

Health Education: Junk Food and Its Dangers to Children's Health

Ulfa Nurullita[✉], Trixie Salawati¹, Wulandari Meikawati¹, M Faisal Rofie¹, Dimas Saputra¹

¹ Bachelor of Public Health, Faculty of Public Health, Universitas Muhammadiyah Semarang

✉ Korespondensi: ulfa@unimus.ac.id, +62 812-293-6553

Submitted: May 19, 2026

Accepted: July 23, 2026

Published: July 31, 2026

Abstract

Background: Elementary school-aged children are highly vulnerable to environmental influences on their dietary behaviors, particularly the frequent consumption of nutrient-poor snacks and fast food. The widespread availability and aggressive marketing of energy-dense, nutrient-poor foods have contributed to unhealthy eating habits, increasing the risk of obesity and other non-communicable diseases. Similar concerns were identified among children attending the At-Tanzil Hicom Learning Center in Shah Alam, Malaysia, many of whom come from socioeconomically disadvantaged families with limited parental supervision and low educational attainment. **Objective:** This community service program aimed to improve children's knowledge and awareness of healthy eating habits and the health risks associated with fast-food consumption through interactive nutrition education. **Method:** The program involved 15 children and two teachers. Educational interventions were delivered using interactive counseling supported by visual learning media, including flashcards, educational games, posters, brochures, and the development of a healthy school canteen proposal. Program outcomes were evaluated through direct observation of participants' understanding and engagement during educational activities. **Result:** Before the intervention, participants demonstrated limited knowledge of basic nutrition and healthy food choices. Following the educational sessions, children showed substantial improvements in their ability to distinguish healthy foods from unhealthy alternatives and to recognize the health risks associated with fast-food consumption. The use of visual aids and game-based learning effectively enhanced participants' comprehension, engagement, and active participation, despite their limited literacy levels. **Conclusion:** Interactive nutrition education is an effective approach for improving children's knowledge and awareness of healthy eating behaviors. However, sustained behavioral change requires continuous nutrition education, active parental involvement, and supportive school environments, including the implementation of healthy school canteen policies.

Keywords: health education, health risks, junk food

Abstrak

Latar belakang: Anak usia sekolah dasar sangat rentan terhadap pengaruh lingkungan, khususnya dalam perilaku makan, termasuk seringnya mengonsumsi camilan rendah nutrisi dan makanan cepat saji. Ketersediaan dan pemasaran makanan padat energi dan miskin nutrisi yang meluas telah berkontribusi pada pola makan yang tidak sehat, peningkatan risiko obesitas, serta penyakit tidak menular. Masalah ini juga terjadi di kalangan anak-anak Indonesia di Pusat Pembelajaran At-Tanzil Hicom di Shah Alam, Kuala Lumpur, yang sebagian besar berasal dari keluarga kurang mampu dengan pengawasan orang tua yang terbatas, dan latar belakang pendidikan yang rendah. **Tujuan:** Program pengabdian masyarakat ini bertujuan untuk meningkatkan pengetahuan dan kesadaran anak-anak tentang pola makan sehat dan risiko Kesehatan dari makanan cepat saji. **Metode:** Program ini melibatkan 15 anak dan 2 guru. Intervensi meliputi penyuluhan interaktif menggunakan media visual (kartu flash), permainan edukatif, poster, brosur, dan pengembangan proposal kantin sehat. **Hasil:** Hasil kegiatan menunjukkan bahwa anak-anak awalnya memiliki pengetahuan terbatas tentang nutrisi dasar. Namun, setelah sesi interaktif berulang, kemampuan mereka untuk mengidentifikasi makanan sehat dan mengenali makanan cepat saji meningkat. Metode visual dan berbasis permainan terbukti efektif dalam meningkatkan pemahaman dan keterlibatan meskipun terdapat keterbatasan literasi. **Kesimpulan:** Pendidikan kesehatan interaktif efektif meningkatkan pengetahuan gizi anak-

anak. Perubahan perilaku yang berkelanjutan membutuhkan pendidikan terus-menerus, keterlibatan orang tua, dan lingkungan yang mendukung seperti kantin sekolah yang sehat.

Kata kunci: bahaya kesehatan, *junk food*, pendidikan kesehatan

INTRODUCTION

Elementary school-aged children represent a vulnerable population whose dietary behaviors are strongly influenced by their surrounding environment. During this developmental stage, children begin to make independent food choices and frequently purchase snacks at or around school without adequate parental supervision. According to the Food and Agriculture Organization (FAO), street foods are ready-to-eat foods and beverages prepared and sold by vendors in public places for immediate consumption without further processing [1]. Although these foods contribute to children's daily energy intake, their nutritional quality is often inadequate. Regular snack consumption may provide additional energy for school-aged children; however, it does not necessarily meet nutritional requirements when food choices are dominated by unhealthy products [2].

Over the past decade, children's dietary patterns have shifted toward greater consumption of energy-dense, nutrient-poor foods commonly referred to as *junk food*. These foods are generally characterized by high levels of calories, saturated fats, sugars, and sodium, while containing insufficient amounts of essential nutrients such as vitamins, minerals, and dietary fiber. In addition, many junk foods contain food additives, including artificial sweeteners, flavor enhancers, and preservatives [3–5]. The poor nutritional quality of junk food has been associated with impaired immune function, reduced cognitive performance, and increased susceptibility to infectious diseases because these products fail to provide adequate daily nutritional requirements [6]. Furthermore, excessive caloric intake combined with low dietary fiber substantially increases the risk of overweight and obesity among children.

The widespread availability, affordability, and intensive marketing of junk food through digital media and social networking platforms have further accelerated unhealthy eating behaviors among children and adolescents [7,8]. This trend has become a major global public health concern because unhealthy dietary habits established during childhood frequently persist into adulthood and increase the risk of chronic diseases later in life.

In Indonesia, childhood overweight and obesity have become increasingly important public health challenges. Data from the 2018 Basic Health Research (Riskesdas) showed that approximately one in five children aged 5–12 years and one in seven adolescents aged 13–18 years were overweight or obese [9]. Childhood obesity is associated with numerous immediate and long-term health

consequences, including type 2 diabetes mellitus, hypertension, psychosocial problems such as stigma and bullying, and a substantially higher risk of cardiovascular disease, stroke, and several types of cancer during adulthood [10–12]. Beyond its health consequences, the increasing burden of non-communicable diseases (NCDs) also generates substantial economic losses through rising healthcare expenditures and reduced productivity [13]. It has been estimated that NCDs will result in US\$4.47 trillion in cumulative economic losses in Indonesia between 2012 and 2030 [9].

The issue of unhealthy dietary behavior is also evident among Indonesian children living overseas. The Sekolah Indonesia Kuala Lumpur (SIKL), one of the Indonesian Schools Abroad (*Sekolah Indonesia Luar Negeri*), provides formal education for Indonesian citizens residing in Malaysia while supporting Indonesian educational diplomacy and human resource development. SIKL operates several learning centers across Malaysia, including the At-Tanzil Hicom Learning Center in Shah Alam, which serves kindergarten and elementary school students.

Children attending the At-Tanzil Hicom Learning Center generally come from socioeconomically disadvantaged families, where limited financial resources and parental work commitments may reduce access to nutritious foods and adequate dietary supervision. Most students are between 5 and 12 years of age, a developmental period during which food preferences are strongly influenced by taste, peer interactions, and environmental exposure. Field observations indicated that students commonly brought food from home or purchased snacks from nearby vendors, with a preference for highly processed foods rich in sodium, sugar, fat, and food additives but low in essential nutrients. Continuous exposure to food advertising through television, digital platforms, and social media further reinforces unhealthy food preferences and purchasing behaviors among children.

Despite growing evidence regarding the adverse health effects of junk food, nutrition education programs specifically targeting Indonesian children attending overseas learning centers remain limited. Educational interventions tailored to children's cognitive development and learning preferences are needed to improve nutritional literacy and encourage healthier food choices. Interactive health education using visual learning media and educational games has been shown to enhance children's understanding and engagement by presenting complex nutritional concepts in an age-appropriate and enjoyable manner.

Therefore, this community service program was implemented at the At-Tanzil Hicom Learning Center, Shah Alam, Malaysia, to improve children's knowledge and awareness regarding healthy eating behaviors and the health risks associated with junk food consumption through interactive, child-centered nutrition education. The program is expected to strengthen children's nutritional literacy and promote healthier dietary behaviors from an early age.

METHOD

This community service program employed a participatory health education approach to improve elementary school children's knowledge of healthy eating behaviors and the health risks associated with junk food consumption. The program was conducted at the At-Tanzil Hicom Learning Center, one of the learning centers under the Sekolah Indonesia Kuala Lumpur (SIKL) network in Shah Alam, Malaysia. Participants were elementary school-aged children enrolled at the learning center.

The educational intervention was designed to address unhealthy dietary behaviors commonly observed among participants, including frequent consumption of junk food, limited preference for nutritious foods, and increasing exposure to unhealthy food marketing through digital media and advertisements. The program consisted of four complementary components.

First, interactive health education sessions were delivered using child-centered learning methods. Educational materials covered the definition and characteristics of junk food, nutritional differences between healthy and unhealthy foods, the short- and long-term health consequences of excessive junk food consumption, and practical strategies for selecting healthier food alternatives. The sessions combined PowerPoint presentations, educational videos, food photographs, and guided discussions. To enhance participation and reinforce learning, children were actively involved in question-and-answer sessions and educational games using food images to identify healthy and unhealthy food choices. Second, educational posters illustrating the health risks of junk food and recommendations for healthy eating were developed and displayed in strategic locations throughout the learning center to provide continuous visual reinforcement after the educational sessions. Third, informational leaflets containing concise messages on healthy eating practices and the adverse effects of excessive junk food consumption were distributed to students. The leaflets were intended to reinforce key educational messages and encourage discussion with parents and family members at home.

Finally, a proposal for establishing a healthy school canteen was developed as a sustainability initiative. The proposed canteen model emphasized the principles of food

hygiene and sanitation while promoting the availability of nutritious food options. In addition to improving access to healthier foods, the canteen was designed as a practical learning environment where students could develop healthy food selection skills and gain basic understanding of responsible food purchasing and simple entrepreneurship.

The effectiveness of the educational activities was evaluated through direct observation of participants' engagement, participation during interactive sessions, and their ability to correctly distinguish healthy foods from junk food during educational games and discussions. This descriptive evaluation was used to assess immediate improvements in children's understanding following the intervention.

RESULTS AND DISCUSSION

The community service program was conducted in June 2024 at the At-Tanzil Hicom Learning Studio, Shah Alam, Kuala Lumpur, involving 15 elementary school children and two teachers. The intervention aimed to improve children's knowledge of healthy eating habits and the health risks associated with junk food through interactive nutrition education tailored to participants with limited literacy skills.

Table 1. Score of health education counselling

Participants	Pre-test (score)	Post-test (score)	Score increase
1	40	60	20
2	45	65	20
3	40	70	30
4	30	70	40
5	30	65	35
6	40	60	20
7	35	70	35
8	20	65	45
9	30	70	40
10	45	80	35
11	50	80	30
12	35	80	45
13	45	75	30
14	40	85	45
15	50	80	30
Total	575	1075	500
Mean	38,3	71,7	33,3

The educational sessions introduced children to the major components of a balanced diet, including carbohydrate, protein, vitamin, and mineral sources. Flash cards depicting various healthy foods were used to facilitate learning through interactive games. Initially, most participants were unable to correctly identify different nutrient sources. Following repeated demonstrations and

game-based learning activities, children successfully classified healthy foods according to their nutritional groups and assembled balanced meal compositions based on the four essential food components. Subsequently, participants received education regarding junk food, including its characteristics, common examples, and potential health consequences. Children were encouraged to share their daily snacking habits, revealing frequent consumption of packaged snacks containing high levels of sweeteners, artificial colorings, and preservatives. By the end of the educational sessions, all participants were able to correctly distinguish junk food from healthier food alternatives using the flash-card exercises.

Knowledge assessment demonstrated substantial improvement following the intervention (Table 1). The mean pre-test score increased from 38.3 to 71.7 after the educational sessions, representing an average improvement of 33.3 points. Individual score increases ranged from 20 to 45 points, with every participant demonstrating improved knowledge after the intervention.

The educational intervention was reinforced through the distribution of posters displayed within the learning center and illustrated leaflets provided to students for home use. In addition, a proposal for establishing a healthy school canteen was developed as a sustainability initiative to improve children's access to nutritious foods while creating a supportive food environment within the learning center.

The findings demonstrate that interactive nutrition education supported by visual learning media effectively improved children's knowledge of healthy foods and junk food. The considerable increase in knowledge scores, together with participants' ability to correctly classify food types at the end of the intervention, indicates that educational strategies adapted to children's cognitive characteristics can substantially enhance nutrition literacy among elementary school-aged children.

The effectiveness of this intervention can be explained by the characteristics of the target population. Children attending the At-Tanzil Hicom Learning Center generally come from socioeconomically disadvantaged families, where parents have relatively low educational attainment and work long hours, limiting opportunities for educational support and supervision. Consequently, many children experience delayed school enrollment and exhibit limited literacy skills, creating additional challenges for conventional health education.

To address these challenges, educational materials were delivered through an adaptive learning approach using flash cards, educational games, and repeated demonstrations rather than relying primarily on text-based instruction. Such methods are particularly appropriate for elementary school children because visual

and play-based learning enhances attention, comprehension, and memory retention. Consistent with previous studies, health education represents a planned educational process intended to improve knowledge, attitudes, and health-related behaviors through systematic learning experiences [14–19]. Similar improvements in knowledge have also been reported in community-based educational interventions addressing breast cancer awareness among adolescent girls and hand hygiene promotion among orphanage children [20,21].

The intervention also addressed unhealthy snacking behaviors that were commonly reported by participants. Before the educational sessions, children frequently consumed commercially packaged snacks rich in sugar, salt, preservatives, and artificial additives. Following repeated exposure to visual educational materials, participants were able to correctly identify junk food products and explain their potential health risks. These findings suggest that visual learning media not only facilitate knowledge acquisition but also improve children's ability to recognize unhealthy food choices encountered in their daily environment. Since knowledge is an important determinant of health behavior, improving children's nutritional literacy represents an essential first step toward healthier dietary practices [24,25].

Beyond face-to-face education, environmental reinforcement was incorporated through educational posters and take-home leaflets. Posters provided continuous visual reminders within the school environment, whereas leaflets encouraged communication between children and their parents regarding healthy eating practices. This combination of school-based and family-oriented educational media is consistent with health promotion principles emphasizing that sustainable behavior change requires supportive environments and family engagement [26–30].

The development of a healthy school canteen proposal represents another important component of the intervention. Educational programs alone may improve knowledge; however, lasting behavioral change also depends on the availability of healthier food choices within children's everyday environments. A healthy canteen may reduce children's exposure to unhealthy foods while increasing access to nutritious alternatives, thereby creating an environment that supports healthy dietary behaviors. Previous studies have similarly demonstrated that environmental interventions complement educational strategies by modifying the contextual factors influencing food selection [31–33].

Several limitations should be acknowledged. The program involved only 15 children from a single learning center, limiting the generalizability of the findings. Furthermore, the evaluation focused primarily on immediate knowledge improvement and did not assess long-term behavioral

changes or dietary practices. Future community-based interventions should include larger samples, longer follow-up periods, and objective assessments of dietary behavior to determine whether increased nutrition knowledge translates into sustained improvements in eating habits.

Overall, the findings indicate that nutrition education tailored to children's developmental characteristics, supported by visual media, educational games, and environmental reinforcement, is an effective strategy for improving nutrition literacy and awareness of the health risks associated with junk food. Nevertheless, sustained improvements in children's dietary behaviors require continuous collaboration among schools, families, and community stakeholders to create supportive food environments and promote healthy eating practices throughout childhood.

CONCLUSION

This community service program demonstrates that interactive nutrition education can effectively enhance children's awareness and understanding of healthy eating behaviors and the health risks associated with junk food consumption. The findings highlight that educational interventions employing visual materials, interactive games, posters, leaflets, and participatory learning strategies provide an engaging approach to improving nutrition literacy among elementary school-aged children. However, improvements in knowledge alone are insufficient to ensure sustained behavioral change. Long-term success requires the integration of continuous school-based nutrition education, active parental engagement, and supportive food environments that facilitate healthy dietary choices. Establishing healthy school canteens and reinforcing collaboration among schools, families, and local communities are therefore essential to translate knowledge into healthier eating practices and to reduce the future burden of diet-related non-communicable diseases among children.

RECOMMENDATION

Sustained nutrition education programs should be implemented at the Hicom Learning Center to reinforce students' knowledge and promote healthy dietary behaviors. Furthermore, the establishment of a simple healthy school canteen is recommended to improve students' access to safe, nutritious, and affordable foods. Active involvement of teachers and parents in promoting healthy food choices is also essential to ensure long-term behavioral change and support a sustainable healthy school environment.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge the financial support provided by the Institute for Research and Community

Service, Universitas Muhammadiyah Semarang, through the International Community Service Grant under Agreement No. 0024/UNIMUS.L/PM-LN/PJ.INT/2024. The authors also extend their sincere appreciation to all individuals and partner institutions whose valuable contributions and cooperation facilitated the successful implementation of this community service program.

REFERENCES

1. Lasmana D. Tren foodie: potensi street food di Jakarta. *J Hosp Pariwisata*. 2020; 6(1): 38-46. <https://doi.org/10.30813/jhp.v6i1.2033>.
2. Khomsan A, Anwar F, Riyadi H, Navratilova HF. Children's food habits, consumption, and food safety of popular snacks in the school environment in Indonesia. *Int J Community Med Public Health*. 2023; 10(1): 119-125. <https://doi.org/10.18203/2394-6040.ijcmph20223535>.
3. Wijaya NV, Dahliah D, Pancawati E. Dampak kebiasaan mengonsumsi junk food terhadap berat badan. *Maheha Malays Health Stud J*. 2024; 4(2): 455-464. <https://doi.org/10.33024/maheha.v4i2.13133>.
4. Tanjung NU, Amira AP, Muthmainah N, Rahma S. Junk food dan kaitannya dengan kejadian gizi lebih pada remaja. *J Ilm Kesehat Masy*. 2022; 14(3): 133-140. <https://doi.org/10.52022/jikm.v14i3.343>.
5. Siregar LY, Siagian MM. Persepsi orang tua tentang konsumsi junk food untuk anak usia dini. *J Obsesi*. 2023; 7(3): 3477-3485. <https://doi.org/10.31004/obsesi.v7i3.4638>.
6. Yetmi F, Harahap FSD, Lestari W. Analisis faktor yang memengaruhi konsumsi fast food pada siswa di SMA Cerdas Bangsa Kabupaten Deli Serdang Tahun 2020. *J Hasil Penelit Mhs*. 2021; 6(1): 1-23. <https://rumahjurnal.iainsasbabel.ac.id/stu/article/view/2021>.
7. Sumarni R, Sampurno E, Aprilia V. Konsumsi junk food dan hipertensi pada lansia di Kecamatan Kasihan, Bantul, Yogyakarta. *J Ners Kebidanan Indones*. 2016; 3(2): 59-63. [https://doi.org/10.21927/jnki.2015.3\(2\).59-63](https://doi.org/10.21927/jnki.2015.3(2).59-63).
8. Sina E, Boakye D, Christianson L, Ahrens W, Hebestreit A. Social-media and children's and adolescents' diets: a systematic review of the underlying social and physiological mechanisms. *Adv Nutr*. 2022; 13(3): 913-937. <https://doi.org/10.1093/advances/nmac018>.
9. UNICEF Indonesia. Indonesia: angka orang yang kelebihan berat badan dan obesitas naik di semua kelompok usia dan pendapatan [Internet]. Jakarta: UNICEF Indonesia; 2022 [cited 2026 Aug 4]. Available from: <https://www.unicef.org/indonesia/id/siaran-pers/indonesia-angka-orang-yang-kelebihan-berat-badan-dan-obesitas-naik-di-semua-kelompok>.
10. Mititelu M, Oancea CN, Neacșu SM, Olteanu G, Cîrțu AT, Hincu L, et al. Evaluation of non-alcoholic beverages and the risk related to consumer health among the Romanian population. *Nutrients*. 2023; 15(17): 3841. <https://doi.org/10.3390/nut15173841>.
11. Samodro P, Prastowo A, Zulfannisa NH, Wahyuni N. Konsumsi fast food dan aktivitas fisik dengan kejadian

- sindrom metabolik di RSUD Prof. Dr. Margono Soekarjo Purwokerto. *J Nutrisia*. 2020; 21(2): 83-90. <https://doi.org/10.29238/jnutri.v2i2.187>.
12. Khalfan SS, Minani J, Muki SK, Said FA, Lyakurwa DM, Zhang B. Impact of fast food consumption on obesity and overweight among individuals aged ten years and above: a systematic review and meta-analysis. *Iran J Public Health*. 2025; 54(9): 1808-1819. <https://pmc.ncbi.nlm.nih.gov/articles/PMC12630386/>.
 13. Najikh AU, Permatasari H. Faktor risiko sindrom metabolik pada pekerja: a systematic review. *J Riset Kesehat Poltekkes Depkes Bandung*. 2023; 15(2): 281-293. <https://doi.org/10.34011/juriskesbdg.v15i2.2204>.
 14. Hysa F, Jakupaj R. Education is a key tool in the development of society and educational leadership and is a key element for effective school and education. *Educ Key Tool Dev Soc Educ Leadersh Eff Sch Educ*. 2024; 30(4): 7895-7906. <https://doi.org/10.53555/kuey.v30i4.1007>.
 15. Anco A, Apipudin A, Arifin M. The effect of leadership and conflict on performance of education services of Buton District. *Int J Soc Serv Res*. 2021; 1(4): 341-348. <https://doi.org/10.46799/ijssr.v1i4.52>.
 16. Suarjana IWG. The role of health education in improving student health in Indonesian schools. *Christian J Glob Health*. 2024; 11(2): 50-54. <https://doi.org/10.15566/cjgh.v1i2.346>.
 17. Feith HJ, Lukács JÁ, Gradwohl E, Füzi R, Mészárosné Darvay S, Bihariné Krekó I, et al. Health education, responsibility, and changing attitude: a new pedagogical and methodological concept of peer education. *Acta Univ Sapientiae Soc Anal*. 2018; 8(1): 55-74. <https://doi.org/10.2478/aussoc-2018-0004>.
 18. Bangun S, Silalahi EL. The effectiveness of health education on increasing patient knowledge about hypertension in Kutalimbaru Village, Deli Serdang Regency. *J La Medihealtico*. 2023; 3(6): 535-540. <https://doi.org/10.37899/journallamedihealtico.v3i6.763>.
 19. Fauziah AB, Moedjiono AI, Masni M, Seweng A, Sukri S, Hidayanty H. The effect of health education in improving the knowledge and attitudes of integrated service post cadres about early detection of high-risk pregnancies in the working area of the Mamajang Health Center, Makassar City, Indonesia. *J Public Health Afr*. 2023; 14(Suppl 10): 2774. <https://doi.org/10.4081/jphia.2023.2774>.
 20. Octavia YT, Siahaan JM, Barus E, Simamora L. Edukasi kesehatan reproduksi deteksi dini kanker payudara pada remaja putri. *Ahmar Metakarya: Jurnal Pengabdian Masyarakat*. 2026; 5(2): 184-190. <https://doi.org/10.53770/amjpm.v5i2.717>.
 21. Aji SP, Syarifah S, Putri NR. Edukasi cuci tangan pada anak Panti Asuhan Lentera untuk penguatan perilaku hidup bersih dan sehat. *Ahmar Metakarya: Jurnal Pengabdian Masyarakat*. 2026; 5(2): 228-233. <https://doi.org/10.53770/amjpm.v5i2.405>.
 22. Mahmudah WW, Santoso R. Literacy crisis: health education to increase public awareness of clinical communication in the digital age. *Indones J Res Educ Rev*. 2023; 4(3): 707-719. <https://doi.org/10.51574/ijrer.v4i3.3547>.
 23. Caeiros P, Ferreira PP, Chen-Xu J, Francisco R, de Arriaga MT. From health communication to health literacy: a comprehensive analysis of relevance and strategies. *Port J Public Health*. 2024; 42(2): 159-164. <https://doi.org/10.1159/000537870>.
 24. Adriana NG, Zirmansyah Z. Pengaruh pengetahuan parenting terhadap keterlibatan orang tua di lembaga PAUD. *J Anak Usia Dini Holistik Integr*. 2021; 1(1): 40-47. <https://doi.org/10.36722/jaudhi.v1i1.565>.
 25. Ramadhan J, Ichsan I. Pengaruh pendidikan orang tua terhadap prestasi belajar anak di sekolah. *J Waniambey J Islam Educ*. 2021; 2(2): 69-78. <https://doi.org/10.53837/waniambey.v2i2.182>.
 26. Pratiwi GD, Vita Lucya, Paramitha. Efektifitas Penggunaan Media Leaflet Dalam Peningkatan Pengetahuan Dan Sikap Terhadap Pencegahan Tuberkulosis. *Jurnal Ilmu Keperawatan*. 2022; 8(3): 8-13. <https://doi.org/10.33023/jikep.v8i3.1153>.
 27. Andriani A, Azhari A. Effect of dental health education media using posters on knowledge of oral and dental care among patients. *J Health Sci Med Ther*. 2025; 3(3): 277-287. <https://doi.org/10.59653/jhsmt.v3i03.1882>.
 28. Utoyo AW, Aprilia HD, Kuntjoro-Jakti RADRI, Kurniawan A. Visual communication design: Poster as an important way to encourage social distance in Jakarta when the epidemic 19. *IOP Conference Series: Earth and Environmental Science*. 2020; 729: 012140. <https://iopscience.iop.org/article/10.1088/1755-1315/729/1/012140/meta>.
 29. Hasanica N, Ramic-Catak A, Mujezinovic A, Begagic S, Galijasevic K, Oruc M. The effectiveness of leaflets and posters as a health education method. *Mater Sociomed*. 2020; 32(2): 135-139. <https://doi.org/10.5455/msm.2020.32.135-139>.
 30. Barnes MD, Hanson CL, Novilla LB, Magnusson BM, Crandall AAC, Bradford G. Family-centered health promotion: perspectives for engaging families and achieving better health outcomes. *Inquiry*. 2020; 57: 46958020923537. <https://doi.org/10.1177/0046958020923537>.
 31. Laura B. S. Huwae, Johan B. Bension, Revi A. Rumbawa, Fira A. Rehalat, Kuntum N. Lisaholet, Laury M. Ch. Huwae, et al. Perilaku Hidup Bersih dan Sehat Serta Pemberian Makanan Sehat Pada Anak Sekolah Dasar. *Jurnal Pengabdian Bidang Kesehatan*. 2024; 2(2): 49-54. <https://doi.org/10.57214/jpbidkes.v2i2.69>.
 32. Rani T, Hendriani D, Chifdillah NA, Pramono JS. Penerapan kantin sehat di Sekolah Dasar Negeri 009 Loa Janan Ilir Kota Samarinda. *J Kesehat Tambusai*. 2025; 6(3): 11028-11036. <https://doi.org/10.31004/jkt.v6i3.48666>.
 33. Bomboma D, Souho T, Kabassina EM, Abli AE, Amouzou SKS. Impact of school canteens on children's nutrition and food behavior: a systematic review. *BMC Pediatr*. 2026; 26: 23. <https://doi.org/10.1186/s12887-026-06723-8>.