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FACTORS RELATED TO THE INCIDENT OF DIARRHEA IN ELEMENTARY SCHOOL CHILDREN IN MUARA BURNAI VILLAGE II

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ABSTRACT

Poor snack food habits with a diversity of snacks encourages children's snack habits at school, because they can spend a third of their time at school. However, there are still many children who have the habit of consuming snacks and poor hand and nail hygiene habits The purpose of this study was to determine the factors associated with the incidence of diarrhea in elementary school. This research was quantitative with the Cross Sectional method. The sample in this study amounted to 118 respondents, which were determined by simple random sampling technique. Respondents were dominated by women as many as 77 respondents (65.3%), and the age of the respondents was dominated by the age category 11-12 years as many as 60 respondents (50.8%). Bivariate analysis resulted that there was a significant relationship between the frequency of snack food consumption, the choice of snack foods, the habit of washing hands, and cleanliness of nails with the incidence of diarrhea, while the habit of carrying lunch had no significant relationship with the incidence of diarrhea in elementary school in Muara Burnai Village II. The results of the multivariate analysis showed that the selection of snack foods was the most dominant variable influencing the incidence of diarrhea in elementary school children with (p-value=0.030; PR=29.291; CI 95%)=1.393-615.854) after controlling for the variable frequency of snack food consumption, washing habits hand and nail hygiene. The schools should make regulations related to standards for traders so that they become healthy canteens in school.

Keywords: diarrhea, elementary school children, personal hygiene, snack food

Introduction

The diversity of snack foods can encourage the habit of consuming snack foods in school children. However, there were still many children who did not have the habit of consuming good snacks. [1] Poisoning was closely related to diarrhea. According to the Food and Drug Supervisory Agency (*Badan Pengawas Obat dan Makanan* or BPOM), in 2019 there were 6,205 food poisoning data collected by hospitals in Indonesia.[2] In Indonesia, diarrhea was an endemic disease that had the potential to cause Extraordinary Events (*Kejadian Luar Biasa* or KLB). The cases of diarrhea sufferers in Indonesia in 2021 were 7,350,708 for all ages and 3,690,984 diarrhea sufferers.[3] Therefore, the aim of this research is to determine the factors associated with the incidence of diarrhea in elementary school children in Muara Burnai II Village.

Based on the 2021 Ogan Komering Ilir District Service Recapitulation Data Results, the Muara Burnai Community Health Center working area was included in the 5 community health center working areas with the highest diarrhea since 2019, 2020 and 2021. Where in 2019 there were 431 cases, in 2020 there were 386 cases, and there had been an increase again in 2021, there were 552 cases of diarrhea for all ages with a coverage of 48.59% including 436 cases of diarrhea aged >5 years, and 116 diarrhea in toddlers.

One of the factors that influenced the incidence of diarrhea was the habit of bringing school supplies to school children. Based on research.[4] The odd ratio resulted in this data was that students who had the habit of bringing lunch to school, did not have the potential to get diarrhea 0.524 times more than those who bought food at school. Choosing low-quality snacks, especially foods that contained dangerous chemicals, in markets, canteens and food vendors around schools.[5] stated that the frequency of snack consumption reduced the incidence of diarrhea by 87.9%. Another causal factor that influenced the incidence of diarrhea was the habit of washing hands and clean nails which reduced the incidence of diarrhea by up to 50% or saved around 1 million children in the world from diarrheal disease every year. [6] Cleanliness was a very personal subject, and encouraging changes in cleanliness requires skill and care.[7] Personal hygiene was the act of maintaining one's personal cleanliness and health for physical and psychological well-being. Personal hygiene was one of the factors that increased the risk of diarrhea.[8]

One of the factors that influence the incidence of diarrhea is the habit of bringing school supplies to school children. The odd ratio result in this data is 0.524, meaning that students who have the habit of bringing lunch to school do not have the potential to get diarrhea 0.524 times more than those who buy food at school.[4] Choosing low-quality snacks, especially foods that contain dangerous chemicals in markets, canteens and food vendors around schools, is an important aspect that causes children to eat unhealthy foods, making children being a consumptive person, when it comes to snacks. Choosing low-quality snacks, especially foods that contain dangerous chemicals in markets, canteens and food vendors around schools, is an important aspect that causes

children to eat unhealthy foods, making children being a consumptive person, when it comes to snacks. The research results stated that the frequency of snack consumption would reduce the incidence of diarrhea by 87.9%.5%.[5] Another causal factor that influences the incidence of diarrhea is the habit of washing hands and clean nails which can reduce the incidence of diarrhea by up to 50% or can save around 1 million children in the world from diarrheal disease every year.[9]

The aim of this research was to determine the relationship between snack habits and personal hygiene with the incidence of diarrhea in elementary school children. One of the districts that is still experiencing an increase in the incidence of diarrhea in South Sumatra according to the South Sumatra Central Statistics Agency is Ogan Komering Ilir. This research was conducted at Muara Burnai II Public Elementary School (SDN 1) and Muara Burnai II Elementary School because they are elementary schools in Muara Burnai II Village with the highest incidence of diarrhea in the Muara Burnai Health Service working area. Center, Lempuing Jaya District, Ogan Komering Ilir Regency in 2022.One of the districts where the incidence of diarrhea was still increasing in South Sumatra, according to the South Sumatra Central Statistics Agency was Ogan Komering Ilir. This research was conducted at Public Elementary School (*Sekolah Dasar Negeri* or SDN 1) Muara Burnai II and SDN 2 Muara Burnai II because they were elementary schools in Muara Burnai II village with the highest incidence of diarrhea in the working area of the Muara Burnai Health Center, Lempuing Jaya District, Ogan Komering Ilir Regency in 2022.

Methods

This research used quantitative research in the terms of a cross sectional research design. Cross sectional was how the variables studied, and explained the object being studied through data collected and observations made only once.[1] All data obtained were processed and processed using quantitative analysis. The independent variables of this research were hand washing habir of washing hands with soap can cause bacteria or parasite that are often found in unclean environments one of the causes of diarrhea, Washing hands with soap (CTPS) is one of the sanitation measures by cleaning your hands and fingers using water and soap so that be clean.[10] Nail cleanliness, Keeping your nails clean is an important aspect ofMaintaining personal care, through nails various germs can enterin the body, for this reason nails should remain healthy and clean.[11] Snack food consumption habits, Children who don't 16 Sriwijaya University bringing provisions tends to buy snacks which has an impact on their snacking behavior. Because the food is prepared by the parents themselves, it can be known to be hygienic and it is healthy for children to leave the house with provisions. Bring your own supplies many benefits for children's health.[12] frequency of snack food consumption, is the number of respondents who consume snacks in their daily lives [13] and snack food selection, Someone's behavior to control the type of food consumed in categories healthy snacks or No.[14] Meanwhile, the dependent variable of this research was the

incidence of diarrhea in elementary school age children in Muara Burnai II Village, Lempuing Jaya District. This research was measured based on the scores from the respondents' questionnaires. A sample of 118 consisting of 64 respondents from SDN 1 Muara Burnai I and 54 respondents from SDN 2 Muara Burnai II was obtained which was calculated using the formula. The sample size in this study was calculated using the two proportion hypothesis test formula. Number: 045/UN9.FKM/TU.KKE/2023

Results

Univariate analysis is an analysis of the research data that you want to provide description of the frequency distribution of each variable, both the dependent variable, independent variables, the following are the results of univariate analysis:

Table 1. Univariate Analysis Results

Variable	Frequency	Percentege
Occurrence of diarrhea	55	46,6
Yes	63	53,4
No	96	81,4
Habit of Bringing Supplies	22	18,6
Buying Food At School	85	72,0
Bring Supplies from Home	33	28,0
Frequency of Snack Food Consumption	47	39,8
Not good	71	60,2
Good	53	44,9
Selection of Snack Foods	65	55,1
Bad	51	43,2
Good	67	56,8

Based on univariate analysis result from 118 respondents, 55 respondents (46.6%) experienced diarrhea and 63 respondents (53.4%) did not experience diarrhea. Most respondents had the habit of buying snacks at school (81.4%), the majority of respondents had a poor frequency of snack food consumption (72%), the majority of respondents had good snack food selection habits (60.2%), the majority of respondents had good hand washing habits (55.1%), the majority of respondents have good nail hygiene (56.8%).

Bivariate analysis has the aim of analyzing the relationship between independent variable with dependent variable. Tests used in the analysis This bivariate is a chi-square test by presenting data proportions in tabulation cross, p-value, prevalence ratio (PR), and confidence interval (CI Bivariate analysis aimed to analyze factors related to the incidence of diarrhea, which was see in table 2:

Table 2. Factors Associated with the Occurrence of Diarrhea in Elementary School Children In Muara Burnai II Village

Variable	Occurrence of Diarrhea				*P Value*	PR (95% CI)
	Yes		No			
	n	%	n	%		
Habit of Bringing Supplies						
Buying Food At School	4	49,0	49	51,0	0,406	1,346 (0,747-2,427)
Bring Supplies From Home	8	36,4	14	63,6		
Frequency of Snack Food Consumption	50	58,8	35	41,2		
Not good	5	15,2	28	84,8	0,000	3,882 (1,698-8,875)
Good	46	97,9	1	2,1		
Hand Washing Habit	9	12,7	62	87,3	0,000	7,721 (4,187-14,238)
Bad	48	90,6	5	9,4		
Good	7	10,8	58	89,2	0,000	8,410 (4,155-17,022)
Nail Hygiene						
Bad	48	94,1	3	5,9		
Good	7	10,4	60	89,6	0,000	9,008 (4,454-18,220)

Based on Table 2, it was seen that the variables frequency of snack food consumption, choice of snack food, hand washing habits and nail cleanliness were factors that were significantly related to the incidence of diarrhea in elementary school children in Muara Burnai II Village (p value <0.05). Meanwhile, the variable habit of carrying provisions was not related to the incidence of diarrhea in elementary school children in Muara Burnai II Village (p value >0.05).

Multivariate analysis aimed to determine the most dominant factors associated with the incidence of diarrhea in elementary school children in Muara Burnai II Village. The results of the multivariate analysis was seen in the table initial multivariate modeling

Table 3. Initial Multivariate Modeling

Independent Variable	P Value	First PR
Frequency of Snack Food Consumption	0,036	14,984
Selection of Snack Foods	0,030	29,291
Hand Washing Habit	0,306	3,196
Nail Hygiene	0,123	11,543

Based on table 3, it is known to proceed to the next stage, namely the confounding test which one by one removes the variables from the variable with the largest P value. The variable that comes out of the modeling first is the hand washing habit variable, until it reaches the final table of the multivariate model.

Based on Table 4, it showed that the variable that was most related to the incidence of diarrhea in elementary school children in Muara Burnai II Village, Lempuing Jaya District, Ogan Komering Ilir Regency was the variable of snack food selection because the PR value obtained was the largest among the other variables, namely PR=29.291 with a value of p 0.030.

Table 4. Final Multivariate Modeling

Independent Variable	*P-Value*	PR Unadjusted	PR Adjusted
Frequency of Snack Food Consumption	0,036	3,882 (1,698-8,875)	14,984 (1,200-187,054)
Selection of Snack Foods	0,30	7,721 (4,187-14,238)	29,291 (1,393 – 615,854)
Hand Washing Habit	0,306	8,410 (4,155-17,022)	3,196 (0,345-29,604)
Nail Hygiene	0,123	9,008 (4,454-18,220)	11,543 (0,513-259,477)

Discussion

Based on the research results, it was seen that the results of the chi-square statistical test on the habit of carrying provisions variable showed a p-value of 0.406 (>0.05), which meant that there was no relationship between the habit of carrying provisions and the incidence of diarrhea. Not bringing provisions from home influenced children's behavior in snacking where children who did not bring provisions will be more likely to buy snacks at school. The benefits of bringing lunch from home were to avoid hunger, because children did not need to look for sellers to buy food and to avoid children from the dangers of unsafe snacks. If you bought snacks at school, you did not know the quality. There were 6 principles of food hygiene and sanitation, efforts to control things that might cause health problems such as diarrhea, including selecting food ingredients, storing foodstuffs, processing foodstuffs, storing mass foods, transporting food and serving food.[15] This research was not in line with research conducted which stated that there was a relationship between the habit of bringing provisions and the incidence of diarrhea, proven by the results of statistical tests with a p value of 0.02 where 15 (57.7%) children bought food at school and experienced diarrhea and children who brought provisions and experienced diarrhea was 13 (30.2%). [4]

The results of the chi-square statistical test for the frequency of snack food consumption variable showed a p-value of 0.000, meaning that the frequency of snack food consumption was significantly related to the incidence of diarrhea. Respondents with a poor frequency of consuming snacks were 3.882 times more at risk of experiencing diarrhea compared to respondents with a good frequency of consuming snacks. The high frequency of children consuming school snacks and unhealthy types of snacks caused health problems in children, especially diarrhea. There was a relationship between the frequency of consumption of snack foods and the incidence of diarrhea, because the majority of respondents who frequently consumed snack foods and experience the incidence of diarrhea were 58.8%.[16]

There were many factors that caused the high frequency of consumption of snack foods due to the busyness of the mother who did not provide breakfast from home, the child had to eat snacks. Likewise, the high frequency of snacks was caused by children who did not want to have breakfast

at home and prefer snacks sold by traders whose cleanliness was not guaranteed.[17] The availability of healthy or unhealthy snacks at school influences children's snack choices. A child was more reluctant to buy snacks that are far from where they were.[18]

The results showed that 46 respondents (97.9%) had poor choices of snacks and experienced diarrhea. Respondents with poor snack food choices were 7.721 times more at risk of experiencing diarrhea than respondents with good snack food choices. This research is in line with Atmaja and Hidayat. Based on the research results, it was found that 18 respondents chose poor snack foods and experienced diarrhea. the results of the chi square test showed a p value of 0.01, meaning that H0 was rejected so the conclusion was that there was a relationship between the choice of snack foods and the incidence of diarrhea because the p value <0.05.[19]

The choice of snacks was influenced by several factors, namely personal factors related to food decision making and socio-economic factors.[19] There was a relationship between the choice of snack foods and the incidence of diarrhea because the majority of respondents had bad habits of choosing snack foods and experienced diarrhea (97.9%). Choosing snack foods included practices and actions in choosing snack foods, where many children actually already had knowledge regarding choosing snack foods, such as choosing food that was clean and covered, looking at the expiration date before buying food, not choosing food that was moldy and the packaging is not damaged. However, children were still many elementary schools that did not take action on the knowledge they had, so there were still many children who chose poor snack foods and did not yet know that the food is contaminated with certain agents. The availability of healthy snacks or not at school greatly influences children's choice of snacks, where children were more likely to buy snacks that were available near them.[20]

Based on the research results, it was known that 48 respondents had the habit of washing their hands and experienced diarrhea, 90.6%. The results of thee chi-square statistical test showed a p-value of 0.000, so it was concluded that there was a relationship between hand washing habits and the incidence of diarrhea. This research is in line with research conducted by. [6] Which the statistical test results show that the p-value = 0.038, meaning p-value

There was a relationship between hand washing habits and the incidence of diarrhea because the majority of respondents had poor hand washing habits and experience diarrhea (90%). In particular, washing hands was the best way to prevent the spread of infections from person to person and helped prevent diarrhea .[21] The habit of washing your hands well was one of the things that everyone should done because the part of the body that was most susceptible to being contaminated with dirt and germs was the hand, where we used it to hold things, shake hands, and so on. Correct hand washing was not only influenced by how you wash it, but also by the water and hand towels used .[22] Hand washing was one of the most cost effective interventions to reduce the incidence of diarrhea in children. [23]

Washing hands was the process of mechanically removing dirt and dust from the skin of both hands using soap and running water. The aim was to reduce the number of microorganisms and remove dirt and dust from the surface of the skin.[24] One way to prevent foodborne illnesses was to wash your hands frequently, children need to be taught this habit. If you were used to washing your hands after playing and when eating, you hoped that this habit would carry over into old age.

Our hands were the part of the body most contaminated with dirt and pathogens. Of course, our hands have germs that stick to the skin when we shake hands or hold something. If we did not wash our hands before eating or processing food, parasites, viruses, worm eggs and other contaminants on our hands will end up in our stomachs.[10] There were eight times to wash your hands, before and after eating, before and after preparing food, after playing, after urinating and defecating, and so on.[25]

The results showed that 48 (94.1%) respondents had poor nail hygiene and experienced diarrhea. The results of the chi-square statistical test obtained a result of 0.000, so it was concluded that there was a relationship between hand washing habits and the incidence of diarrhea. Respondents with poor nail hygiene were 9.008 times more likely to experience diarrhea than respondents with good nail hygiene. Maintaining hand hygiene was not enough just by washing your hands, but also by keeping your nails clean by cutting your nails regularly and brushing or cleaning your nails when bathing. This was because nails was a place for germs and bacteria to grow. [26] To keep your nails clean, file or cut them into an oval shape or follow the shape of your nails; did not cut them too short because it could injure the skin around your nails, did not clean dirt with sharp objects, and did not bite your nails.[1]

Maintaining body hygiene by cutting your nails short and cleaning them frequently was one way to prevent diarrhea. [27] The area under the nails was the perfect breeding ground for bacteria such as Salmonella and E. coli. Keeping your nails clean was an important aspect of maintaining personal hygiene. Through your nails, various germs entered the body and caused various diseases such as diarrhea. Therefore, your nails should always be kept clean.[11] This research was in line with that carried out by.[1] Based on the chi square test, a p value of 0.001 (<0.05) was obtained, so it was concluded that there was a relationship between nail cleanliness and the incidence of diarrhea in Al-Washliyaah 30 Medan Labuhan Private Elementary School Students..

Based on the analysis of the logistic regression test, the prediction model showed that the variable that was most related to the incidence of diarrhea in elementary school children in Muara Burnai II Village, was the snack food selection variable because the PR value obtained was the largest among the other variables, PR =29.291 with a p value of 0.030. This is in line with research conducted by Hernanda there is also a relationship between snack selection behavior with the incidence of diarrhea with a p value of 0.000. And odd value ratio is 32.945, it can be concluded

that the behavior in choosing snacks is not good has an effect on the incidence of diarrhea 32.954 times more than behavior good snack selection.[28]

This research is in line with where there is a relationship between snack food selection behavior and the incidence of diarrhea with a p value = 0.000.[6]This is in line with research conducted by Hernanda, there is also a relationship between snack choice behavior and the incidence of diarrhea with a p value of 0.000. And the odd ratio value is 32.945, it can be concluded that poor snack selection behavior has an effect on the incidence of diarrhea 32.954 times more than good snack selection behavior.[28]

The use of hazardous substances that were not permitted in snack foods caused illnesses such as diarrhea and food poisoning while in the long term, it caused death.[29]Snack food selection behavior was all of a person's activities or actions, both those that were directly observed and those that were observed by outsiders, in selecting snack foods. Snack food selection behavior includes knowledge, attitudes and practices/actions of selecting snack food. School-aged children were vulnerable to food-borne disease problems, one of which was diarrhea. At this time, school-aged children usually experienced an increase in appetite scientifically, this was a factor in increasing children's food consumptiono this reason, it is necessary to anticipated children so that they did not get diarrhea by getting children used to eating breakfast from home, bringing provisions from home, both of these minimized children's consumption of snacks at school.

The author realizes that there are limitations to the research, namely the researcher does not control for the factors that respondents eat snacks outside of school and when they do not carry out Escherichia coli tests on snacks sold at schools so that it can influence snack food consumption behavior variables.

Conclusion

This research was concluded that the factors related to the incidence of diarrhea based on the research results were the frequency of consumption of PR snack foods the choice of snack foods the habit of washing hands, nail cleanliness with the incidence of diarrhea in elementary school children in Muara Burnai II Village. The most dominant factor related to the incidence of diarrhea in elementary school children in Muara Burnai II Village was the choice of. It would be better for schools to make regulations regarding standards for traders, so that they became healthy canteens in schools.

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Conflict of interest

The authors declare that there is no conflict of interest.

Reference

1. Andini R. Hubungan Perilaku Hygiene dengan Kejadian Diare di Sekolah Dasar Al-Washliyah 30 Medan Labuhan: Universitas Islam Negeri Sumatera Utara; 2021. DOI: https://repository.uinsu.ac.id/id/eprint/14841
2. Walid DL, Afiah ASN, Rahman I. Identifikasi Escherichia Coli Pada Makanan Di Rumah Makan Di Lingkungan Kampus Ii Universitas Khairun. Kieraha Medical Journal. 2021;3(1). DOI: https://doi.org/10.33387/kmj.v3i1.3271
3. Kesehatan K. Profil Kesehatan Indonesia 20212021.
4. Ni'mah AU. Hubungan Perilaku Hidup Bersih Dan Sehat (Phbs) Serta Kebiasaan Jajan Dengan Kejadian Diare Pada Siswa Di Sd Negeri 1 Kemiri, Boyolali. 2019. DOI: https://eprints.ums.ac.id/id/eprint/69699
5. Almanfaluthi ML, Budi MH. Hubungan antara konsumsi jajanan kaki lima terhadap penyakit diare pada anak sekolah dasar. Medisains. 2017;13(3). DOI: https://dx.doi.org/10.30595/medisains.v13i3.1610
6. Jopie PVKMP, Bokau J. Faktor-Faktor Yang Berhubungan Dengan Kejadian Diare Pada Siswa Sd Gmim 46 Sukur Kecamatan AirmadidI. Jurnal Kesehatan Masyarakat UNIMA. 2021;02:60-5. DOI: https://www.neliti.com/id/publications/348851/
7. Nurudeen ASN, Toyin A. Knowledge of Personal Hygiene among Undergraduates. JHE (Journal of Health Education). 2020;5(2):66-71. DOI: https://doi.org/10.15294/jhe.v5i2.38383
8. Sumekar DW, Wijaya SM. Hubungan Kebersihan Diri dengan Kejadian Diare pada Petugas Kebersihan Tempat Pembuangan Akhir Bakung Bandar Lampung. Medical Profession Journal of Lampung. 2020;10(3):404-7. DOI: https://doi.org/10.53089/medula.v10i3.87
9. Risa Kiranasari R. Hubungan Perilaku Cuci Tangan Dengan Kejadian Diare Pada Siswa Di Sekolah Dasar Negeri 03 Delingan Karanganyar: Universitas Kusuma Husada Surakarta; 2021. DOI: http://eprints.ukh.ac.id/id/eprint/2240http://eprints.ukh.ac.id/id/eprint/2240
10. Natsir MF. Pengaruh penyuluhan ctps terhadap peningkatan pengetahuan siswa sdn 169 bonto parang desa barana. Jurnal Nasional Ilmu Kesehatan. 2018;1(2). DOI: https://journal.unhas.ac.id/index.php/jnik/article/view/5977

11. Rianda DP. Pengetahuan dan Tindakan Personal Hygiene Pemulung Sampah di TPA Ganet Tanjungpinang. Jurnal Kesehatan. 2016;5(2). DOI: https://doi.org/10.26630/jk.v5i2.50
12. Ponimin PBV, Engkeng S, Asrifuddin A. Faktor-Faktor yang Berhubungan dengan Perilaku Konsumsi Jajanan pada Anak di SD Negeri Winangun Kota Manado. KESMAS. 2019;8(6). DOI: https://ejournal.unsrat.ac.id/index.php/kesmas/article/view/25534
13. Wantoro BD. Frekuensi Konsumsi Makanan Jajanan Dengan Kejadian Diare Pada Anak Usia Sekolah. Java Health Jounal. 2020;7(2). DOI: http://jhj.fik-unik.ac.id/index.php/JHJ/article/view/64
14. Chaisyah R. Faktor Yang Berhubungan Dengan Pemilihan Makanan Jajanan Pada Siswa Kelas V Di Mis Al Hidayah Desa Muliorejo Kecamatan Sunggal Kabupaten Deli Serdang Tahun 2019: Institut Kesehatan Helvetia; 2019. DOI: http://repository.helvetia.ac.id/
15. Almira NWdVG. Higiene Dan Sanitasi Dalam Penyelenggaraan Makanan. Yogyakarta: K-media; 2019. DOI: https://doi.org/10.26714/jipmi.v1i4.57
16. Ruliati R. Hubungan Konsumsi Jajanan Sekolah Dengan Kejadian Diare Pada Anak Usia Sekolah (Studi di MI Darul Ulum Desa Ngumpul, Kecamatan Jogoroto, Kabupaten Jombang). Jurnal Kebidanan. 2018;8(2). DOI: https://doi.org/10.35874/jib.v15i1.454
17. Angraini W, Betrianita B, Pratiwi BA, Yanuarti R, Fermana P. Pengaruh Pendidikan Kesehatan terhadap Pengetahuan, Sikap, dan Frekuensi Konsumsi Makanan Jajanan. Jurnal Kesmas Asclepius. 2019;1(1):1-13. DOI: https://doi.org/10.31539/jka.v1i1.605
18. Dyna F, Putri VD, Indrawati D. Hubungan perilaku komsumsi jajanan pada pedagang kaki lima dengan kejadian diare. Jurnal Endurance: Kajian Ilmiah Problema Kesehatan. 2018;3(3):524-30.
    DOI: https://ejournal.lldikti10.id/index.php/endurance/article/view/3097
19. Atmaja BD, Hidayat FR. Hubungan Pengetahuan dan Perilaku Pemilihan Makanan Jajanan dengan Kejadian Diare pada Remaja Kelas IX di SMPN 36 Kelurahan Rapak Dalam Samarinda Seberang. 2018. DOI: https://dspace.umkt.ac.id//handle/463.2017/565
20. Iklima N. Gambaran pemilihan makanan jajanan pada anak usia sekolah dasar. Jurnal Keperawatan BSI. 2017;5(1).
    DOI: https://ejournal.bsi.ac.id/ejurnal/index.php/jk/article/view/1774
21. Gusti Lestari Handayani A. Hubungan Perilaku Kebersihan Perorangan dan Lingkungan Serta Status Gizi dengan Kejadian Infeksi pada Anak Usia Sekolah di Sekolah Dasar Kota Jambi Jurnal Ilmiah Universitas Batanghari Jambi. 2020;20(1):232-6. DOI: https://dx.doi.org/10.33087/jiubj.v20i1.878
22. Suherman FQA. Analisis Kejadian Diare Pada Siswa Di SD Negeri Pamulang 02 Kecamatan Pamulang Tahun 2018. Jurnal Kedokteran Dan Kesehatan. 2019;15(2):199-208. DOI: https://doi.org/10.24853/jkk.15.2.199-208

23. Rosyidah AN. Hubungan perilaku cuci tangan terhadap kejadian diare pada siswa di Sekolah Dasar Negeri Ciputat 02. JIKO (Jurnal Ilmiah Keperawatan Orthopedi). 2019;3(1):10-5. DOI: https://doi.org/10.46749/jiko.v3i1.25
24. Ramadani ER, Mersatika A. Higiene dan sanitasi makanan jajanan di kantin sekolah dasar di Kecamatan Buke Kabupaten Konawe Selatan Tahun 2016: Haluoleo University; 2017. DOI: https://www.neliti.com/publications/198078/
25. Yakina AN, Adi S, Ariwinanti D. Pengaruh Pendidikan Kesehatan Menggunakan Team Games Tournament (TGT) Terhadap Pengetahuan dan Sikap Cuci Tangan Pakai Sabun Pada Pencegahan Penyakit Diare di Siswa Kelas 5 Sekolah Dasar. Sport Science and Health. 2020;2(2):145-51. DOI: https://repository.um.ac.id/id/eprint/1235
26. Nainggolan S. Higiene Perorangan dan Perilaku Hidup Bersih dan Sehat. Nusa Literas Inspirasi; 2018. DOI: https://repository.uki.ac.id/id/eprint/912
27. Hamzah B. Analisis Hhubungan Personal Hygiene Dengan Kejadian Diare Pada Anak Usia 4-5 Tahun Di Desa Muntoi Timur Kabupaten Bolaang Mongondow. Infokes. 2020;10(1):219-24. DOI: https://jurnal.ikbis.ac.id/infokes/article/view/167
28. Hernanda AP, Djallalluddin D, Noor MS. Hubungan Perilaku Jajan Dengan Kejadian Diare Pada Anak Sekolah Dasar: Di Kel. Cempaka Kec. Cempaka Kota Banjarbaru. Berkala Kedokteran. 2013;9(1):93-100.
DOI: https://ppjp.ulm.ac.id/journal/index.php/jbk/article/view/922
29. Gultom MM, Onibala F, Bidjuni H. Hubungan konsumsi makanan jajanan dengan diare pada anak di sdn 3 gogagoman kecamatan kotamobagu barat kota kotamobagu. Jurnal Keperawatan. 2018;6(1). DOI: https://doi.org/10.35790/jkp.v6i1.18775