

Website-based balanced nutritional education and its effect on knowledge and perception among early adolescents: a health belief model approach

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Abstract

Purpose: This study examined the effectiveness of a website-based balanced nutrition education program grounded in the Health Belief Model on the knowledge and perceptions of early adolescents, comparing it with conventional educational media. **Methods:** This quasi-experimental, pre-test-posttest control group study was conducted in Sleman, Yogyakarta (February–May 2025). Junior high school students from SMPN 1 Mlati received the website-based nutrition intervention (three 30-minute sessions on days 1, 3, and 5), while those from SMPN 1 Seyegan served as the control group (conventional/printed media). Knowledge and perceptions were assessed using structured questionnaires before and after the intervention. Data were analyzed to evaluate within- and between-group changes. **Results:** Both groups showed a significant increase in knowledge scores after the intervention (intervention: 39.90 to 48.43, $\Delta=8.53$, $p<0.001$; control: 37.00 to 45.44, $\Delta=8.44$, $p<0.001$). Perception scores also increased significantly in both groups (intervention: 48.28 to 52.27, $\Delta=3.99$, $p<0.001$; control: 50.75 to 52.03, $\Delta=1.28$, $p=0.032$). However, between-group analysis indicated no significant difference in knowledge improvement ($p=0.911$), whereas perception improvement was significantly greater in the intervention group ($p=0.004$). This finding suggests that website-based nutrition education serves as a more effective "cue to action" for fostering positive perceptions of balanced nutrition than conventional media. **Conclusion:** Website-based balanced nutrition education is more effective at shaping students' perceptions than conventional media and holds potential as a theory-based school health promotion strategy.

Keywords: balanced nutrition; early adolescent; health belief model; nutrition education; website media

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INTRODUCTION

Malnutrition in adolescents is a global public health problem with significant short- and long-term health consequences [1,2]. During adolescence, a critical period of rapid physical growth, cognitive develop-

ment, and the formation of lifelong eating behaviors, adequate nutrition is essential for optimal development. In the short term, adolescent malnutrition contributes to fatigue, increased susceptibility to infections, and poorer learning outcomes. In the long term, it increases the risk of non-communicable diseases such as obesity, diabetes, cardiovascular

disease, and osteoporosis, as well as adverse reproductive and maternal health outcomes in adulthood. These impacts not only affect individual well-being but also future productivity and broader public health systems [1–3].

The scale of this problem is evident globally. Obesity has now become more prevalent than undernutrition, affecting approximately 10% of school-aged children and adolescents worldwide (around 188 million), thereby increasing their susceptibility to serious health complications [4]. In Indonesia, data from the 2023 Indonesian Health Survey (SKI) reported that the prevalence of malnutrition includes stunting (17.5%), severe stunting (6.6%), severe wasting (1.9%), wasting (5.7%), overweight (12.1%), and obesity (4.1%) [5]. In the Special Region of Yogyakarta, the prevalence of overweight (18.3%) and obesity (7.3%) exceeds the national average [5], suggesting a shift in nutritional challenges that necessitates systematic promotive and preventive strategies through balanced nutrition education.

Given the need for systematic promotive and preventive strategies, this study adopts the Health Belief Model (HBM) as its theoretical framework. The HBM explains that changes in health behavior are influenced by individual perceptions of susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy [6]. In the context of adolescents, balanced nutrition education plays an important role in shaping perceptions of the risks and benefits of healthy eating, which in turn influence how they apply balanced nutrition [7,8]. The use of website media in nutrition education can be positioned as an effective cue to action because it provides easy, visual, and repetitive access to information, in line with the characteristics of the adolescent generation, who are familiar with digital technology [9,10].

Various studies show that nutrition education using digital tools plays an important role in increasing adolescents' knowledge and fostering positive perceptions of healthy eating [11–14]. Schools are strategic settings for nutrition education interventions because they reach adolescents in a structured and sustainable manner [15–17]. However, the effectiveness of education is greatly influenced by the media used. With the development of information technology, digital media are increasingly used in health promotion. In fact, in 2024, more than 75% of Indonesian adolescents are active internet users [18], so website-based media have great potential to improve nutrition. Previous studies have also reported that interactive digital media can significantly improve adolescents' nutritional knowledge and perceptions and may even show

advantages in engagement and motivation to learn compared with conventional print media [12,13].

However, previous studies have shown some limitations. Some studies only evaluated knowledge improvement without assessing changes in perception, even though perception is an important determinant of long-term eating behavior. In addition, many studies do not compare the effectiveness of digital media with conventional educational media that are still widely used in schools. In the early adolescent population, empirical evidence directly comparing web-based nutrition education with print media in a single experimental design is limited [19–21]. This research is novel, positioning website media not only as a tool for delivering nutrition information but also as a health-learning instrument that bridges the gap in adolescent nutrition literacy in the digital era. This study integrates the analysis of knowledge and perceptions of balanced nutrition as a single cognitive-affective process and contributes to expanding the promotion of nutrition for adolescents. This study aims to analyze the influence of nutrition education delivered via a website on the knowledge and perceptions of early adolescents, and to compare its effectiveness with that of the conventional Balanced Nutrition kit media.

METHODS

Study design, setting, and participants

This study employed a quasi-experimental design with a pretest-posttest control-group approach to evaluate the effect of website-based balanced nutrition education on students' knowledge and perceptions, comparing it with a conventional education medium, a Balanced Nutrition Kit. The research was conducted at SMP Negeri 1 Mlati and SMP Negeri 1 Seyegan in Sleman Regency, Yogyakarta, Indonesia, from February to May 2025. The schools have relatively similar characteristics in terms of education level, internet access, and implementation of school health programs, making them representative for this study. To prevent cross-contamination between groups, interventions were carried out in different schools, educational implementations were scheduled at separate times, and participants were asked not to share intervention materials during the research period.

Sampling procedures and interventions

The required sample size was calculated using the Lemeshow formula [22] with a significance level of 0.05, 80% power, and a medium effect size (Cohen's $d = 0.5$), yielding 36 students per group. Anticipating a 10% dropout rate, 40 students were recruited per group, yielding an initial sample of 80 grade VIII students.

Simple random sampling was used to select eligible students within each school. SMP Negeri 1 Mlati served as the intervention group, while SMP Negeri 1 Seyegan served as the control group. Inclusion criteria included active students with written parental consent and student assent. Those who did not complete all intervention sessions or missed the post-test evaluation were subsequently recorded as dropouts and excluded from the final analysis.

The intervention was conducted over three sessions on day 1, day 3, and day 5, with each session lasting approximately 30 minutes. The intervention group received balanced nutrition education via a website-based platform aligned with the principles of the Health Belief Model (HBM). The website included structured educational materials on balanced nutrition and meal portion visualization, as well as interactive features that allowed students to navigate the content and revisit materials independently ([see supplementary materials](#)). The control group received education using a conventional printed Balanced Nutrition Kit. It contained material about the principles of balanced nutrition, the contents of “My Plate” (*isi piringku*), balanced nutrition messages, meal portion guides, examples of healthy menus, and supporting visual illustrations tailored to the characteristics of early adolescence. To ensure consistency, both interventions were delivered by the same trained facilitator using a standardized protocol. The content delivered to both groups was equivalent, differing only in the mode of delivery (digital versus print). Sample selection is detailed in Figure 1.

Variables, measurement, data collection, and statistical analysis

The perception variable was developed based on the Health Belief Model constructs, including perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. In this study, these constructs were analyzed as a composite score to represent overall perception toward balanced nutrition. The media are available in the Supplementary Materials. Data collection was carried out using a structured questionnaire to measure knowledge and balanced nutritional perception, which was adjusted to adolescent characteristics. Measurements were taken before the intervention (pretest) and after the entire series of interventions was completed (post-test).

Data were collected using a structured, self-administered questionnaire specifically designed to align with the six constructs of the Health Belief Model (HBM): perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. To ensure comprehension among

early adolescents, the instrument used clear and age-appropriate language. Content validity was evaluated by three experts in community nutrition and health promotion, yielding a Content Validity Index (CVI) of 0.89. The questionnaire demonstrated acceptable internal consistency with a Cronbach's alpha of 0.78. Although the tool captured multiple HBM dimensions, all constructs were aggregated into a composite score during the analysis stage to represent the students' overall perception of balanced nutrition.

Univariate analysis was used to describe respondent characteristics and the distribution of knowledge and perception scores. Bivariate analysis was used to assess changes in scores before and after interventions, as well as differences in changes between groups. Data normality was assessed using the Shapiro–Wilk test. A paired t-test or Wilcoxon test was used for within-group analysis, while an independent t-test or Mann–Whitney test was used for between-group comparisons. Statistical analyses were conducted using a Per-Protocol (PP) approach, including only participants who completed all intervention sessions and post-test assessments, using SPSS version 22.

RESULTS

A total of 80 grade VIII students who met the inclusion criteria were recruited for this study and equally allocated to two groups, with 40 students each in the intervention and control groups. In the intervention group, three participants did not complete the full series of interventions and post-test questionnaires, resulting in a final sample of 37 students. In the control group, one participant failed to complete the post-test and was excluded. Thus, the final number of respondents analyzed was 37 in the intervention group and 39 in the control group, both exceeding the minimum required sample size. As detailed in Figure 1. This study demonstrated that the baseline characteristics of the respondents between the intervention and control groups were homogeneous (Table 1). There were no significant differences in gender, parental education levels, exposure to nutrition information, breakfast habits, or fruit and vegetable consumption ($p > 0.05$). Mothers were universally identified as the primary food providers in both groups. Therefore, the differences in post-intervention knowledge and perception scores between the two groups were primarily due to the educational intervention rather than confounding baseline characteristics.

The dominance of mothers as primary food providers and parents' secondary-level educational backgrounds are consistent with previous findings

indicating that the family environment, especially the mother, serves as a reinforcing factor in the formation of adolescents' nutritional perceptions. Several previous studies have also shown that the family context and parental education are important determinants of adolescent health literacy and perceptions, with higher parental education correlating with better knowledge and health outcomes in adolescents.

From the perspective of the Health Belief Model, this initial condition reflects the low, structured cues to action and the formation of perceived susceptibility and perceived benefits related to balanced nutrition, even though access to digital media is very good. Although the Health Belief Model comprises multiple constructs, this study treated perception as a composite variable to capture the overall cognitive-affective response. This approach enables a broader understanding of how educational interventions affect adolescents' perceptions of balanced nutrition. The results demonstrated a significant improvement in knowledge scores across both groups post-intervention

(Table 2). Overall, the intervention successfully enhanced both knowledge and perceptions in both groups, with the treatment group exhibiting a more pronounced improvement (Figures 2 and 3).

Changes in knowledge and perception scores between treatment groups

The study stated that both the website media and the balanced nutrition kit were proven effective as informational cues for increasing adolescents' cognitive knowledge of the principles of balanced nutrition (Table 3). However, comparisons between groups showed that significant differences were only found in increased perception. As shown in Table 3, the between-group analysis indicated no significant difference in knowledge improvement between the website intervention group and the conventional media control group ($p = 0.911$). However, the improvement in the perception of balanced nutrition was significantly greater in the website intervention group than in the control group ($\Delta \text{Mean} = 2.66$; $p = 0.004$).

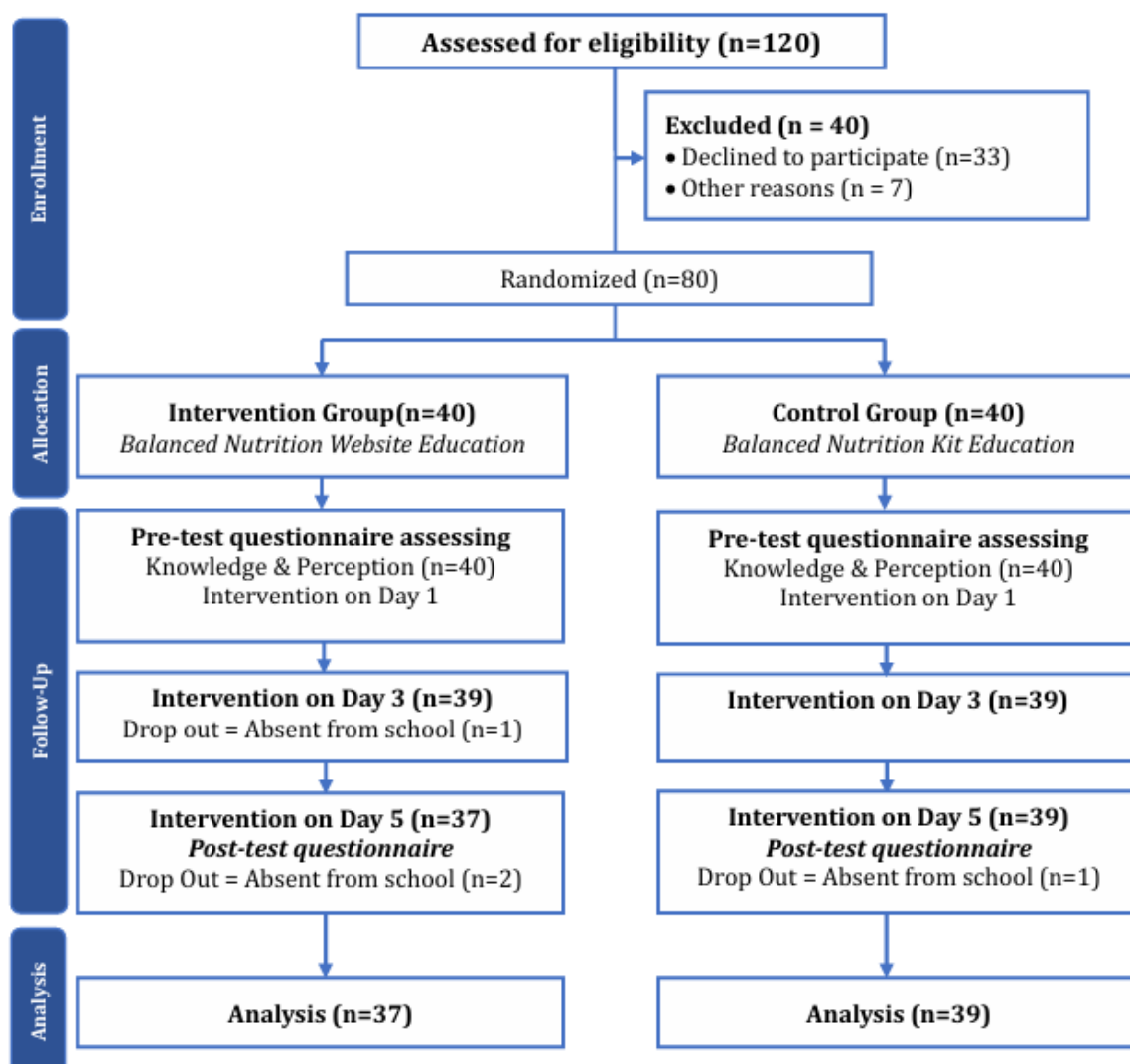


Figure 1. CONSORT diagram

Table 1. Characteristics of respondents

Variable	Intervention (n=37)		Control (n=39)		p-value*
	n	%	n	%	
Gender					
Male	21	56.8	16	41.0	0.284
Female	16	43.2	23	59.0	
Main food providers					
Mothers	37	100.0	39	100.0	—
Father's education level					
Middle	24	64.9	27	69.2	0.642
High	13	35.1	12	30.8	
Mother's education level					
Middle	19	51.4	28	71.8	0.118
High	18	48.6	11	28.2	
Nutrition information exposure					
Yes, rarely	19	51.4	20	51.3	0.845
No	18	48.6	19	48.7	
Breakfast habits					
Yes, rarely	16	43.5	22	56.4	0.173
Yes, every day	21	56.8	17	43.6	
Fruit and vegetable consumption (per day)					
3-4 portions	8	21.6	11	28.2	0.167
1-3 portions	29	78.4	28	71.8	

Note:* Chi-square test

Table 2. Changes in respondents' knowledge scores and perceptions after being given the intervention

Variable	Pre-test (Mean ± SD)	Post-test (Mean ± SD)	Δ Mean ± SD	p-value*
Intervention group (n=37)				
Knowledge	39.90 ± 6.17	48.43 ± 6.44	8.53 ± 5.26	<0.001**
Perception	48.28 ± 4.18	52.27 ± 4.91	3.99 ± 3.97	<0.001**
Control group (n=39)				
Knowledge	37.00 ± 1.51	45.44 ± 8.28	8.44 ± 6.30	<0.001**
Perception	50.75 ± 4.74	52.03 ± 5.15	1.28 ± 3.99	0.032**

Notes: *paired t-test, **p-value<0.05

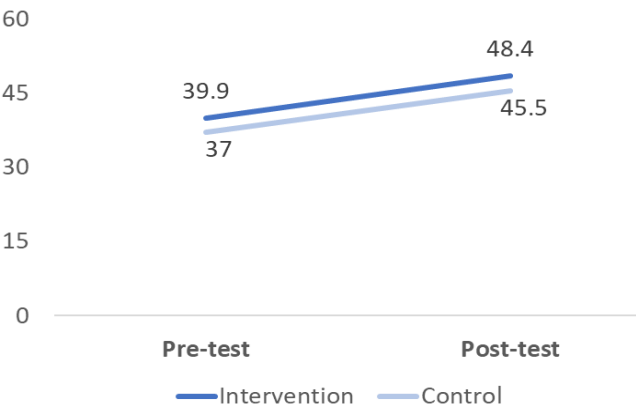


Figure 2. Knowledge scores change among the intervention groups

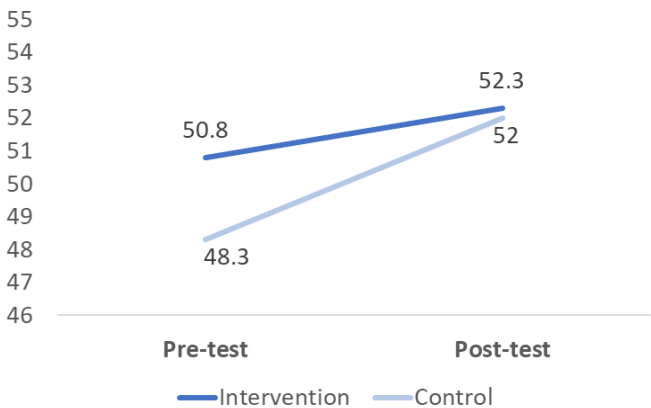


Figure 3. Perception scores change among the intervention groups

Table 3. Comparison of knowledge and perception score improvements between groups

Variable	Intervention group (Δ Mean± SD)	Control group (Δ Mean± SD)	Difference (Δ Mean)	p-value
Knowledge	8.53±5.26	8.44±6.30	0.09	0.911
Perception	3.99±3.97	1.28±3.99	2.71	0.004**

Notes: *Mann–Whitney U test, **Statistically significant (p < 0.05)

DISCUSSION

Within the framework of HBM, knowledge enhancement serves as the foundation for the formation of perceived susceptibility and perceived severity. The educational materials delivered through both media succeeded in increasing respondents' understanding of

the risks of nutritional imbalance and its impact on long-term health. These findings are consistent with previous studies reporting that nutrition education, both digital and print-based, is effective in improving adolescents' knowledge when the content is relevant and delivered systematically [16,23,24]. In addition, the equality of the two media's effectiveness in terms of

knowledge shows that digital media is not automatically superior in the cognitive domain. This is in line with the Cognitive Theory of Multimedia Learning, which emphasizes that the quality of message design is more decisive than the media format itself [25,26]. The findings suggest that both media were effective in improving knowledge, indicating that content delivery plays a more important role than media format alone. However, the greater improvement in perception observed in the website group may be attributed to repeated exposure and interactive features, which function as cues to action within the Health Belief Model framework.

Although perceptions were analyzed as composite scores, a descriptive review of questionnaire responses indicated that participants in the intervention group tended to have greater confidence in applying balanced nutrition principles in daily life after using the websites. In addition, participants tended to report fewer perceived barriers to understanding and applying balanced nutrition recommendations, particularly regarding meal portion sizes and choosing appropriate foods. These findings indicate that interactive features of the website, such as meal portion visualization, “My Plate” (*isi piringku*) simulation, and self-access to educational materials, may have contributed to strengthening self-efficacy and lowering perceived barriers, ultimately supporting an increase in overall perception scores in the intervention group.

In contrast to the knowledge, the results showed that the increase in perception of balanced nutrition was significantly greater in the intervention group than in the control group. Within the HBM framework, this aspect is closely related to perceived benefits, perceived barriers, and self-efficacy. A balanced nutrition website functions not only as a source of information but also as a dynamic, recurring cue to action. Visualization of meal portions, “My Plate” (*isi piringku*) simulation, and self-navigation allow adolescents to internalize the benefits of balanced nutrition and reduce the perceived obstacles in its application. Recent studies have shown that behavioral theory-based digital interventions, including HBM, are more effective at influencing affective and motivational components than static media [27–29]. These findings are also consistent with adolescent health promotion studies in Malaysia, which show that digital media increases engagement, self-efficacy, and readiness to act more meaningfully [30,31]. Our research also found that improving perception scores is an important prerequisite for sustainable health behavior change, especially among adolescents, who shape health values and preferences.

Overall, the findings of this study show that website-based nutrition education is more effective in influencing the affective domain. At the same time, the increase in knowledge is roughly equivalent across websites and conventional media. These findings reinforce the role of websites as a theory-based health promotion tool, particularly the Health Belief Model, which not only serves as an informative medium but also has transformative potential in shaping adolescents' perceptions. In the context of health promotion in the school environment, the integration of HBM-based digital media is a more adaptive strategy to answer the challenges of adolescent nutrition literacy in the digital era, as it allows the delivery of health messages consistently, repeatedly, and in harmony with the learning preferences of the adolescent generation, thus potentially supporting a more sustainable process of behavior change.

This study has several limitations that should be considered. First, the study measured outcomes only in the domains of knowledge and perception; therefore, it cannot directly explain changes in actual nutritional behavior. Within the Health Belief Model framework, behavior is influenced by a combination of cognitive and affective processes as well as external reinforcing factors beyond educational interventions. Second, the relatively short duration of the intervention and follow-up period limited the ability to assess the sustainability of changes in perception over time. Third, using different schools for the intervention and control groups may introduce school-level confounding factors, such as differences in school environments or existing health programs. Additionally, this study did not analyze individual Health Belief Model constructs (e.g., perceived barriers and self-efficacy) separately, which may limit a more detailed understanding of specific behavioral determinants in adolescent nutritional behavior. Fourth, although the final sample size remained sufficient to meet the predetermined minimum sample requirement, the use of Per-Protocol (PP) analysis may have introduced potential attrition bias, which should be taken into account when interpreting and generalizing the study results.

CONCLUSION

Website-based nutrition education was effective in increasing adolescents' perception of balanced nutrition compared with conventional media, while increases in knowledge were relatively similar in both groups. Within the framework of the Health Belief Model, website media can support the formation of a positive perception of balanced nutrition among adolescents. Schools and stakeholders in the health

sector can consider using website media as part of a digitally based adolescent health promotion strategy. Further research is recommended to analyze each construct of the Health Belief Model separately and to directly evaluate changes in eating behavior.

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Author contribution

Y.C.C.: conceptualization, methodology, investigation, data collection, formal analysis, writing original draft; T.S.: conceptualization, supervision, methodology, validation, funding acquisition, writing review and editing; E.R.A.: investigation, data curation, project administration, writing—review and editing; J.F.L.: developing media; J.A.: methodological consultation, supervision, writing, review and editing.

Data availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Ethics statement

This study was approved by the Health Research Ethics Committee of the Ministry of Health, Yogyakarta (Approval No. DP.04.03/e-KEPK.1/655/2025). Written informed consent was obtained from parents or guardians, and assent was obtained from all participating students before data collection.

Conflicts of interest

The authors declare no conflict of interest regarding the publication of this article.

Use of artificial intelligence (AI)

The authors used artificial intelligence tools to assist with language editing and improve the manuscript's clarity. All content was reviewed and validated by the authors, who take full responsibility for the accuracy and integrity of the final manuscript.

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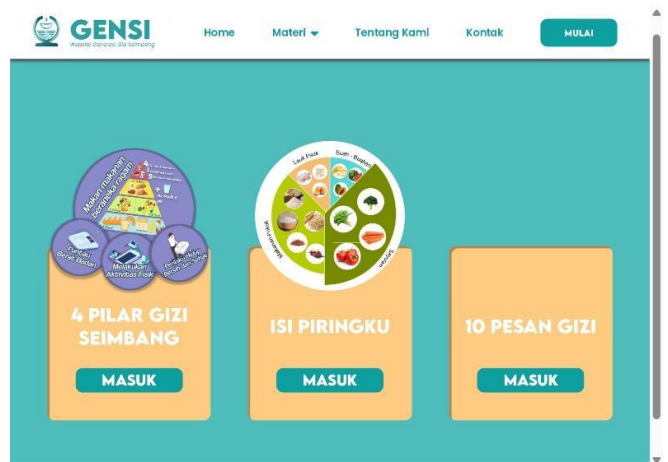
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SUPPLEMENTARY

Website Education

- *Welcome board dengan slogan “Makan Sehat, Hidup Sempurna”* [Welcome board featuring the slogan: “Eat Healthy, Live Perfectly.”]
- *Halaman home atau beranda terdapat beberapa komponen diantaranya;* [The home page consists of several key components:]
 1. *Header yang terdiri atas navbar memiliki menu “home”, “materi”, “tentang kami”, dan “kontak”.* [A header with a navigation bar containing links to “Home,” “Educational Material,” “About Us,” and “Contact.”]
 2. *Bagian materi terdiri atas Pilar 1, Pilar 2, Pilar 3, Pilar 4, Isi Piringku, dan 10 pesan gizi.* [The educational material section is divided into Pillar 1, Pillar 2, Pillar 3, Pillar 4, *Isi Piringku* (My Plate), and the 10 Dietary Guidelines]
- *Section definisi gizi seimbang dan pilihan untuk menjelajahi materi* [A section defining Balanced Nutrition and an option to “Explore Materials.”]
- *Halaman jelajahi materi akan di arahkan pada pilihan materi yaitu:* [Selecting this option redirects users to the main material categories:]
 1. *4 pilar gizi seimbang* [4 Pillars of Balanced Nutrition]
 2. *isi piringku* [My Plate]
 3. *10 pesan gizi* [10 Dietary Guidelines]

Pilih “masuk” untuk mengakses materi yang Anda inginkan. [Select “Enter” to access the desired material]
- *Halaman materi 4 Pilar Gizi Seimbang, terdapat pilihan materi yaitu:* [Under the “4 Pillars of Balanced Nutrition” page, sub-topics include:]
 1. *Makan makanan beraneka ragam* [Consuming a Variety of Foods]
 2. *Perilaku Hidup Bersih dan Sehat* [Clean and Healthy Living Behaviors]
 3. *Pantau Berat Badan* [Monitoring Body Weight]
 4. *Melakukan Aktivitas Fisik* [Engaging in Physical Activity]
- *Di halaman materi Isi Piringku terdapat contoh “piring” yang dapat diklik untuk menampilkan penjelasan konten tersebut.* [The *Isi Piringku* (My Plate) material page features an interactive “plate” illustration that can be clicked to display detailed content explanations.]
- *Halaman “Kontak” memuat wadah untuk menyampaikan pesan dan kritik kepada kreator website.* [The “Contact” page includes a feedback form for sending messages and suggestions to the website creators.]



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Institusi kesehatan dan gizi seimbang

Home Materi ▼ Tentang Kami Kontak MULAI

4 PILAR GIZI SEIMBANG

Kembali ke: Materi

Pilih salah satu pilar

1. Makanan pokok (beraneka ragam)

2. Lauk-pauk

3. Sayuran

4. Buah-buahan

GENSI
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Kembali ke: 4 Pilar Gizi Seimbang

PILAR 1: MENGONSUMSI MAKANAN BERAGAM

Pilar pertama dalam Pedoman Gizi Seimbang mengajarkan pentingnya mengonsumsi berbagai jenis makanan untuk memenuhi kebutuhan gizi tubuh. Makanan pokok berfungsi sebagai sumber karbohidrat, lauk pauk sebagai sumber protein hewani dan nabati, serta buah dan sayur sebagai sumber vitamin dan mineral yang esensial bagi kesehatan. Selain memastikan variasi makanan, penting juga untuk mengonsumsi dalam jumlah yang cukup, tidak berlebihan, serta secara teratur. Selain itu, perhatikan pula asupan cairan dan batasan konsumsi gula, garam, dan lemak (GGL) agar tubuh tetap sehat.

Rekomendasi konsumsi harian:

- Cairan : 8 gelas sehari
- Gula : Maksimal 4 sendok makan
- Garam : Maksimal 1 sendok teh
- Lemak : Maksimal 5 sendok makan

Dengan menerapkan pola makan yang seimbang dan beragam, tubuh akan mendapatkan nutrisi yang optimal.

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MAKANAN POKOK

Pilar 1: Mengonsumsi Makanan Beragam

Karbohidrat

3-4 Porsi/hari

Beras Merah

Beras Putih

Ubi Jalar

Biji Gandum

Tepung Sagu

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MAKANAN POKOK

Pilar 1: Mengonsumsi Makanan Beragam

Karbohidrat

3-4 Porsi/hari

Jagung

Kentang

Singkong

Bihun

Mie

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LAUK - PAUK

Pilar 1: Mengonsumsi Makanan Beragam

Protein hewani / Nabati

2-4 Porsi/hari

Tempe

Tahu

Ayam

Baking Sapi

Telur Ayam

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LAUK - PAUK

Pilar 1: Mengonsumsi Makanan Beragam

Protein hewani / Nabati

2-4 Porsi/hari

Susu

Keju

Telur

Ikan

Kacang-kacangan

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SAYURAN

Pilar 1: Mengonsumsi Makanan Beragam

3-4 Porsi/hari

Brokoli

Bayam

Mentimun

Tomat

Wortel

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SAYURAN

Pilar 1: Mengonsumsi Makanan Beragam

3-4 Porsi/hari

Kail/Kubis

Lobak

Labu Siam

Terong

Kembangkol

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Gizi Seimbang Untuk Semua

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Page 4 : Menukan Aktivitas Fisik

CONTOH AKTIVITAS FISIK

Kurangi Waktu
Kurangi waktu untuk duduk menonton tv dan main komputer

2x Seminggu
Latihan penguatan otot (angkat beban, push up, curl up) dan **Latihan fleksibilitas** (stretching, yoga)

3-5x Seminggu (min 150 menit)
Latihan kardiorespirasi (jorog, berenang, jalan cepat, sepeda) dan **Aktivitas Relaksasional** (tenis, basket, dll)

Setiap Hari
Meningkatkan menggunakan tangga, berjalan, melakukan pekerjaan rumah

INTENSITAS	CONTOH	DURASI
RINGAN	Jalan kaki santai, yoga, pekerjaan rumah ringan	30 menit/hari
SEDANG	Bersepeda, berenang, jogging, senam aerobik	150 menit/hari
BERAT	Lari cepat, angkat beban, olahraga kompetitif	75 menit/hari

KEMBALI

GENSI
Gizi Seimbang Untuk Semua

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ISI PIRINGKU

Kembali ke Materi

Isi piringku adalah panduan konsumsi untuk satu kali makan sesuai dengan prinsip gizi seimbang. Pembagian untuk setiap kelompok zat gizi pada Isi piringku adalah sebagai berikut:

- 2/3 dari 1/2 piring untuk makanan pokok
- 1/3 dari 1/2 piring untuk lauk pauk
- 2/3 dari 1/2 piring untuk sayuran
- 1/3 dari 1/2 piring untuk buah-buahan

KEMBALI SELANJUTNYA

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MAKANAN POKOK

Isi Piringku

2/3 dari setengah piring

- Nasi 2-3 centong
- Singkong rebus 2-3 potong
- Kentang 1-2 buah
- Mie kering 1/2-1 gelas

KEMBALI SELANJUTNYA

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LAUK PAUK

Isi Piringku

1/3 dari setengah piring

Hewani : ikan 1 ptg / daging ayam 1 ptg / daging sapi 1 ptg / telur ayam 1 btr / udang 5 ekor

Nabati : tempe 2 ptg / tahu 2 ptg / kacang merah 2 1/2 sdm / kembang tahu 1 lbr

KEMBALI SELANJUTNYA

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BUAH - BUAHAN

Isi Piringku

1/3 dari setengah piring

- Pisang ambon 1 bh
- Pepaya 1 ptg bsr
- Melon 1 ptg
- Semangka 2 ptg sdg

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SAYURAN

Isi Piringku

2/3 dari setengah piring

Wortel / Tomat / Bayam / Brokoli (100 gram) 8-10 sdm

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10 PESAN GIZI

Kembali ke Materi

Gizi seimbang adalah kombinasi menu makanan sehari-hari yang mengandung seluruh zat gizi yang dibutuhkan oleh tubuh. Dalam memenuhi kebutuhan tersebut, terdapat 10 pedoman yang merupakan penjabaran lebih lanjut tentang penerapan Gizi Seimbang dalam kehidupan sehari-hari.

Ke-10 pesan gizi seimbang yang dimaksud, yaitu:

1. Biasakan mengonsumsi aneka ragam makanan pokok
2. Batasi konsumsi pangan manis, asin, dan berlemak
3. Lakukan aktivitas fisik yang cukup dan pertahankan berat badan ideal
4. Biasakan mengonsumsi lauk pauk yang mengandung protein tinggi
5. Cuci tangan pakai sabun dengan air mengalir
6. Biasakan sarapan pagi
7. Biasakan minum air putih yang cukup dan aman
8. Banyak makan buah dan sayur
9. Biasakan membaca tabel pada kemasan pangan
10. Syukuri dan nikmati aneka ragam makanan

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HUBUNGI KAMI

Pesan*

Tulis pesan Anda di sini...

Nama* Email*

Nama* www.gensi@gmail.com

KIRIM

TAUTAN WEBSITE

Home: [Pilar 1: Mengonsumsi Makanan Beragam](#)

Isi Piringku: [Pilar 2: Perilaku Hidup Bersih dan Sehat \(PHBS\)](#)

10 Pesan Gizi: [Pilar 3: Perilaku Berat Badan \(BB\)](#)

Tentang Kami: [Pilar 4: Lakukan Aktivitas Fisik](#)

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