

## Effectiveness of an Informative Website on Behavioral Determinants of Community-Based Total Sanitation for Stunting Prevention: A True Experiment

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ARTICLE INFO	ABSTRACT
<p>Manuscript Received: 06 Dec, 2025            Revised: 08 Mar, 2026            Accepted: 13 Apr, 2026            Date of Publication: 06 May, 2026            Volume: 9            Issue: 5            DOI: <a href="https://doi.org/10.56338/mppki.v9i5.9473">10.56338/mppki.v9i5.9473</a></p>	<p><b>Introduction:</b> Stunting is a persistent nutritional problem that impacts children's growth and development, as well as the quality of future human resources. The stunting rate has not yet reached the national target. The informative website, the Libas Stunting Education System (SiEduk), focuses on implementing the five pillars of Community-Based Total Sanitation (STBM) to prevent stunting. This study aims to analyze the effectiveness of the informative website SiEduk Libas Stunting in Bandung Regency.</p> <p><b>Methods:</b> This quantitative research employed a purely experimental research design with a pretest-posttest control group design. The study was conducted from July to December 2025. The research sample consisted of 700 housewives and was taken randomly. Simple Random Sampling based on inclusion and exclusion criteria then divided into experimental group and control group. Data were collected from a questionnaire that had been tested for validity and reliability. Data analysis was performed using an independent t-test. Data came from pre-test and post-test questionnaires. Ethical approval from the ethics committee of Bhakti Kencana University with number 211/09.KEPK/UBK/VII/2025.</p> <p><b>Results:</b> There were significant differences between the intervention and control groups in all variables studied, with a P value &lt;0.001. The knowledge variable showed the highest increase with an average difference of 0.771, followed by perception at 0.371, attitude at 0.314, and motivation at 0.257. These results indicate that digital education through the informative website SiEduk Libas Stunting is effective in increasing the understanding and implementation of Community-Based Total Sanitation.</p> <p><b>Conclusion:</b> Digital-based informative websites like SiEduk Libas Stunting have proven effective in improving the knowledge, attitudes, perceptions, and motivation of housewives to implement the Five Pillars of Community-Based Total Sanitation to prevent stunting. Support from the Health Office and cross-sectoral collaboration are needed to maximize public access to the informative website.</p>
<b>KEYWORDS</b>	
<p>Digital Education;            Informative Website;            Stunting Prevention;            Community-Based Total Sanitation</p>	

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## INTRODUCTION

Stunting remains a chronic nutritional problem that requires serious attention in Indonesia. This condition not only impacts children's growth and development but also impacts the quality of future human resources. Based on the results of the 2024 Indonesian Nutritional Status Survey, the national stunting prevalence reached 19.8%, down from 21.5% in 2023. Despite the decline, this figure is still above the national target of 14% as stated in the 2020–2024 National Medium-Term Development Plan (1). This shows that efforts to improve community nutrition still need to be strengthened, particularly by addressing the various multidimensional causal factors.

Stunting is often associated with malnutrition and low family socioeconomic conditions. Determinants of stunting reduction from non-health sectors (maternal education, poverty alleviation, and agricultural changes) and health sectors (maternal nutritional status, maternal and newborn health care, and access to fertility reduction) (2). However, various studies show that environmental factors also play a significant role in stunting. Children growing up in areas with inadequate sanitation, poor water quality, and inadequate household waste management systems are more susceptible to recurrent infections, such as diarrhea. These conditions can hinder the absorption of nutrients needed for optimal growth. Low implementation of Clean and Healthy Living Behaviors at the household level can exacerbate the situation, as an unclean environment can become a source of disease that endangers children's nutritional status. This phenomenon is in line with research that children who live in communities without access to hygiene, sanitation, and water are at higher risk of stunting (3).

An unhealthy environment not only directly impacts children's health but also has long-term effects, limiting families' ability to maintain a healthy lifestyle. Therefore, stunting prevention efforts should not only focus on providing nutritious food but must also be accompanied by improving environmental conditions and increasing public awareness of the importance of cleanliness, clean water, and proper sanitation. Environmental factors are crucial components that can influence a person's nutritional status and health. The relationship between environmental conditions and stunting can be explained through the mechanism of chronic infections caused by poor sanitation, which leads to impaired nutrient absorption and child growth. Household sanitation is one of the Sustainable Development Goals to reduce stunting, in addition to poverty alleviation, child feeding, and improving women's nutrition (4).

One effective way to focus on the environment is to improve environmental conditions through the Community-Based Total Sanitation (STBM) program. This program aims to change community behavior with five main focuses: avoiding open defecation, washing hands with soap, managing drinking water and food at home, managing household waste, and managing liquid waste from the home. These five aspects are crucial for creating a healthy environment and preventing stunting. Children of mothers who do not wash their hands with soap after defecating are twice as likely to experience malnutrition (5). Malnutrition is a serious condition characterized by imbalanced nutrient intake (either excessive or insufficient), which can lead to health problems. Stunting is a manifestation of undernutrition, resulting in inappropriate height or being too short for one's age. This condition reflects chronic malnutrition that persists over a long period, from infancy to age 2. However, in several areas, including Bandung Regency, communities still face challenges in implementing STBM, primarily due to a lack of knowledge, understanding, interest, and economic factors that hinder active participation. Improved sanitation infrastructure, reduced rates of open defecation, and increased access to maternal health services have contributed to substantial improvements in child growth (6). However, often conditions in society cannot be easily changed, and behavior cannot be changed. Education and economics are challenges that can create complexity in understanding the risk factors associated with stunting (7).

A high level of education does not necessarily equate to a high level of knowledge. However, education often improves parents' understanding of the risk factors for stunting. A good understanding encourages parents to make informed decisions that support nutritional and health status, thus optimal child growth and development. Conversely, low levels of education limit parents' understanding of health information, contributing to suboptimal parenting practices, thus increasing children's vulnerability to stunting. Maternal knowledge and parenting patterns are related to the risk of stunting, so it is necessary to increase maternal knowledge and parenting patterns through health promotion and dissemination of health information to reduce the prevalence of stunting (8).

Advances in science and technology provide new opportunities to strengthen health promotion efforts through the use of digital media. M-learning is more effective than traditional learning, so expanding health education

using mobile devices can address the global health workforce shortage (9). Technology-based innovations can be an effective means of expanding educational reach and increasing public understanding. Smartphones, a product of technological advancement, are now owned by nearly everyone, from urban to rural areas. The high number of smartphone owners indicates easy access to information. This phenomenon can be leveraged to improve public health. Smartphones make access to health information easier and faster. This can encourage community empowerment to pursue independent health care, make better health decisions, and actively participate in public health efforts. Bektas stated that the web-based training program was effective in increasing confidence in the clinical decision-making process (10). Therefore, a health promotion media is needed that prioritizes convenience and speed as a trusted source of health information that can be accessed anytime, anywhere, and by anyone. The information media commonly used are often limited and tend not to be re-accessible. One such initiative is the informative website SiEduk Libas, Stunting becomes a digital-based educational platform designed to provide interactive information about the five pillars of STBM (Integrated Health System), balanced nutrition, and a clean and healthy lifestyle. The informative website SiEduk Libas Stunting is expected to help the public gain relevant knowledge and encourage behavioral changes toward a healthier lifestyle.

Stunting remains a government concern, including in Bandung Regency. Massive health information regarding stunting prevention is needed in the community. Smartphone and Wi-Fi access to villages can be utilized to disseminate stunting prevention information to remote areas. Social media is rapidly evolving alongside advances in science and technology. It can improve health literacy and foster public trust. However, social media also allows users to choose their own content streams, quickly create any content, and share it globally without editorial oversight. This situation raises concerns about anti-health messages, making them vulnerable to skepticism (11). Therefore, a reference media platform that is managed responsibly and can be trusted as a source of compelling health data and information, easily accessible anytime, anywhere, and by anyone.

The informative website SiEduk Libas Stunting can be a source of stunting prevention information for the public to access quickly and easily, particularly information related to Community-Based Total Sanitation, which needs to be improved. The informative website SiEduk Libas Stunting can be used independently by everyone and can also be used in a guided manner by health workers and cadres to increase knowledge and understanding about stunting prevention, especially prevention from environmental factors. Interpersonal communication and media components are important in large-scale health-related communication campaigns (12). This educational approach is based on the Health Belief Model, a behavioral change theory that explains that people will change their thinking and behavior if they are aware of health risks, have a good understanding, and feel capable of taking preventive action. The informative website SiEduk Libas Stunting is expected to increase public understanding and awareness of the importance of stunting prevention by improving environmental conditions.

This website offers a novel digital education system that eliminates the distance and cost constraints that have hindered conventional programs. For the public, this website provides the freedom to independently access health information anytime and anywhere according to their needs. Meanwhile, for health cadres, this platform serves as a highly efficient tool. Health cadres can fulfill their role as agents of change in stunting prevention more practically without the burden of logistics costs or large printing costs. Thus, this website not only facilitates information dissemination but also ensures that the STBM educational message is delivered consistently and sustainably to every family. Based on the description above, researchers are interested in analyzing the effectiveness of the informative website SiEduk Libas Stunting through the implementation of the five pillars of Community-Based Total Sanitation to prevent stunting.

## **METHOD**

### **Research Type**

This quantitative research used a True Experimental Study, a Pretest-Posttest Control Group Design. A true experiment is a research method that uses random sampling (random assignment) divided into experimental and control groups. Limitations on inclusion and exclusion criteria ensure that both groups are equal from the outset and eliminate external confounding factors. This procedure aims to ensure the highest standards for valid and accurate proof of a cause-and-effect relationship between the intervention and the outcomes.

This design was used to compare differences in knowledge, attitudes, perceptions, and motivation between the intervention group and the control group, which received no intervention at all. The intervention in this study was provided through the informative website SiEduk Libas Stunting. The intervention group, or treatment group, is a group of subjects who receive treatment or intervention through the informative website SiEduk Libas Stunting. The control group, or comparison group, is a group of subjects who do not receive any treatment.



Figure 1. SiEduk's Informative Website Eradicates Stunting

### Population and Sample

This research was conducted from July to October 2025. The sample in the study was housewives in Bumiwangi Village, Serangmekar Village, Ciheulang Village, and Summersari Village, Ciparay District, Bandung Regency. The sample calculation used a Power Analysis-based formula for numerical data. Power Analysis is appropriate for experimental research that tests the difference between two independent groups (intervention group and control group). With a significance level ( $\alpha$ ) of 5% and a power of 80%. Power Analysis serves to ensure a sample size large enough to still have an 80% chance of detecting the Effect Size, with a risk of error of  $\alpha$  of 5%. Based on the calculation, the minimum sample size was 350. With a 1:1 ratio, the sample size for the intervention group and the control group was 350 housewives each. So, the total sample in this study was 700 housewives. Inclusion criteria were set for mothers who agreed to participate and lived in Bumiwangi Village, Serangmekar Village, Ciheulang Village, and Summersari Village, Ciparay District, Bandung Regency. The exclusion criteria were housewives living in rented houses. This study used simple random sampling. Housewives, the target population, were classified according to inclusion and exclusion criteria. The inclusion criteria were those who were willing to participate, and the exclusion criteria were those who were not residents of rented housing. Furthermore, eligible housewives were randomly selected and divided into two groups: an experimental group and a control group.

### Research Location

The research was conducted in Bumiwangi Village, Serangmekar Village, Ciheulang Village, and Summersari Village, Ciparay District, Bandung Regency. Bumiwangi and Serangmekar Village are designated as the target villages for stunting reduction in 2024, based on the Bandung Regent's Regulation (13).

### Research Instrumentation

The research instrument was a questionnaire consisting of questions for knowledge and statements for attitudes, perceptions, and motivations. The questionnaire was tested for validity and reliability in Mekarlaksana Village on 35 housewives. The questionnaire was declared valid with  $r_{count} > r_{table}$  (0.3338). Reliability was tested with Cronbach's Alpha obtained 0.880, meaning the questionnaire is very reliable. The credibility of the results was strengthened by conducting a construct validity test through Factor Analysis and reliability on each variable (motivation, attitude, knowledge, and perception) which were all in the very good range ( $>0.70$ ). The results of construct validity showed that the items were grouped consistently on the planned factors. Where each question item was derived from the Health Belief Model or Theory of Planned Behavior to ensure the suitability of the concept and measurement, the questionnaire was developed through an in-depth literature review on stunting and validated by experts (expert judgment) in the field of health promotion to ensure content validity on a Likert Scale of 1-5. To ensure measurement accuracy in a large sample, we conducted internal consistency testing on each dimension of the instrument using primary data ( $N = 700$ ). The results showed that all subscales had Cronbach's Alpha values above the threshold of 0.70, with the highest value in the knowledge aspect ( $\alpha = 0.91$ ). This proves that the questions on the siEduk Libas Stunting website have strong coherence and are able to measure each variable stably and consistently in the field.

**Table 1.** Psychometric Evaluation Results Table of Instruments

Instrument Subscales	Number of Items	Cronbach's Alpha ( $\alpha$ )	Reliability Interpretation
Knowledge	10	0.91	Excellent
Attitude	8	0.84	Good
Motivation	8	0.79	Acceptable
Perception	6	0.82	Good
Total Instruments	32	0.88	Very Reliable

### Data Collection Procedures

Data were collected from completed research questionnaires from both the intervention and control groups. The questionnaires included questions on knowledge, attitude statements, perceptions, and motivation regarding stunting prevention efforts through the informative website SiEduk Libas Stunting. The questionnaires were administered twice: a pre-test and a post-test. The pre-test was administered before the intervention or at the beginning of the study for the control group, and the post-test was administered after the intervention or at the end of the study for the control group.

### Data Analysis

Data analysis began with a normality test to determine the data distribution pattern and determine the cut-off point for each data group. The normality test used the Kolmogorov-Smirnov test,  $p > 0.05$  indicates normally distributed data, while a  $p$  value  $< 0.05$  indicates abnormally distributed data. The results of the normality test showed that the  $p$ -value was above 0.05, so it can be concluded that the data were normally distributed. This finding provides a strong basis that bivariate tests can be carried out using the Independent Samples T-Test in accordance with the provisions of parametric analysis. The research data analysis used the Independent Samples T-Test. This Independent Samples t-test is used to compare the average scores on one outcome variable in two different or unrelated groups of subjects, namely, to see the difference between the intervention group and the control group. The data distribution was proven to be normal, so the cut-off point was determined using the mean or average value as the most representative measure.

### Ethical Approval

Ethical approval from the ethics committee of Bhakti Kencana University with number 211/09.KEPK/UBK/VII/2025.

## RESULTS

The research was conducted in Bumiwangi Village, Serangmekar Village, Ciheulang Village, and Sumpersari Village, Ciparay District, Bandung Regency. Data were collected from 700 housewives, with 350 in the intervention group and 350 in the control group. After data analysis, the following results were obtained:

**Table 2.** Research characteristics

Variable	Intervention Group		Control Group	
	N	%	N	%
<b>Education</b>				
Primary School	20	5.7	0	0
Junior High School	110	31.4	90	25.7
High School	200	57.1	230	65.7
Diploma	0	0	30	8.6
Bachelor's Degree	20	5.7	0	0
Master's Degree	0	0	0	0
Doctorate	0	0	0	0
<b>Occupation</b>				
Civil Servant	0	0	0	0
Laborer	0	0	0	0
Housewife	330	94.3	350	100
Self-Employed	20	5.7	0	0
Private Employment	0	0	0	0
Other	0	0	0	0
<b>Age</b>				
18-29	40	11.4	30	8.6
30-39	140	40	170	48.6
40-49	130	37.1	120	34.3
50-59	20	5.7	3	8.6
60-65	20	5.7	0	0
<b>Income</b>				
Below City Minimum Wage	330	94.3	320	91.4
Meets City Minimum Wage	20	5.7	30	8.6
<b>Total</b>	<b>350</b>	<b>100</b>	<b>350</b>	<b>100</b>

Based on Table 1, the results of the univariate analysis show that in the intervention group, the majority of respondents had a high school education level of 57.1%, and almost all respondents were housewives (94.3%). In terms of age group, respondents were in the 30-39 year age range, which is the productive age group, and all respondents in this group were female (100%). In terms of income, the majority of respondents earned less than IDR 1,000,000 per month (57.1%), which indicates that most of them were in the lower middle economic level.

Meanwhile, in the control group, the characteristics of the respondents showed almost the same pattern. Most respondents had a high school education, with a percentage reaching 65.7%. All respondents in this group were housewives (100%). In terms of age, most respondents were aged 30-39 years (48.6%), which is included in the productive age group. All respondents were female (100%). In terms of income, most respondents earned between Rp1.000.000– Rp3.757.000 (77.1%), indicating that most respondents in the control group were in the middle economic class.

To strengthen internal validity, additional analyses were conducted. Baseline test results showed no significant difference in the initial scores of the two groups before the intervention ( $p > 0.05$ ). This confirmed that both groups started on equal footing. However, to ensure the accuracy of the results, an Analysis of Covariance analysis was conducted with pre-test scores as a covariate. The results confirmed that the intervention through the siEduk

website remained effective. The results continued to show a very significant effect of the siEduk Libas Stunting website on increasing knowledge ( $d=2.46$ ), demonstrating that the effectiveness of this intervention remained consistent even after controlling for baseline variations in participants.

**Table 3.** Distribution of Respondents' Knowledge, Attitudes, Perceptions, and Motivation Before and After the Intervention in the Intervention Group and the Control Group

Variable	Intervention Group				Control Group			
	Pre-Test		Post-test		Pre-Test		Post-test	
	N	%	N	%	N	%	N	%
<b>Knowledge</b>								
Not enough	280	80	20	5.7	310	88.6	290	82.9
Good	70	20	330	94.3	40	11.4	60	17.1
<b>Attitude</b>								
Not Supported	110	31.4	90	25.7	130	37.1	200	57.1
Supported	240	68.6	260	74.3	220	62.9	150	42.9
<b>Perception</b>								
Negative	140	40	90	25.7	210	60	220	62.9
Positive	210	60	260	74.3	140	40	130	37.1
<b>Motivation</b>								
Low	200	57.1	90	25.7	190	54.3	180	51.4
High	150	42.9	260	74.3	160	45.7	170	48.6

Based on the analysis in Table 2, it is known that before the intervention, the majority of respondents in the intervention group had low knowledge, at 80%. However, after the intervention, their knowledge increased to 94.3%. This indicates an increase in respondents' knowledge after the intervention. In the control group, 11.4% of respondents had good knowledge before the study, and after the study, this increased slightly to 17.1%, indicating that even without the intervention, their knowledge level tended to remain the same.

Regarding the attitude variable in the intervention group, 68.6% of respondents had a supportive attitude, which increased to 74.3% after the intervention. This increase indicates a positive change in respondents' attitudes toward the intervention. Meanwhile, in the control group, the level of support decreased from 62.9% to 42.9%, with most respondents having a supportive attitude. This occurred because respondents did not receive additional information during the study.

Positive perceptions indicate a change in the intervention group, with 60% of respondents having a positive perception, increasing to 74.3% after the intervention. This increase indicates that there is a strengthening of positive perceptions regarding the intervention provided. Meanwhile, in the control group, positive perceptions decreased from 40% to 37.1%, indicating that almost all respondents showed a decrease in concern. This occurred due to minimal exposure to health information, which prevented respondents from feeling motivated to improve their perspectives.

The motivation variable in the intervention group experienced a significant increase. Before the intervention, 42.9% of respondents were highly motivated, and after the intervention, this proportion increased to 74.3%, with the majority of respondents highly motivated. This indicates that the intervention was able to increase respondents' enthusiasm for implementing behaviors consistent with the knowledge gained. Meanwhile, in the control group, high motivation was recorded at 45.7%, which increased slightly to 48.7% after the study, with almost all respondents highly motivated. This increase is still small and does not indicate a significant change. This occurs because the control group did not participate in any educational activities during the study.

**Table 4.** Results of Posttest Comparison of Intervention Group and Control Group

Variable	N	F	P-Value	Mean	Std. Deviation	95% CI	Cohen's <i>d</i>	SE
<b>Knowledge</b>								
Intervention	350	104.732	0.000	0.771	0.232	0.725-0.818	2.46	0.24
Control	350				0.377			
<b>Attitude</b>								
Intervention	350	80.944	0.000	0.314	0.438	0.245-0.384	0.66	0.035
Control	350				0.496			
<b>Perception</b>								
Intervention	350	41.576	0.000	0.371	0.438	0.303-0.440	0.80	0.035
Control	350				0.484			
<b>Motivation</b>								
Intervention	350	106.531	0.000	0.257	0.438	0.187-0.327	0.53	0.036
Control	350				0.501			

Based on the results of the Independent T-Test, the p-value for all variables was 0.000 ( $p < 0.05$ ), indicating a significant difference between the two groups. The knowledge variable showed the largest mean difference of 0.771 with a standard error of 0.024, followed by perception with a mean difference of 0.371 with a standard error of 0.035, attitude with a mean difference of 0.314 with a standard error of 0.035, and motivation with a mean difference of 0.257 with a standard error of 0.036.

These test results indicate a significant difference between the intervention and control groups. Education using media such as the informative website SiEduk Libas Stunting indicates a significant positive impact of the website in increasing knowledge, developing better attitudes, strengthening risk awareness, and increasing community motivation for a clean and healthy lifestyle in accordance with the five pillars of STBM. The significant differences in results indicate that the group receiving the intervention had a greater increase in understanding and awareness compared to the control group. Thus, it can be concluded that the use of informative media plays an important role as a means of behavior-based health promotion and is able to encourage positive changes in stunting prevention efforts in Bandung Regency.

Reanalyzing the data using Analysis of Covariance, using pre-test scores as a covariate to adjust for baseline scores and eliminate potential bias, significantly improved the estimation of the intervention effect. The results confirmed the robustness of the Sieduk Libas Stunting website, with effect sizes remaining significant and confidence intervals more precise. We have updated the Results section and supporting tables in the manuscript to reflect this more robust longitudinal approach. The digital intervention through the siEduk Libas Stunting website has indicates a significant positive impact of the website in driving changes in public awareness. A d-value of 0.53 indicates that the motivation of housewives to prevent stunting through Community-Based Total Sanitation in the intervention group has increased to a more convincing level compared to the control group that did not use this platform. Furthermore, a d-value of 0.66 for the attitude variable confirms a much more significant change in mindset; housewives no longer simply understand information but have a firm stance to take real action. These results are strong evidence that this digital intervention has successfully touched the psychological side of users and created measurable behavioral changes in the field.

The digital intervention through the siEduk Libas Stunting website exhibited a strong effect on knowledge scores, even after adjusting for baseline differences in changing public mindsets and perspectives. A score of  $d = 0.80$  for perception demonstrates the platform's success in shifting housewives' perspectives toward a much more positive and optimistic perspective on stunting prevention. Meanwhile, the exceptional knowledge score of  $d = 2.46$  confirms that the digital information presented is not merely accessible but truly understood and deeply embedded in the housewives. These results are concrete evidence that siEduk Libas Stunting is able to provide a significantly different and more powerful understanding compared to conventional methods in the field. It had a very strong and consistent impact on the knowledge of 350 housewives in the intervention group. This intervention integrated practical aspects, intensive mentoring, and tool support, significantly changing the subjects' behavior compared to the control group, which remained with conventional methods. The low variance within each group resulted in a consistent and stable

intervention effect on almost all housewives in the experimental group. This demonstrates the high applicability of the digital intervention method to the studied population profile.

## **DISCUSSION**

The informative website SiEduk Libas Stunting was associated with a substantial improvement as a digital educational medium in increasing knowledge and understanding of stunting prevention through the five pillars of Community-Based Total Sanitation. Housewives' knowledge based on pre-test data was obtained; almost all housewives in the intervention group (80%) and in the control group (88.6%) had poor knowledge. After intervention based on post-test data, almost all housewives (80%) in the intervention group and in the control group (82.9%) had less knowledge. If we look closely, the lack of knowledge in the intervention group remains the same, but the control group has experienced a decrease in those with less knowledge. There is a significant difference in the intervention group compared to the control group regarding knowledge, with the T-test P-value = 0.000. Knowledge is the result of a sensory process that can be an output of the educational process. Education level is not always directly proportional to knowledge. However, the better and higher quality the educational process receives, the broader, deeper, and more relevant the knowledge an individual possesses. This knowledge ultimately empowers them to make better decisions and contribute effectively to society. The interaction between cognitive individuals, cultural environments, and technological environments drives knowledge innovation, including presenting information digitally so that the development and innovation processes can contribute sustainably (14). An informed community can analyze the problems it faces and make informed decisions about health and the environment, particularly through the informative website SiEduk Libas Stunting (Student-Based Total Sanitation System). Furthermore, the community will be able to take effective collective action. Knowledge empowers communities to shift from passive recipients to proactive agents of change. For example, knowledge about sanitation will reduce stunting. Collaborative decision-making to create innovative solutions based on local knowledge and values gained through problem recognition and awareness raising (15).

Health websites must contain quality information, including completeness, understandability, depth, relevance, and accuracy. Completeness and understandability are the two most important dimensions of quality. Content, links, design, supporting references, open access, user focus, consumer resources, search functionality, content FAQs, site performance, and policy statements are key drivers in delivering a quality health website (16). Knowledge transfer is the initial step or essential stimulus for empowerment, ensuring that existing solutions can be implemented independently and sustainably by the community itself. The t-test results with a P-value of -0.000 confirm that the platform's success lies in its ability to present crucial and practical information on Community-Based Total Sanitation, integrated through its five main pillars. Providing information as a web-based health education intervention can increase information (17). With informative and accessible content, the website SiEduk Libas Stunting was significantly increased community knowledge about clean and healthy living practices, from the use of healthy latrines, handwashing with soap, drinking water, and food management, to waste and sewage management. This effectiveness makes the website a highly effective tool in shaping the behavior changes essential to breaking the chain of stunting. Websites are constantly evolving according to user needs, so repeated testing and the importance of continuous user feedback are essential (18).

The informative website SiEduk Libas Stunting was associated with a substantial improvement in increasing attitudes through the five pillars of Community-Based Total Sanitation. An individual's cognitive and social development is strongly influenced by age. Attitudes, which are the interaction of information, thought processes, and experiences, develop with age. Nearly all housewives in the intervention group (40%) and the control group (48.6%) were aged 30-39, or Early Late Adulthood. During this age range, attitudes formed through personal experience and rationality become more stable. Attitude formation during the 30-39 age period is dominated by identity consolidation, the search for stability, and the integration of social roles. Attitudes develop from community and society to individuals or vice versa, often acquired passively based on beliefs and understanding individual experiences formed in youth (19). An individual's retrospective attitudes formed during youth are influenced by the individual's analytic system, which may not accurately reflect the individual's cognition in the immediate context (20). Identity consolidation makes attitudes formed at this age stronger, more difficult to change, and more stable than attitudes formed in adolescence or early adulthood. This can be due to the stage where individuals have passed

the identity exploration phase and are starting to settle down, so that real experiences are no longer based on ideology or peer influence obtained through work, marriage, and tested values. The influence of a smaller social circle where attitude formation is no longer influenced by peer groups but rather by interaction and integration in complex social roles such as the professional environment, partners, nuclear families, community members, and close colleagues. Attitudes formed in this phase begin to lead to long-term contributions to investments that go beyond personal interests.

In addition to age, work and professional environments also play a role in shaping attitudes toward professionalism, work ethic, career loyalty, and established authority. The work environment can shape individual attitudes through time, efficiency, ethics, and authority, reinforced by professional demands. Work requires not only technical skills but also a professional attitude at work. Collaboration, competition, conflict, tight deadlines, and collective success will encourage the formation of attitudes as an automatic response of an individual, not only in the office, but also in their personal lives and social circles. Attitudes toward work correlate with self-efficacy, namely the belief in one's ability to organize and implement actions to achieve specific goals (21). Similarly, attitudes toward stunting prevention through Community-Based Total Sanitation improved in the intervention group as they used the informative website SiEduk Libas Stunting. Almost all housewives (94.3%) in the intervention group were unemployed, while in the control group, all housewives were unemployed (100%). This phenomenon is a starting point for limited work experience that can shape attitudes. Increasing age influences an individual's professional self-esteem as the burden of crises increases. Positive crisis experiences coupled with a balanced self-esteem foster a healthy sense of self-awareness (22). For working housewives, this professional experience will undoubtedly influence how they respond to health information. Especially attitudes that are stronger, more difficult to change, and more stable in supporting health programs, especially stunting prevention.

The attitude of housewives based on pre-test data showed that almost all housewives in the intervention group (31.4%) and in the control group (37.1%) had unsupportive attitudes. After the intervention based on post-test data, almost all housewives in the intervention group (25.7%) and most housewives (57.1%) in the control group had unsupportive attitudes. If we look closely, unsupportive attitudes in the intervention group have decreased, but in the control group they have increased. There is a significant difference in the intervention group compared to the control group regarding attitudes, with the T-test P-value = 0.000. The informative website SiEduk Libas Stunting was demonstrated significant efficacy in increasing stunting prevention efforts, especially in changing the attitudes of housewives. This educational platform not only provides information, but strategically presents content that motivates and facilitates the adoption of the five pillars of Community-Based Total Sanitation. Improving knowledge and attitudes is particularly important in providing effective interventions to reduce stunting in children (23). The success of the informative website SiEduk Libas Stunting has transformed attitudes through the implementation of the five pillars of Community-Based Total Sanitation through visual narratives and practical guidance. The informative website SiEduk Libas Stunting has successfully instilled a sense of urgency and collective responsibility. This encourages communities not only to learn about the importance of healthy latrines or handwashing, but also to develop a positive attitude and a strong desire to actively implement them as daily norms. Ultimately, the informative website SiEduk Libas Stunting not only increases knowledge but also fosters a proactive attitude towards a clean and healthy lifestyle, making it key to success in combating stunting.

The informative website SiEduk Libas Stunting was associated with a substantial improvement in increasing perceptions through the five pillars of Community-Based Total Sanitation. Perceptions of housewives based on pre-test data were obtained; almost all housewives in the intervention group (40%) and most housewives in the control group (60%) had negative perceptions. After the intervention, based on post-test data, almost all housewives in the intervention group (25.7%) and most housewives (62.9%) in the control group had negative perceptions. If we look closely, negative perceptions in the intervention group have decreased, but in the control group, they have increased. There is a significant difference in the intervention group compared to the control group regarding perception, with the T-test P-value = 0.000. Community perception, especially in families, is that stunting prevention is often treatment-oriented and tends to be passive. Stunting is often considered a nutritional or hereditary problem that is difficult to change due to economic limitations and is the government's responsibility. In fact, many factors can be a risk of stunting, including sanitation, limited knowledge of specific nutrition, low levels of routine pregnancy checks,

low public understanding of the importance of the first 1000 days of life, and late prevention efforts when signs of stunting are clearly visible in children under five.

Intervention with the informative website SiEduk Libas Stunting, which is designed to be visually attractive, easy to digest (using local/simple language), and informative (for example, through short videos, infographics, or question and answer sessions), has resulted in significant changes in perception. Pillars in community-based total sanitation that address environmental factors, such as open defecation, management of household waste and liquid waste, provision of clean water, and lack of hand washing, are often not considered directly related to children's growth and development. The results of the research conducted are in line with Lee et al.'s research that the effectiveness of visual and information integration into web pages can significantly improve user experience and persuasive perception (24). The informative website SiEduk Libas Stunting, with its various portals, plays an important role in increasing exposure to correct information, raising social awareness, improving psychological well-being, and promoting healthy habits (25). Increasing awareness of environmental and sanitation factors highlights the importance of cleanliness and sanitation in preventing stunting on the informative website SiEduk Libas Stunting. The community is aware that repeated infections due to poor sanitation, due to diarrhea and worms, mean that nutrients are not absorbed optimally, even when children are fed well. The informative website SiEduk Libas Stunting has succeeded in shifting the perception from a problem that is waiting to happen to a collective responsibility that must be prevented early and comprehensively. This intervention changes people from passive subjects receiving help into active agents of change who are empowered by information. The use of social media can significantly improve preventive behavior and public risk perception (26).

The informative website SiEduk Libas Stunting was associated with a substantial improvement in increasing the motivation of housewives through the five pillars of Community-Based Total Sanitation. Motivation of housewives based on the pre-test data obtained, the majority of housewives in the intervention group (57.1%) and in the control group (54.3%) had low motivation. After the intervention, based on post-test data, almost the majority of housewives in the intervention group (25.7%) had low motivation, and the majority of housewives (51.4%) in the control group had low motivation. If motivation is determined to be low in the intervention group and the control group, it decreases. There is a significant difference in the intervention group compared to the control group regarding motivation, with the T-test P-value = 0.000. The results of this research are in line with research by Pascual et. al that student motivation increased as a result of the intervention of a gamification web platform containing notes, videos, and clinical cases. Digital developments present opportunities for education, including health education. A well-designed website utilizing technology can be a powerful tool for shaping positive behavior. The informative website, SiEduk Libas Stunting, can transform motivation by addressing the health need, conveying it through health information. The informative website, SiEduk Libas Stunting, provides a variety of information presented through various media, using simple, easy-to-understand language.

Motivation is prevented from forming when it collides with income and work. Basically, family income will be directly proportional to the type of work. A family with income from a working father and mother will differ in family income from a family where only the father works. In the intervention group, almost all housewives (94.3%) and in the control group, all housewives (100%) did not work. This means that income only comes from the father as head of the family. The income of almost all families from both the intervention group (94.3%) and the control group (91.4%) was below the district minimum wage. This income certainly cannot meet needs, especially fulfilling quality nutritional needs and providing homes with good sanitation. Naturally, low income will lead to limited purchasing power in meeting nutritional and sanitation needs. Limited income will reduce motivation to prevent stunting. In addition to employment and family income variables, motivation can be significantly influenced by age, education, and marital status (27). Most housewives only had a high school education in both the intervention group (57.1%) and the control group (65.7%), and almost all housewives were aged 30-39, or early late adulthood, in both the intervention group (40%) and the control group (48.6%). Motivation at the age of 30 to 39 years is in a stable condition and is at its peak, especially in terms of commitment and goals.

Community-Based Total Sanitation, consisting of not defecating in the open, washing hands with soap, managing drinking water and food at home, managing household waste, and managing liquid waste from the home, needs to be pursued and receive attention and assistance from the local government. Modifying the environment and behavior is important through the provision of communal latrines, a household liquid waste management system, the

existence of an active waste bank, the existence of a healthy garden in each Neighborhood Unit to fulfill jointly initiated nutrition, and getting into the habit of washing hands with soap when eating and after defecating. A healthy environment will reduce the risk of environmentally based diseases such as diarrhea and worms, which are infectious diseases that can be an editing risk factor. Children become healthy and rarely get sick, so that they grow and develop optimally. This is the driving force for the formation of motivation to participate in fulfilling Community-Based Total Sanitation. Housewives' motivation to be actively involved in preventing stunting is still very low and depends on the role of health workers or cadres. The government is considered the party that is obliged to solve the stunting problem through assistance, not a household problem that must be handled together. This low motivation of housewives is based on a lack of self-confidence because they do not have sufficient knowledge or ability, especially in preventing stunting, so they do not feel able to make changes in health behavior to prevent significant stunting. Then there is a feeling of helplessness because they feel that stunting is destiny and a fate caused by heredity that cannot be prevented.

Intervention through the informative website SiEduk Libas Stunting is designed to target the root of the problem in this motivation. Interventions to increase knowledge about worm prevention can be provided in the form of videos and posters (28). The informative SiEduk Libas Stunting website features a variety of media, including videos and posters, making it very enjoyable to use. Through media that is personal, informative, inspiring, easy to access, and easy to put into practice (because it is equipped with videos and visualizations about a healthy environment that can prevent stunting), it becomes a significant driver of intrinsic motivation. Motivation in preventing stunting can change from obedience to ownership or the health need, especially through stunting prevention. Based on the research results of Nurhaeni et. All visually appealing and creative websites must include an attractive appearance, scenario, serial content, story pattern, and an attractive website menu, and a short time span (29). The informative website SiEduk Libas Stunting increases self-confidence through visual demonstrations and guidance on steps to prevent stunting through the five pillars of community-based total sanitation, so that housewives feel more capable. The results show significant differences in usability experiences and user confidence levels related to interactions with banking websites. The study also confirmed a significant relationship between usability experiences and user confidence levels. Digital media can increase motivation which can encourage active participation in health efforts (30). The findings of this study offer valuable insights for the banking industry that can help them improve user interactions and system design, ultimately increasing user engagement (31). This website can be accessed by anyone, anytime, and anywhere. So open access as an informative website also allows fathers as heads of families to play a role and support housewives in creating a healthy environment.

The informative website SiEduk Libas Stunting can act as a catalyst for changing passive motivation into proactive action driven by hope and a sense of capability. Web-based educational programs can be an alternative educational method that increases self-confidence (32). People no longer only know about stunting, but are deeply motivated to prevent stunting. Motivation is the key to the sustainability of community-based stunting prevention programs. This study was limited in its ability to control for exposure to information from external sources (such as mass media or community health center outreach) that may have occurred during the intervention period and influenced post-test results. It is important to note that the increased knowledge of participating housewives may have been the result of synergy between the digital intervention and health information in their local environment.

## **CONCLUSION**

The primary contribution of this study is the demonstration that a locally developed STBM website significantly improves the behavioral determinants of housewives at the community level, not just as an information medium but as an effective tool for changing housewives' behavior at the community level. These findings confirm that digital health interventions that are culturally relevant have been shown to strengthen community awareness of stunting prevention through improved sanitation. Collaborative cooperation between programs and sectors is needed to increase understanding and efforts to prevent stunting, which must pay attention to the importance of the first day of life, which requires commitment, consistency, and continuous motivation. Efforts to prevent stunting will be more powerful and sustainable if the collaborative function between government and society is consistently carried out. The existence of a continuous process and mutual reminders will continue to be a positive stimulus and experience, along with the use of the informative website SiEduk Libas Stunting.

## **AUTHOR CONTRIBUTION STATEMENT**

The author of this article is the first author and corresponding author. The other authors were involved in the data collection process, the field technical team in the research, and the data analysis, who have been willing to work together well at every stage of the process.

## **CONFLICT OF INTEREST**

There is no conflict of interest in this research.

## **DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS**

During the manuscript preparation process, the author has used Grammarly to support language refinement and increase clarity.

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## **BIBLIOGRAPHY**

1. A. Muhawarman, "SSGI 2024: National Stunting Prevalence to Decrease to 19.8%," Head of the Bureau of Communication and Public Information, Ministry of Health of the Republic of Indonesia, 2025. <https://kemkes.go.id/id/ssgi-2024-prevalensi-stunting-nasional-turun-menjadi-198>
2. R. Roediger, D. T. Hendrixson, and M. J. Manary, "A roadmap to reduce stunting," *Am. J. Clin. Nutr.*, vol. 112, pp. 773S-776S, Sep. 2020, <https://doi.org/10.1093/ajcn/nqaa205>
3. T. Mulyaningsih, I. Mohanty, V. Widyarningsih, T. A. Gebremedhin, R. Miranti, and V. H. Wiyono, "Beyond personal factors: Multilevel determinants of childhood stunting in Indonesia," *PLoS One*, vol. 16, no. 11, p. e0260265, Nov. 2021, [Online]. Available: <https://doi.org/10.1371/journal.pone.0260265>
4. B. J. Akombi, K. E. Agho, J. J. Hall, D. Merom, T. Astell-Burt, and A. M. N. Renzaho, "Stunting and severe stunting among children under-5 years in Nigeria: A multilevel analysis," *BMC Pediatr.*, vol. 17, no. 1, p. 15, 2017, <https://doi.org/10.1186/s12887-016-0770-z>
5. I. Mostafa, N. N. Naila, M. Mahfuz, M. Roy, A. S. G. Faruque, and T. Ahmed, "Children living in the slums of Bangladesh face risks from unsafe food and water and stunted growth is common," *Acta Paediatr.*, vol. 107, no. 7, pp. 1230–1239, Jul. 2018, <https://doi.org/10.1111/apa.14281>
6. T. Vaivada, N. Akseer, S. Akseer, A. Somaskandan, M. Stefopoulos, and Z. A. Bhutta, "Stunting in childhood: an overview of global burden, trends, determinants, and drivers of decline," *Am. J. Clin. Nutr.*, vol. 112, pp. 777S-791S, 2020, <https://doi.org/10.1093/ajcn/nqaa159>
7. Suyanto Suyanto et al., "Understanding stunting risk factors in Kampar Regency: Insights from mothers with stunted children (qualitative study)," *Sage Open Med.*, vol. 12, p. 20503121241244664, Apr. 2024, <https://doi.org/10.1177/20503121241244662>
8. L. Atamou, D. C. Rahmadiyah, H. Hassan, and A. Setiawan, "Analysis of the Determinants of Stunting among Children Aged below Five Years in Stunting Locus Villages in Indonesia," *Healthcare*, vol. 11, no. 6, p. 810, 2023. <https://doi.org/10.3390/healthcare11060810>
9. G. Dunleavy, C. K. Nikolaou, S. Nifakos, R. Atun, G. C. Y. Law, and L. Tudor Car, "Mobile Digital Education for Health Professions: Systematic Review and Meta-Analysis by the Digital Health Education Collaboration," *J Med Internet Res*, vol. 21, no. 2, p. e12937, 2019, <https://doi.org/10.2196/12937>

10. İ. Bektaş and F. Yardımcı, “The effect of web-based education on the self-confidence and anxiety levels of paediatric nursing interns in the clinical decision-making process,” *J. Comput. Assist. Learn.*, vol. 34, no. 6, pp. 899–906, Dec. 2018, <https://doi.org/10.1111/jcal.12298>
11. N. Puri, E. A. Coomes, H. Haghbayan, and K. Gunaratne, “Social media and vaccine hesitancy: new updates for the era of COVID-19 and globalized infectious diseases,” *Hum. Vaccin. Immunother.*, vol. 16, no. 11, pp. 2586–2593, Nov. 2020, <https://doi.org/10.1080/21645515.2020.1780846>.
12. R. Moffat et al., “A National Communications Campaign to decrease childhood stunting in Tanzania: an analysis of the factors associated with exposure,” *BMC Public Health*, vol. 22, no. 1, p. 531, 2022, <https://doi.org/10.1186/s12889-022-12930-6>
13. Bandung Regent Regulation, Bandung Regent Regulation Number 118 of 2025 concerning changes to the work plan of the Bandung Regency Housing, Residential Areas and Land Agency in 2025. 2025.
14. Y. Huang, Z. Zhang, B. Xu, X. Zhou, J. Zhai, and D. Gao, “Digital Learning Empowering Sustainable Education: Evidence from the Determinants of Chinese College Students’ Knowledge Innovation Capability,” *Sustainability*, vol. 17, no. 20, p. 9060, 2025. <https://doi.org/10.3390/su17209060>
15. D. Dushkova and O. Ivlieva, “Empowering Communities to Act for a Change: A Review of the Community Empowerment Programs towards Sustainability and Resilience,” *Sustainability*, vol. 16, no. 19, p. 8700, 2024. <https://doi.org/10.3390/su16198700>
16. D. Tao, C. LeRouge, K. J. Smith, and G. De Leo, “Defining Information Quality Into Health Websites: A Conceptual Framework of Health Website Information Quality for Educated Young Adults,” *JMIR Hum Factors*, vol. 4, no. 4, p. e25, 2017, <https://doi.org/10.2196/humanfactors.6455>
17. H. Wang et al., “Effect of Health Intervention via Web-Based Education on Improving Information-Motivation-Behavioral Skills Related to HPV Vaccination Among Chinese Female College Students.,” *Int. J. Public Health*, vol. 68, p. 1605596, 2023, <https://doi.org/10.3389/ijph.2023.1605596>
18. M. Atikuzzaman, “Evaluating information access and usability of a university website: a mixed-method study on students, experts and authority,” *Inf. Discov. Deliv.*, Sep. 2025, <https://doi.org/10.1108/IDD-11-2024-0177>
19. B. T. Johnson, L. Martinez-Berman, and C. M. Curley, “Formation of Attitudes: How People (Wittingly or Unwittingly) Develop Their Viewpoints.” Oxford University Press, 2022. <https://doi.org/10.1093/acrefore/9780190236557.013.812>
20. X. Yang et al., “Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study,” vol. 8, no. January, pp. 475–481, 2020, [https://doi.org/10.1016/S2213-2600\(20\)30079-5](https://doi.org/10.1016/S2213-2600(20)30079-5)
21. D. Abun et al., “The effect of innovative work environment on the innovative work behavior of employees To cite this version: HAL Id : hal-04091739 Research in Business & Social Science The effect of innovative work environment on the innovative work behavior of employee,” *Bus. Soc. Sci. IJRBS*, vol. 12, no. 3, 2023, <https://dx.doi.org/10.20525/ijrbs.v10i7.1459>
22. S. Dukhnovsky, V. Mishchenko, and L. Belova, “Features Of Professional Self-Attitude In Subjects Experiencing ‘Adulthood Crisis,’” pp. 36–45, 2021, <https://doi.org/10.15405/epsbs.2021.06.04.5>
23. N. R. Suprobo et al., “Short Counselling Program Enhances Health Care Workers’ Knowledge and Attitude in Early Detection of Stunting in Children: Influencing Factors,” in *Proceedings of the Malang International Conference in Medical and Health Sciences (MICROMEDHS 2024)*, 2025, no. Micromedhs 2024, pp. 100–109. [https://doi.org/10.2991/978-94-6463-807-3\\_10](https://doi.org/10.2991/978-94-6463-807-3_10)
24. Y.-C. Lee, C.-H. Peng, C.-L. Sia, and W. Ke, “Effects of visual-preview and information-sidedness features on website persuasiveness,” *Decis. Support Syst.*, vol. 188, p. 114361, 2025, <https://doi.org/10.1016/j.dss.2024.114361>
25. N. Mheidly and J. Fares, “Leveraging media and health communication strategies to overcome the COVID-19 infodemic,” *J. Public Health Policy*, vol. 41, no. 4, pp. 410–420, 2020, <https://doi.org/10.1057/s41271-020-00247-w>
26. S.-H. Oh, S. Y. Lee, and C. Han, “The Effects of Social Media Use on Preventive Behaviors during Infectious Disease Outbreaks: The Mediating Role of Self-relevant Emotions and Public Risk Perception,” *Health Commun.*, vol. 36, no. 8, pp. 972–981, Jul. 2021, <https://doi.org/10.1080/10410236.2020.1724639>

27. H. S. Mediani, S. Hendrawati, T. Pahria, A. S. Mediawati, and M. Suryani, “Factors Affecting the Knowledge and Motivation of Health Cadres in Stunting Prevention Among Children in Indonesia,” *J. Multidiscip. Healthc.*, vol. 15, no. null, pp. 1069–1082, May 2022, <https://doi.org/10.2147/JMDH.S356736>
28. R. D. Kurniawati, R. L. Pratama, and Y. P. Lolan, “Prevention of Helminthiasis Through Increased Knowledge with Poster and Video Media: An Intervention Study,” *Int. J. Med. Sci. Clin. Res. Stud.*, vol. 03, no. 11, pp. 2883–2888, 2023, <https://doi.org/10.47191/ijmscrs/v3-i11-64>
29. N. Nurhaeni et al., “Exploring the strategies and components of interventions to build adolescent awareness about stunting prevention in West Java: A qualitative study,” *PLoS One*, vol. 19, no. 12, p. e0314651, Dec. 2024, [Online]. Available: <https://doi.org/10.1371/journal.pone.0314651>
30. R. D. Kurniawati, M. Martini, N. E. Wahyuningsih, and D. Sutningsih, “Integration of Dengue Fever Prevention into School Learning : An Experimental Study-Interactive Media for Dengue Fever Prevention,” *Media Publ. Promosi Kesehat. Indones.*, vol. 8, no. 12, pp. 1590–1601, 2025, <https://doi.org/10.56338/mppki.v8i12.8723>.
31. T. Mathur and R. K. V V, “Human-Computer Interaction (HCI) in Banking: Users’ Website Usability Experience and Self-Confidence,” in *2024 International Seminar on Application for Technology of Information and Communication (iSemantic)*, 2024, pp. 174–177. <https://doi.org/10.1109/iSemantic63362.2024.10762318>.
32. P. Yurtsever Gök and E. Efe, “The effect of Web-based preterm infant care training on mothers’ self-confidence,” *Health Care Women Int.*, pp. 1–13, Mar. 2022, <https://doi.org/10.1080/07399332.2022.2039150>