory Health Communication variable have a calculated r-value greater than the r-value of the table (0.197) at a significance level of 5%, so that all statement items are declared valid and suitable for use as research instruments.

Table 2. Variable Y (Changes in Parental Knowledge and Behavior)

Item r count R table ($\alpha = 0.05$) Remarks			
Y1	0,781	0,197	Valid
Y2	0,734	0,197	Valid

Y3	0,669	0,197	Valid
...	...	...	...
Y20	0,725	0,197	Valid

Source: Processed Data, 2025

Based on the results of the validity test using the **Pearson Product Moment** method, all statement items in the **School-Based Participatory Health Communication variable (X)** and the variable **Changes in Parental Knowledge and Behavior in Supporting the Free Nutritious Eating Program (Y)** had a calculated **r** value greater than the **table r value of 0.197** at a significance level of 5%. Therefore, all statements on both variables are declared **valid** and suitable for use as research instruments because they are able to measure the variables being studied precisely.

Reliability Test

The reliability test was carried out to determine the level of consistency of the research instrument in measuring the variables studied. Reliability testing uses the Cronbach's Alpha method, provided that an instrument is declared reliable if it has a Cronbach's Alpha value greater than 0.60.

**Table 3. Results of Variable X Reality Test
Case Processing Summary**

		N	%
Cases	Valid	100	100.0
	Excluded ^a	0	.0
	Total	100	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.963	20

Source: Processed Data, 2025

The reliability test was carried out to determine the level of consistency of the research instrument in measuring the variables studied. Reliability testing uses the Cronbach's Alpha method, provided that an instrument is declared reliable if it has a Cronbach's Alpha value greater than 0.60.

Based on the results of the reliability test on the school-based participatory health communication variable (Variable X), a **Cronbach's Alpha value of 0.963** was obtained with a total of **20 statements**. This value is far above the minimum required limit, so that all items in variable X are declared **to be very reliable**. In addition, all respondent data totaling **100 people (100%)** can be processed without any data being excluded, thus showing good data quality.

Meanwhile, the results of the reliability test on the variable of parental knowledge and behavior change (Variable Y) obtained a **Cronbach's Alpha**

value of 0.942 with a total of **20 statements**. The value is also well above the minimum limit of 0.60 so that the research instrument is declared **very reliable**. In this test, there was **1 data that was excluded** due to incompleteness of filling, so that the number of data analyzed was 99 **respondents**.

Thus, it can be concluded that the research instruments on both variables have a very high level of internal consistency and are suitable for use in subsequent statistical analysis.

**Table 4. Results of the Y-Variable Reality Test
Case Processing Summary**

		N	%
Cases	Valid	99	99.0
	Excluded a	1	1.0
	Total	100	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
.942	20

Source: Processed Data, 2025

Meanwhile, the results of the reliability test on the variable of parental knowledge and behavior change (Variable Y) obtained a Cronbach's Alpha value of 0.942 with a total of 20 statements. The value is also well above the minimum limit of 0.60 so that the research instrument is declared very reliable. In this test, there was 1 data that was excluded due to incompleteness of filling, so that the number of data analyzed was 99 respondents.

Thus, it can be concluded that the research instruments on both variables have a very high level of internal consistency and are suitable for use in subsequent statistical analysis.

Reliability Test Results of Variable X and Variable Y

Based on the SPSS output results presented, the research instrument for Variable X has a very high level of reliability with a Cronbach's Alpha value of 0.963 for 20 statements. Based on statistical testing criteria, an instrument is declared reliable or consistent if the resulting Cronbach's Alpha value is greater than 0.60. Because the value of the coefficient in Variable X (0.963) far exceeds the minimum limit, all statement items are declared to be very reliable. Through the Case Processing Summary table, this test processes data from 100 respondents in its entirety (100% valid) without any missing data, so that these results have a strong internal consistency basis to be used in the next analysis.

Meanwhile, the test results on Variable Y also showed a very strong level of reliability with the acquisition of Cronbach's Alpha value of 0.942 for 20 statements. The value is well above the standard threshold of 0.60, which indicates that the dependent variable instrument has a very stable consistency. In the Case Processing Summary table, there is 1 data that is categorized as Excluded due to incompleteness (listwise deletion) so that the number of data analyzed is 99 respondents, but this condition does not reduce the validity of the instrument reliability test results. Overall, through the achievement of the high value of Cronbach's Alpha coefficient in both tables, it can be concluded that the Variable X and Variable Y instruments have met the statistical feasibility requirements and can legitimately proceed to the stage of hypothesis testing and linear regression analysis.

Simple Linear Regression Test

A simple linear regression analysis was used to determine the magnitude of the influence of school-based participatory health communication on changes in students' parents' knowledge and behavior in the Free Nutritious Meal (MBG) Program.

Based on the results of data processing using SPSS, a constant value (a) of 35.431 and a regression coefficient value (b) of 0.604 were obtained, so that the regression equation was obtained as follows:

$$Y = 35,431 + 0,604X$$

The equation shows that if the value of school-based participatory health communication is considered constant or zero, then the value of changes in parental knowledge and behavior is at 35.431. Meanwhile, every one unit increase in the school-based participatory health communication variable will increase changes in parental knowledge and behavior by 0.604 units.

The positive value of the regression coefficient shows that the relationship between the two variables is unidirectional, so the better the participatory health communication applied in schools, the higher the change in parents' knowledge and behavior regarding the Free Nutritious Meal Program.

Table 5. Coefficients

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	35.431	5.019		7.059	.000
	TOTALX	.604	.058	.725	10.419	.000

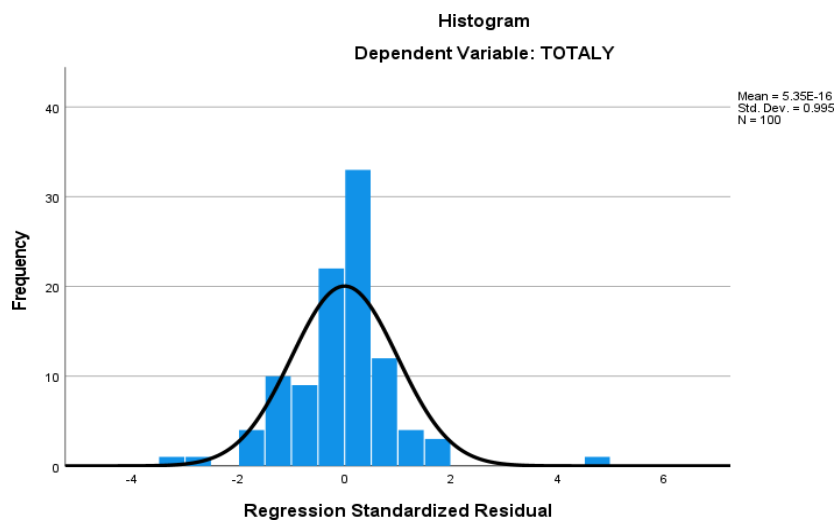
a. Dependent Variable: TOTALY

Source: Processed Data, 2025

Based on the results of the simple linear regression analysis that has been carried out, the hypothesis test in this study is used to determine the direction and magnitude of the influence of Variable X on Variable Y. Through the results

of data processing in the Model Summary table, a determination coefficient value (R Square) of 0.526 was obtained. This value shows that Variable X contributes or influences 52.6% to the variation in changes in Variable Y values, while the remaining percentage of 47.4% is influenced by variables or other factors outside this study model that are not measured. These results were then strengthened by the model feasibility test on the ANOVA table which produced an F-calculated value of 108.563 with a significance number (Sig.) of <0.001. Because the significance value is much smaller than the standard level of 0.05, this regression model is declared to meet the model feasibility requirements (goodness of fit) and has a very significant linear relationship.

Table 6. Histogram Dependent Variabe: Totally



Source: Processed Data, 2025

Furthermore, the form of the linear relationship between the two variables can be described through regression equations obtained from the Unstandardized Coefficients value in the Coefficients table. With a value of constant (a) of 35.431 and a regression coefficient of Variable X (b) of 0.604, a simple linear regression equation is formed, namely $Y = 35.431 + 0.604X$. The constant value means that if Variable X is assumed to be a constant value or zero, then the consistent value of Variable Y is 35.431. Meanwhile, a positive regression coefficient value of 0.604 indicates the direction of a unidirectional relationship, which means that every time there is an increase of one unit of value in Variable X, it will be followed by an increase in the value of Variable Y by 0.604 units in real terms.

To prove the correctness of the proposed hypothesis, the test is partially carried out through the t-test whose data refers to the Coefficients table. The results of statistical testing showed that the t-count value for Variable X was 10.419 with a significance value (Sig.) of <0.001. When compared with the standard significance level, the significance value is shown to be much smaller (Sig. <0.001 < 0.05), and when compared with the t-table value at the significance level of 5% with a degree of freedom $df=98$ of 1.984, the t-value obtained is much larger ($10.419 > 1.984$). Based on a series of comparisons of statistical values, it can

be conclusively concluded that the First Hypothesis (H1) is accepted and the Zero Hypothesis (H0) is rejected, which empirically proves that Variable X has a positive and significant effect on Variable Y in this study.

Coefficient of Determination

The determination coefficient is used to determine the amount of contribution of independent variables to dependent variables. Based on the results of the analysis on the Summary Model, the R Square value was obtained as 0.526. This shows that school-based participatory health communication is able to explain 52.6% of changes in parental knowledge and behavior in the Free Nutritious Eating Program (MBG). The remaining 47.4% was influenced by other factors outside the variables studied in this study.

The magnitude of the determination coefficient value shows that school-based participatory health communication makes a considerable contribution in improving parents' knowledge and behavior towards the implementation of the Free Nutritious Meal Program.

Model Feasibility Test (F Test)

Model feasibility testing is carried out through variance analysis (ANOVA) to determine whether the constructed regression model is feasible for use in the study.

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Say.
1	Regression	9301.579	1	9301.579	108.563	.000b
	Residual	8396.531	98	85.679		
	Total	17698.110	99			

- Dependent Variable: TOTALY
- Predictors: (Constant), TOTALX

The test results showed an F-count value of 108.563 with a significance level of 0.000 or less than 0.05. Thus, the regression model was declared to meet the goodness of fit requirements and is suitable to be used to explain the relationship between school-based participatory health communication and changes in parental knowledge and behavior.

These results indicate that the regression model used has a significant ability to explain the influence of independent variables on dependent variables.

Hypothesis Test (t-Test)

Hypothesis testing was carried out using a partial test (t-test) to determine the significance of the influence of school-based participatory health communication on changes in parental knowledge and behavior.

Based on the results of the analysis, a t-count value of 10.419 with a significance value of 0.000 was obtained. This value is smaller than the significance level of 0.05 and greater than the t-table of 1.984 ($\alpha = 0.05$; $df = 98$).

Since the t-count (10.419) > the t-table (1.984) and the significance value of $0.000 < 0.05$, the Alternative Hypothesis (H₁) is accepted and the Null Hypothesis (H₀) is rejected. Thus, it can be concluded that school-based participatory health

communication has a positive and significant effect on changes in the knowledge and behavior of students' parents in the Free Nutritious Eating Program (MBG).
Correlation Coefficients

Based on a **Standardized Coefficients (Beta) value of 0.725**, the relationship between school-based participatory health communication and changes in parental knowledge and behavior is in the **strong and positive category**. This shows that improving the quality of participatory health communication carried out by schools will be followed by an increase in parental knowledge and behavior in supporting the implementation of the Free Nutritious Meal Program.

DISCUSSION

The results of this study show that school-based participatory health communication has a significant role in increasing knowledge and changing parental behavior in supporting the implementation of the Free Nutritious Eating Program (MBG). The findings indicate that the communication process involving active participation between schools and parents is able to create effective information transfer, thus not only increasing understanding of the importance of fulfilling children's nutrition, but also encouraging more positive behavioral changes in daily life. In other words, health communication carried out through a participatory approach functions as a means of education as well as community empowerment that can strengthen family involvement in supporting the success of school-based health programs.

In this study, it was found that schools have a strategic role as a facilitator of health communication that bridges the delivery of information to parents. Through various activities such as socialization, counseling, group discussions, and interpersonal communication between teachers and parents, the information exchange process takes place in two directions so that it allows for clarification, feedback, and equalization of perceptions regarding the purpose of the Free Nutritious Meal Program. This kind of approach creates a more inclusive and collaborative communication atmosphere than the one-way communication model that only places people as passive recipients of information.

The findings of this study are in line with the results of research by Aydin et al. (2022) who explain that parents and teachers are the two main actors that have a great influence on the formation of eating habits and healthy living behaviors of elementary school-age children (Aydin et al., 2022). Aydin et al. emphasized that *"parents and teachers have a major influence in the formation of primary school children's eating behaviours"*, so that the synergy of communication between the two parties is an important factor in the success of health and nutrition interventions in the educational environment. The statement shows that the success of a health program in schools is determined not only by the quality of the program itself, but also by the effectiveness of communication and collaboration built with families as the primary environment in which children grow and develop.

Based on the perspective of participatory health communication, the results of this study show that the active involvement of parents in the

communication process is able to improve their understanding of the information conveyed by the school. Parents not only gain knowledge about the benefits of balanced nutrition and the goals of the Free Nutritious Meal Program, but also have the opportunity to ask questions, share personal experiences, and discuss various obstacles faced in meeting their children's nutritional needs at home. The dialogical communication process allows for a deeper understanding than the one-sided delivery of information, because each individual can actively participate in building meaning to the message received.

Furthermore, the increase in knowledge gained through participatory health communication is an important foundation in the formation of positive health behaviors. Parents who have adequate knowledge about the importance of nutritional intake and a healthy diet tend to be better able to make the right decisions regarding the fulfillment of children's nutritional needs. In this context, health communication not only functions as a medium for disseminating information, but also as an instrument that increases family health literacy so that they have a better capacity to maintain children's health.

This view is supported by research by Aydin et al. (2022) who stated that collaboration between schools and parents is indispensable to create consistent messages regarding healthy eating (Aydin et al., 2022). According to them, *"if parents and teachers work together to create a consistent approach to improving the diet of children, it could ensure that primary school children do not receive mixed messages"*. This statement shows that the success of changing children's behavior is greatly influenced by the uniformity of information received both at school and at home. If schools and families convey the same message about the importance of consuming nutritious food, it will be easier for children to develop healthy and sustainable eating habits.

From the perspective of health communication theory, the findings of this study reinforce the idea that behavior change is the result of an effective communication process. Delivering information that is clear, easy to understand, and in accordance with the needs of the target can increase an individual's knowledge which ultimately influences his or her attitude and behavior. In this study, it can be seen that parents who obtain education through participatory health communication show a tendency to pay more attention to the quality of food consumed by children, support breakfast habits, choose menus with better nutritional content, and actively participate in various school activities related to health and nutrition.

In addition to functioning as formal educational institutions, schools in this study have also been proven to play a role as public health promotion agents. This role is realized through the implementation of communication oriented towards family empowerment and strengthening collaboration with parents. Through this approach, schools not only transfer knowledge, but also build collective awareness of the importance of health investment from an early age. This condition shows that the success of the Free Nutritious Meal Program requires the involvement of various parties, especially schools and families, who support each other in creating an environment conducive to children's growth and development.

The findings of this study also show that participatory health communication is able to build a *sense of ownership* of the programs carried out. When parents are involved in the communication process and given space to actively participate, they no longer view the Free Nutritious Meal Program as a policy that is only the responsibility of the government or schools, but rather as a joint effort that requires the support of all elements of society. This condition has the potential to increase parental commitment in maintaining the sustainability of healthy behavior in the family environment.

Overall, the results of this study provide evidence that school-based participatory health communication is an effective strategy to improve parental knowledge and behavior in support of the Free Nutritious Meal Program. Communication approaches that prioritize dialogue, collaboration, and active community involvement have been proven to strengthen the health learning process and produce more sustainable behavioral changes. Therefore, the development of participatory communication models needs to be a concern in the implementation of various school-based health programs so that the benefits produced are not only felt by students, but also by families and society more broadly.

Overall, this study provides empirical evidence that school-based participatory health communication has a strategic role in improving parents' knowledge and behavior towards the Free Nutritious Meal Program. These findings strengthen the argument that the success of a public health program is not only determined by the quality of the interventions provided, but also by the effectiveness of the communication process that is able to build understanding, engagement, and community empowerment as a key factor in changing health behaviors.

CONCLUSIONS AND RECOMMENDATIONS

This study concludes that school-based participatory health communication has a positive and significant influence on changes in parents' knowledge and behavior in supporting the implementation of the Free Nutritious Meal Program (Program Makan Bergizi Gratis/MBG). The results of simple linear regression analysis show that the communication health participation variable contributes significantly to changes in parents' knowledge and behavior.

The regression analysis produced a positive regression coefficient, indicating that improvements in the quality of school-based participatory health communication are followed by increases in parents' understanding and supportive behavior toward the MBG Program. The hypothesis testing results confirmed that school-based participatory health communication significantly affects changes in parents' knowledge and behavior.

The coefficient of determination shows that school-based participatory health communication explains 52.6% of the variation in changes in parents' knowledge and behavior, while the remaining 47.4% is influenced by other factors outside this study, such as educational background, family environment, access to health information, socioeconomic conditions, and previous nutritional experiences.

These findings indicate that communication strategies involving dialogue, active participation, and collaboration between schools and parents are effective approaches in increasing health awareness and encouraging parental involvement in school-based nutrition programs.

Based on the findings of this study, schools are recommended to strengthen school-based participatory health communication strategies by implementing continuous nutrition education activities, interactive discussions, and two-way communication forums with parents. This approach can improve parents' understanding and strengthen their role in supporting children's healthy eating habits at home.

For policymakers and program implementers of the Free Nutritious Meal Program, it is recommended to integrate participatory health communication as an important component in program implementation. Effective communication between government, schools, parents, and communities can increase acceptance, participation, and sustainability of the program.

Future researchers are encouraged to expand this study by involving a larger number of respondents from different regions and using longitudinal research designs to examine long-term changes in parental knowledge and behavior. Further studies may also consider other factors influencing the success of school nutrition programs, including family characteristics, socioeconomic factors, and the availability of nutrition information.

ADVANCED RESEARCH

This study has several limitations that should be considered in interpreting the findings. First, this research was conducted using a quantitative approach with a cross-sectional design, so the data obtained describe the relationship between school-based participatory health communication and changes in parents' knowledge and behavior within the scope of the research period. The study has not yet explored long-term behavioral changes among parents after the implementation of the Free Nutritious Meal Program (MBG).

Second, this study involved respondents from a limited number of schools, which may affect the generalizability of the findings to a broader population. Future studies are recommended to involve a larger number of respondents from various regions and different school characteristics to obtain more comprehensive results.

Third, the measurement of parents' knowledge and behavior was conducted using self-reported questionnaires, which may be influenced by respondents' perceptions and social desirability bias. Further research may combine quantitative methods with qualitative approaches, such as interviews or observations, to obtain deeper information regarding parental experiences and participation in school-based nutrition programs.

Future research is also suggested to examine other factors that may influence the success of the MBG Program, such as socioeconomic conditions, access to health information, family eating patterns, school support systems, and the role of health workers. A longitudinal research design may also be applied to evaluate the sustainability of changes in parents' knowledge and behavior after participating in participatory health communication activities.

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