

Improving Knowledge of Choosing Healthy Snacks of Elementary Schooler with Games

Belinda Khoirunnisa Salsabila*¹, Ukhti Hanifah Tiarawati², Salsabila Khoirunisa³, Sherly Dwi Santoso⁴,
Ghischa Maharani⁵, Sevirgo Akbar Putra Pangestu⁶

^{1,2,3,4,5,6}Elementary School Teacher Education, University of Muhammadiyah Surakarta (UMS), Surakarta
Indonesia



Abstract – Availability and safety of food is a basic human right. One group of people who often experience problems due to food poisoning are school children. Snack foods play an important role in providing energy and other nutrients for school-age children. The approach used in this paper is descriptive qualitative based on literature review and observation. Primary data includes observational data. Secondary data includes: (1) books relevant to the topic of writing, (2) scientific papers, (3) articles from the internet, and (4) research results. The data collection is secondary data in the form of relevant theories were obtained by the literature review method. The data obtained were analyzed descriptively qualitatively. The preparation of this paper has gone through systematic steps, so that the results of a complete and structured study are obtained. The steps taken in writing this paper are: (1) finding and formulating problems, (2) finding and selecting relevant literature sources, (3) analyzing data to answer problems, (4) formulating alternatives solving problems, (5) drawing conclusions and recommending suggestions, and (6) compiling written papers. Health education plays a role in changing one's health behavior as a result of learning experiences. The implementation of this program aims to increase knowledge of choosing healthy snacks for three months. In the first month, material delivery activities and education of healthy snacks were carried out using picture cards as media. After the delivery of the material, the child's attitude test was carried out in the form of a questionnaire and played a game. In the second month, children are invited to play the snake and ladder game by answering the questions in the game. In the third month, Role Play games were held by dividing students into several groups

Keywords – *Healthy Snacks, Elementary School, Game, Schoolbase.*

I. INTRODUCTION

Availability and safety of food is a basic human right. One group of people who often experience problems due to food poisoning are school children. Snack foods play an important role in providing energy and other nutrients for school-age children. If school children's snacks are guaranteed to be healthy, school children will have quality health, quality education, superior human resources, intelligence in children, and avoid digestive diseases.

Snacks of school children whose health is not guaranteed can potentially cause poisoning, indigestion and if it lasts a long time will cause poor nutritional status. In addition, unhealthy snacks can cause children's achievement at school to be disrupted. Based on data from Extraordinary Events (KLB) on snacks for school children in 2004-2006, the group of elementary school students most often experienced food poisoning. Health education plays a role in changing one's health behavior as a result of learning experiences.

There were 45 cases of food poisoning in 2018. In 2017 it was number 2 for food poisoning in educational institutions. Food poisoning is the second largest cause of death in Europe (BPOM RI, 2019). As much as 39.9% of snacks that are traded do not meet food safety requirements (BPOM RI, 2018). A total of 109 elementary schools in Central Java did not meet the

requirements. As many as 15% are still found PJAS containing sweeteners exceeding the limit, moldy, containing formalin, containing borax, microbial (BBPOM Semarang, 2014). In 2016 there were 976 cases of food poisoning and 1147 drink poisonings (BPOM National Poisoning Information Center, 2016) and 16.35% of food poisoning in Indonesia came from street food in schools (BPOM, 2016).

II. METHOD

The approach used in this paper is descriptive qualitative based on literature review and observation. Primary data includes observational data. Secondary data includes: (1) books relevant to the topic of writing, (2) scientific papers, (3) articles from the internet, and (4) research results. The data collection is secondary data in the form of relevant theories were obtained by the literature review method. The data obtained were analyzed descriptively qualitatively. The preparation of this paper has gone through systematic steps, so that the results of a complete and structured study are obtained. The steps taken in writing this paper are: (1) finding and formulating problems, (2) finding and selecting relevant literature sources, (3) analyzing data to answer problems, (4) formulating alternatives solving problems,

III. RESULT AND DISCUSSION

A. Healthy Snack Knowledge

Healthy food is an important part of the process of growth and development of children to adults. In this developed era, many snacks are made with chemicals. The problem of the safety of healthy snacks is an important problem in Indonesia, because snacks play an important role in providing intake and nutrition for school-age children. It is often found that children are victims of poisoning caused by a lack of knowledge in choosing healthy snacks. The Food and Drug Supervisory Agency (BPOM) stated that as many as 48% of children's snacks did not meet safety requirements.

This happens because snacks contain hazardous chemicals and microbiological contamination. The habit of consuming unhealthy food has a greater risk of developing diseases that often occur in children, namely diarrhea, poisoning, fever, dizziness, and other infectious diseases due to decreased immunity. The report from the Directorate of Surveillance and Food Safety Education of BPOM shows that throughout Indonesia there have been 164 extraordinary events (KLB) of food poisoning in 25 provinces covering 7,366 cases and 51 of them died (Oktaviani et al., 2020). One of the causes of these cases is the excessive use of Food Additives (BTP) and prohibited BTP. This is often found in street vendors (PKL) and school canteens.

Chemical contaminants that are often found in children's snacks are: Borax, Formalin and artificial sweeteners. In addition to the excessive use of food additives (BTP) and prohibited food additives, another factor that causes poisoning cases is the lack of knowledge of children in choosing healthy snacks. Many school-age children buy snacks just because they like it, without knowing the safety of the snacks they want to eat. This of course will have a negative impact on the health of children. Children who have knowledge of choosing healthy snacks are expected to be able to consume snacks that are better and safer, therefore the implementation of a knowledge program on choosing healthy snacks is important to do.

B. Old Ideas

To overcome the problem of unhealthy snacks for children, many ideas have been implemented at school and at home. First, an educational board game about the dangers of snacking carelessly (Purwanto, 2015). Second, the program to increase students' knowledge in choosing healthy snacks through edutainment media (Adi, 2013). Third, the Nutrition education program in the selection of snacks (Amira, 2021). Fourth, study the importance of choosing healthy snacks for the health of children" (Titik, 2014). Fifth, nutrition counseling program with comic media (Khairuna, 2012). Sixth, nutrition counseling program with lecture and leaflet methods (Mardiana, 2012). Seventh, the program for empowering school children's health (Anna, 2016). Eighth, the Role Play method and poster media (Nurul, 2021). Ninth, picture card media education program (Pina, 2018). Tenth, the IEC Nutrition media model (Khusnul, 2018). Eleventh, an informal nutrition education program for food vendors (Evy, 2013). Twelfth, the snake ladder game for children's snacks as a medium for nutrition education (Novia, 2018).

Many weaknesses were found in the ideas that have been presented previously, both in their implementation, space and time, as well as the subjects who carried them out. According to Lestari (in Wuriyanto, 2009) the use of comics media is only effective for students with visual style. Notoatmodjo (2005) argues that leaflet media cannot stimulate sound effects and motion effects, and they are easy to fold. If the design is wrong, the leaflet will not be interesting to read.

Notoadmodjo (2010) states that the weakness of picture card-based learning requires a relatively long period of time. According to Hery (2020), the IEC model with interactive audio-visual learning has the weakness of only unidirectional information. In addition, the price and the tools used are very expensive, and very complex. Lack of socialization through the program “guidelines for snacks for school children” according to Triwijayati et al. (2016) is that the coverage of the program is still limited..

According to (Sarianti et al., 2019) the use of snakes and ladders media as nutrition education has a weakness, namely counseling needs to be done 2-3 times in order to master the material presented. Nutrition counseling with the lecture method has weaknesses or shortcomings, namely not all teachers can become good speakers, speakers must master the subject matter, inhibit the response of the learner so that speakers find it difficult to assess their reactions, and limit memory and usually only one sense is used. According to (Fadhilah, 2021) the use of edutainment media has drawbacks, namely it takes a long time, creates a lack of confidence in students who are less active because in this method it is clear between active and passive students.

The weakness of the Role Play method according to Djamarah and Zain (2002: 89-90) is that its implementation requires a long time and a large enough space. Lack of nutrition counseling with informal nutrition counseling methods, namely the need for continuous and periodic assistance so that the practice of peddlers is not temporary. In addition, there is a need for food safety management for street vendors. The educational board on the dangers of snacking indiscriminately has several weaknesses, namely the letters in the instruction manual for using the educational board are too small. The weakness of the nutrition education socialization method is that it is not known with certainty the time needed to provide nutrition education.

C. New Ideas Offered

To increase knowledge of healthy snacks for elementary school children, methods are needed that can increase knowledge in choosing healthy snacks. With the provision of knowledge about healthy snacks, children will be protected from foods that contain harmful substances. This can reduce the risk of food poisoning and ensure adequate nutrition for children. To increase children's knowledge about healthy snacks through several programs. This program is a program “Increasing Knowledge in Choosing Healthy Snacks with Interesting Games”.

This program is one of the programs that emerged from the synthesis of old ideas. The program "Increasing Knowledge in Choosing Healthy Snacks With Interesting Games" is a program with interesting games such as snakes and ladders and playing a role player. So that students can recognize, know, remember and differentiate healthy food and unhealthy food and can choose healthy food.

D. Steps To Take

Implementation of this program through several steps. The implementation in the first month is by delivering healthy snacks material using interactive audiovisual learning media, then providing education about choosing healthy snacks through picture cards. After that, do a test of the child's attitude with a questionnaire in the form of agree and disagree. Then continued with the game activities carried out by a child and faced with 4 groups of hazardous substances, in the implementation of the game the child was given the opportunity to take a chance card containing information about hazardous substances.

In the second month the child is given an understanding of the use of the snake and ladder game for children's snacks, after the child has a sufficient understanding of the game, then the child is invited to play the snake and ladder game, namely by answering the questions contained in the game.

In the third month, namely carrying out Role Play games. The first step is to divide the students into several groups. After that we asked each group to pay attention to what we were doing. Then we did a drama with the theme of Healthy Snacks. Where we play a character who will convey about the problems of elementary school children who like to snack randomly. Next we gave some questions to each group about what we just conveyed through the drama.



Figure 1. Program Implementation Schedule

E. How Far The Problem Can Be Fixed

Children's knowledge of healthy snacks will increase through this program. In the implementation of this program, the delivery of material about healthy snacks through interactive audio-visual learning media, as well as through interesting games such as snakes and ladders and playing role play. So through this program can increase children's knowledge and can apply their knowledge in everyday life.

Through the program to increase knowledge of healthy snacks, children will be equipped with knowledge that can be applied to their lives. They can determine the types of snacks that are healthy, nutritious and safe for consumption, can distinguish between healthy foods and foods that contain harmful substances and can guide them to have good attitudes and behavior in choosing safe and nutritious snacks.

F. Parties and Roles that can Help

1. Class teachers assist and supervise the course of the program.
2. Parents support and supervise children when choosing healthy snacks, especially in the home environment.
3. Traders are expected to be able to sell safe and healthy snacks, namely by not using Food Additives (BTP) in excess and not using prohibited BTPs such as: Borax, Formalin and artificial sweeteners.
4. Nutritionist, tasked with providing socialization about healthy food.
5. Food supplier, tasked with providing healthy food.

IV. CONCLUSION

Interesting games are an activity program to increase knowledge of choosing healthy snacks. Through this program, it is hoped that all parties, from classroom teachers, parents, traders, nutritionists, and food suppliers can work together to increase knowledge in choosing healthy snacks for elementary school children. Snack foods play an important role in providing energy and other nutrients for school-age children. Snacks of school children whose health is not guaranteed can potentially cause poisoning, indigestion and if it lasts a long time will cause poor nutritional status. In addition, unhealthy snacks can cause children's achievement at school to be disrupted.

Health education plays a role in changing one's health behavior as a result of learning experiences. The implementation of this program aims to increase knowledge of choosing healthy snacks for three months. In the first month, there were activities to deliver material and educate about healthy snacks using picture cards as media. After delivering the material, the child's attitude test is carried out in the form of a questionnaire and playing games. In the second month the children are invited to play the snake and ladder game by answering the questions in the game. In the third month, Role Play activities were carried out by dividing students into several groups.

REFERENCES

- [1] Amira, K. A., & Setyaningtyas, S. W. (2021). Sikap Anak Sekolah Dasar Dalam Pemilihan Jajanan Sehat : Literature Review [Attitudes of Elementary School Children in Choosing Healthy Snacks: Literature Review]. *National Nutrition Journal*, 16(2), 130–138. <https://e-journal.unair.ac.id/MGI/article/view/20726>
- [2] Elvandari, M., & Andriani, E. (2020). Peningkatan Pengetahuan Siswa Dalam Pemilihan Jajanan Sehat Melalui Media Edutainment Di Karawang [Increasing Students' Knowledge in Choosing Healthy Snacks through Edutainment Media in Karawang]. *Jurnal Gizi Dan Kuliner*, 41–47. <https://journal.unsika.ac.id/index.php/gizi/article/view/4756>
- [3] Khairuna Hamida, Siti Zulaekah, M. (2012). Penyuluhan Gizi Dengan Media Komik Untuk Meningkatkan Pengetahuan Tentang Keamanan Makanan Jajanan [Nutrition Counseling With Comic Media To Increase Knowledge About Snack Food Safety]. *Jurnal Kesehatan Masyarakat*, 8(1), 67–73. <https://doi.org/10.15294/kemas.v8i1.2261>
- [4] Mardiana, Nilawati, N. S., & Eliza. (2013). Pengaruh Penyuluhan Gizi Metode Ceramah dan Leaflet terhadap Perilaku Memilih Jajanan Murid di SD Negeri Kelurahan Sako Palembang 2012 [The Effect of Nutrition Counseling on Lecture and Leaflet Methods on the Behavior of Choosing Student Snacks at SD Negeri Kelurahan Sako Palembang 2012]. *Jurnal Kesehatan*, 1(11), 17–23. <https://jurnal.poltekkespalembang.ac.id/index.php/JPP/article/view/113/85>
- [5] Martony, O., Alfira, A., & Eliska, E. (2020). Pengetahuan dan Sikap Anak tentang Makanan Jajanan Sehat melalui Permainan Ular Tangga [Children's Knowledge and Attitudes about Healthy Snack Food through Snakes and Ladders Games]. *Jurnal Keperawatan Silampari*, 4(1), 11–19. <https://doi.org/10.31539/jks.v4i1.1449>
- [6] Masri, E., Wahyuni, N. P., & Rini, A. M. (2019). Perilaku Memilih Jajanan Dan Kantin Sehat Siswa Sekolah Dasar Dengan Edukasi Media Komik [Behavior of Choosing Healthy Snacks and Canteens for Elementary School Students With Comic Media Education]. *Jurnal Kesehatan Perintis (Perintis's Health Journal)*, 6(2), 177–185. <https://doi.org/10.33653/jkp.v6i2.278>
- [7] Nasution, N. H. N. dan Z. A. (2021). Pengaruh Metode Role Play dan Poster Terhadap Perubahan Perilaku Pemilihan Makanan Jajanan pada Siswa Sekolah Dasar [The Effect of Role Play and Poster Methods on Changes in Snack Food Selection Behavior in Elementary School Students]. *Jurnal Kesehatan Medika Saintika*, 12(1), 1–10. <https://syedzasaintika.ac.id/jurnal/index.php/medika/article/view/645>
- [8] Nurbiyati, T., & Wibowo, A. H. (2014). Pentingnya Memilih Jajanan Sehat [The Importance of Choosing Healthy Snacks]. *Jurnal Inovasi Dan Kewirausahaan*, 3(3), 192–196. <https://journal.uui.ac.id/ajie/article/view/7832>
- [9] Pjas, A. S. (2016). Pengembangan Model Media KIE Gizi untuk Peningkatan Pengetahuan, Sikap dan Praktik Pemilihan Pangan Jajan Anak Sekolah (PJAS) [Development of Nutrition IEC Media Model to Increase Knowledge, Attitudes and Practices of School Children's Snack Food Selection (PJAS)]. *JHE (Journal of Health Education)*, 1(2). <https://journal.unnes.ac.id/sju/index.php/jhealtheu/article/view/10988>

- [10] Rahmawita, R., Putri, D. H., & Advinda, L. (2018). Kualitas Jajanan Anak Sekolah Dasar Secara Mikrobiologi Di Kecamatan Koto Tangah Padang Sumatera Barat [The Quality of Snacks for Elementary School Children in Microbiology in Koto Tangah Padang District, West Sumatra]. *Biomedika*, 10(2), 102–106. <https://doi.org/10.23917/biomedika.v10i2.7020>
- [11] Sarianti, S., Adiyase, I. N., Wirawan, S., & Laraeni, Y. (2019). Pengaruh Penyuluhan Makanan Jajanan Dengan Metode Permainan Ular Tangga Terhadap Pengetahuan Anak Sekolah Di SDN 2 Kuta Kabupaten Lombok Tengah [The Effect of Snack Food Counseling with the Snakes and Ladders Game Method on The Knowledge of School Children at SDN 2 Kuta, Central Lombok Regency]. *Jurnal Gizi Prima (Prime Nutrition Journal)*, 4(2), 136. <https://doi.org/10.32807/jgp.v4i2.143>
- [12] Septiana, P., & Suaebah, S. (2019). Edukasi Media Kartu Bergambar Berpengaruh Terhadap Pengetahuan Dan Sikap Anak Dalam Pemilihan Jajanan Sehat Di Sd Negeri Pontianak Utara [Illustrated Card Media Education Affects Children's Knowledge and Attitudes in Choosing Healthy Snacks in North Pontianak State Elementary School]. *Pontianak Nutrition Journal (PNJ)*, 1(2), 56. <https://doi.org/10.30602/pnj.v1i2.288>
- [13] Setiawan, H. (2020). Pemanfaatan Media Audio Visual dan Media Gambar Pada Siswa Kelas V [Utilization of Audio Visual Media and Image Media in Class V Students]. *Prakarsa Paedagogia*, 3(2), 198–202. <https://jurnal.umk.ac.id/index.php/JKP/article/download/5874/2505>
- [14] Swamilaksita, P. D., Sari, I. P., & Ronitawati, P. (2021). Media Ular Tangga Meningkatkan Pengetahuan Dan Sikap Tentang Keamanan Makanan Jajanan Anak Sekolah [Snakes and Ladders Media Improves Knowledge And Attitudes About Food Safety Of Schoolchildren's Snacks]. *Jurnal Pengabdian Masyarakat AbdiMas*, 7(2). <https://doi.org/10.47007/abd.v7i2.3963>
- [15] Triwijayati, A., Setiyati, E. A., Setianingsih, Y., & Luciana, M. L. (2016). Anak Dan Jajanan Sekolah: Program Pemberdayaan Kesehatan Anak Sekolah Dalam Perspektif Pemerintah Daerah [Children and School Snacks: School Children's Health Empowerment Program In The Perspective Of Local Government]. *Media Kesehatan Masyarakat Indonesia*, 12(3), 170–180. <https://journal.unhas.ac.id/index.php/mkmi/article/view/1078>