

# Implementation of clean and healthy lifestyle behavior with children's nutritional status the during covid-19 pandemic

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## ABSTRACT

The implementation of Clean and Healthy Lifestyle in the midst of the COVID-19 pandemic has become a serious problem in society. The application of clean and healthy living behavior in everyday life in the household can reduce the risk of disease and nutritional status in children. Achievement of optimal nutritional status can be influenced by several factors, namely direct, indirect and root causes. Direct factors consist of food consumption and infection status. Indirect factors consist of availability, food consumption patterns, hygiene, sanitation, and environmental health. The purpose of this study was to determine the Clean and Healthy Lifestyle with Child Nutritional Status in the midst of the Covid-19 Pandemic. This study is a systematic review using online databases, namely Scholar, Scencedirect, ProQuest, and EBSCO. The keywords used are clean and healthy living behavior, Child Nutrition Status, Covid-19 Pandemic. The selection process used the PRISMA protocol so that 15 articles were obtained that met the inclusion criteria. The findings of the review show that adopting a good, clean and healthy lifestyle affects children's nutritional status. The application of clean and healthy living habits in household arrangements is influenced by knowledge, culture, socioeconomics, beliefs, and the availability of facilities or technologies. During the Covid-19 pandemic, parents can play a role in reminding, educating, providing role models and support, advising, and emphasizing the importance of clean and healthy living.

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## INTRODUCTION

The Covid-19 pandemic has impacted every aspect of life from individuals to states <sup>1,2</sup>. The impact of Covid-19 at the individual level is an increase in morbidity, mortality, mental health problems, and economic insecurity <sup>3,4</sup>. Optimal prevention by the community can reduce the risk of contracting Covid-19. The high transmission rate of Covid19 is causing anxiety and fear in the community <sup>6,7</sup>. Increased public health awareness to prevent the spread of Covid-19, supporting behavioral change towards healthier. According to the decree of the Minister of Health of the

Republic of Indonesia HK.01.07/Menkes/382/2020, one of the preventive measures against the spread of Covid-19 is the implementation of hygiene protocols. Prevention can be done by considering a clean and healthy lifestyle in the community and boosting the body's immunity. A good body immunity can prevent disease.

Eating balanced, nutrient-dense foods, proper exercise, and proper rest can boost your body's immunity<sup>9,10</sup>. Clean and healthy living behavior is an indicator of social health and must be applied in daily life. Community behavior is influenced by sociocultural and surrounding environment. The act of making a clean and healthy life vary for everyone. In addition, economic factors also influence clean and healthy living behaviors. Basically, the lower middle class has lower incomes and faces barriers to clean and healthy living compared to upper-middle-class neighborhoods. Upper-middle class people have enough money to facilitate their lives, so they tend to adopt cleaner and healthier lifestyles in their lives<sup>11</sup>. The application of clean and healthy lifestyle behavior in daily life in the household environment can reduce the risk of infection or disease in both mother and child. Therefore, clean and healthy lifestyle behavior can be used as one of the supporting factors in order to achieve health indicators in the community<sup>12</sup>.

The implementation of clean and healthy lifestyle behaviors is highly dependent on the economic situation of the household. Relationship between linear growth of children and hygiene habits in children's residential households<sup>13</sup>. Families with low economic status often have difficulty adopting good hygiene habits in their daily lives. Fecal-oral bacterial contamination from food touched with unclean hands or utensils can lead to intestinal infections. Effects of intestinal infections in children include loss of appetite, decreased nutrient absorption, and increased nutrient loss. These physiological changes, when sustained, can negatively impact the nutritional status of children<sup>13</sup>.

Behaviors related to hygiene and nutrition can be influenced by many factors, such as: Beliefs, myths, or hereditary traditions that may conflict with rules of clean and healthy living. Achieving optimal nutritional status can be influenced by a variety of factors, namely direct, and indirect. Direct factors include food intake and infection status. Indirect factors include availability, dietary patterns, hygiene, sanitation, and environmental health. Clean and healthy lifestyles and food consumption are not only influenced by attitudes towards Covid-19, but also by subject and household characteristics. Diet and a clean and healthy lifestyle during a pandemic can affect nutrition and health. Therefore, the aim of this systematic review was to determine the clean and healthy living behaviors and the nutritional status of children during the Covid-19 pandemic.

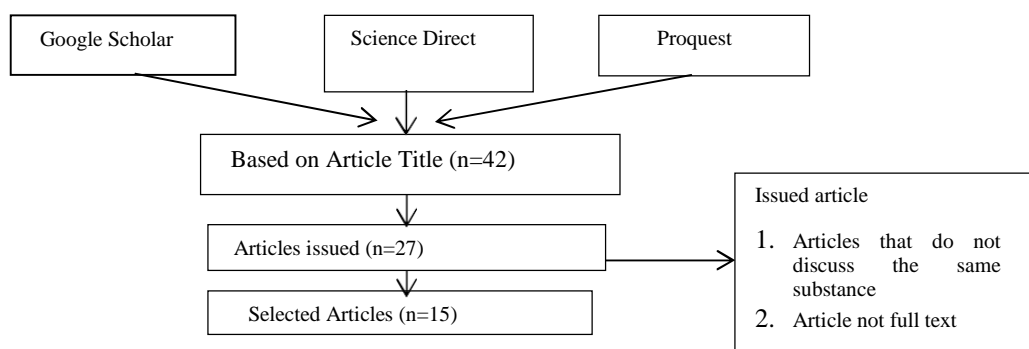
## METHODS

Database searches include Google Scholar, Science Direct, and Proquest with the keywords Clean and Healthy Lifestyle to see the relationship with nutritional status. The next stage is to select articles according to the criteria, which are published in 2015-2020 with full text, in the preparation of Preferred Reporting Items for Systematic Reviews and Meta Analysis (PRISMA) the articles that have been found are then synthesized and analyzed according to the inclusion and exclusion criteria. The inclusion criteria in this systematic review are (1) (2), research can provide information about clean and healthy lifestyle behavior in the midst of the covid pandemic. The search for articles begins in August 2022 with keywords that have been determined by the researcher. The articles found by the researchers were selected according to the inclusion and exclusion criteria, with the keywords Clean and Healthy Life Behavior (PHBS), nutritional status amid covid 19. The researcher deletes the published articles, examines the articles that meet the criteria and groups them according to the research results to proceed to the discussion.

### Results

Initial literature search found 42 articles (Google Scholar 30 articles, Science Direct 10 articles, Proquest 2 articles) 27 articles issued were not in sync with the topic of discussion and did not

discuss Clean and Healthy Living Behavior, only 15 full text articles met the criteria as shown in Figure 1.



**Figure 1.** Flow diagram and article selection

The results of 15 articles found that the Implementation of Clean and Healthy Living Behavior with Children's Nutritional Status in the midst of the Covid-19 Pandemic in general.

**Table 1.** Implementation of Clean and Healthy Lifestyle Behavior with Children's Nutritional Status

No	Title, author, year	Results
1	Relationship between Nutritional Behavior and Clean and Healthy Living Behavior with Baduta Nutritional Status in Cirebon Regency <sup>14</sup>  Junior,. (2020).	The results of the correlation test showed that there was no significant relationship ( $p > 0.05$ ) between food parenting and nutrient intake. In addition, maternal nutritional behavior also did not have a significant relationship ( $p>0.05$ ) with nutritional status. This study found that there was a significant relationship between clean and healthy living behavior on indicators of a smoke-free home environment on the nutritional status of children under two. The imbalance between knowledge and socio-economic factors of income can lead to inequality in the application of food parenting, nutritional behavior, and Clean And Healthy Lifestyle Behavior to the nutritional status of children under two.
2	Clean and healthy living behavior and nutritional status of adolescents in Islamic boarding schools <sup>15</sup>  Damayanti, AY (2020).	Most of the research subjects had good clean and healthy lifestyle behavior attitudes as many as 343 students with a percentage of 80.7% and those who had sufficient behavior about clean and healthy lifestyle behavior were 82 students with a percentage of 19.3%. The highest clean and healthy lifestyle behavior behavior is class 1 with 46 students. The results of the test of the relationship between Clean And Healthy Lifestyle Behavior attitudes and nutritional status of adolescent girls showed a p-value of 0.001.
3	Analysis of the Implementation of Clean and Healthy Life Behavior and Physical Activity with Nutritional Status of Elementary School Children <sup>16</sup>  Yuliana Salman, 2021	The results of the study were analyzed using the Spearmans correlation test with p value $<0.05$ . Based on the results of statistical tests, clean and healthy living behavior had a significant association with the nutritional status ( $p=0.013$ ) with the correlation coefficient ( $r=0.231$ ) and physical activity had a significant association with the nutritional status ( $p=0.000$ ) with the correlation coefficient ( $r=-0.422$ ) of students at Guntung Manggis State Elementary School 2, Banjarbaru.
4	Relationship between Clean and Healthy Life Behavior and Health Status with Nutritional Status of Toddlers in Poor Households in Way Kanan Regency <sup>17</sup>	This research shows that there is no meaningful relationship between knowledge, attitude, behavior, and health status with nutritional status of toddler ( $p>0.05$ ). ).

	Julius, W 2014.	
5	Socialization and Implementation of Clean and Healthy Lifestyle Behavior as an Effort to Reduce Stunting Rates in Elementary Schools in Kunjorowesi Village <sup>18</sup>  Fitriani, 2022.	According to the results of the socialization, students' understanding of Clean and Healthy Living Behavior is increased from 60% to 90%. Based on this percentage, it can be concluded that the socialization is indicated to be successful by understanding elementary school students (ES) in Kunjorowesi village regarding Clean and Healthy Life Behavior
6	The relationship between clean and healthy living behavior on the incidence of stunting in children aged 12-59 months <sup>19</sup>  Rizla Syabanni; Happy Life	The results of this study indicate that there is no relationship between clean and healthy lifestyle behavior and the incidence of stunting in children aged 12-59 months $p > 0.05$ , $\eta^2 = 0.05$ . It is necessary to redevelop the method of assessing the implementation of standard clean and healthy lifestyle behavior and the nutritional intake of children under five on the incidence of stunting needs to be investigated in further research.
7	Implementation of Clean and Healthy Lifestyle to Realize a Healthy Lifestyle from an Early Age at Pekayon 18 Elementary School, East Jakarta <sup>20</sup>  Zainal, A. 2021	The results of the pre-post-test showed an increase from the score before counseling (5.50) to the score after counseling (5.67). The results of the paired sample T test showed that there was a relationship between the provision of clean and healthy lifestyle behavior counseling interventions and an increase in knowledge scores ( $P$ value $< 0.05$ ). Conclusion: Extension activities have increased knowledge of clean and healthy lifestyle behavior.
8	clean and healthy lifestyle behavior Education in Households in Preventing Stunting in Mothers Toddlers in Mataram City Permai Circle Housing <sup>21</sup>  Dian Neni 2022	The study was carried out on pregnant women and mothers with children under five who were. The Mataram City Circle Permai Housing totaled 15 participants. Service activities in the form of clean and healthy lifestyle behavior education and demonstrations of washing hands properly and correctly are accompanied by pre-test and post-test activities. Results from this community service, there is an increase in knowledge and application of clean and healthy lifestyle behavior in the Household in Preventing Stunting in Mothers Toddlers in the Lingkar Permai Housing, Mataram City
9	Factors Related to the Implementation of the Clean and Healthy Behavior Program (Clean and Healthy Lifestyle Behavior) in the Household Arrangement in Kampar Village, East Kampar District <sup>22</sup>  Anggraini, F. 2021	From the results of the Chi-Square statistical test, there is a relationship between knowledge and Clean and Healthy Life Behavior with statistical test results showing that $p$ value = 0.018. There is a relationship between attitude and Clean and Healthy Life Behavior with statistical test results showing that $p$ value = 0.005. There is a relationship between economic factors with Clean and Healthy Life Behavior with statistical test results showing that $p$ value = 0.010.
10	The Influence of Family Roles on Clean and Healthy Living Behavior (Clean and Healthy Lifestyle Behavior) in Elementary School Children Age 10 to 12 Years in Kampung Baru Pondok Cabe <sup>23</sup>  Rexmawati, 2021	The results of the analysis show that there is an influence of the importance of the role of the family on clean and healthy lifestyle behavior in children aged 10 to 12 years by looking at the significance of 0.000 $< 0.05$ . The correlation coefficient is 0.978 which indicates the influence of the role of the family on clean and healthy lifestyle behavior in children aged 10-12 years. The output obtained in the determination coefficient test is 0.957, which means that there is an influence of the role of the family on the clean and healthy lifestyle behavior of children aged 10-12 years of 95.7%. That is, about 4.3% of clean and healthy lifestyle behavior in children may be influenced by other factors

<p>11 Description of Clean and Healthy Life Behavior (Clean and Healthy Lifestyle Behavior ) in Family Arrangements in Wangungjaya Village, Cianjur<sup>24</sup></p> <p>Puspita Hanggit Lestari, Martini, Ardiansyah Lestari, PH 2021</p>	<p>The research obtained the results of the knowledge variables (58.3%), attitudes (51.5%) and implementation of clean and healthy lifestyle behavior (41.7%) in the less category. Knowledge has a relationship with the implementation of clean and healthy lifestyle behavior (p value = 0.000). The attitude variable has a relationship with the implementation of clean and healthy lifestyle behavior (p value = 0.006). Good knowledge has 3,569 times the chance for clean and healthy lifestyle behavior action</p>
<p>12 Introduction to Sanitation and Clean and Healthy Lifestyle for Muhammadiyah High School Students 3 Jember<sup>25</sup></p> <p>Rizkina, F. 2022</p>	<p>The delivery of material by resource persons is very easy to understand, because the implementation of this activity has been through observation, literature study and coordination with the school. Then as many as 64% of SMA Muhammadiyah 3 Jember students felt very understanding and as many as 36% of SMA Muhammadiyah 3 Jember students felt they understood the material that had been delivered.</p>
<p>13 The relationship between household clean and healthy behavior and the nutritional status of children aged 6-36 months in the working area of the Maluku Health Center, Pulang Pisau Regency<sup>26</sup></p> <p>Septiani, Dwi (2017)</p>	<p>The results of the study, it is known that most of the households are included in the category of households with good clean and healthy lifestyle BEHAVIOR (61.02%). The nutritional status of toddlers also mostly have good nutritional status (76.27%) however, there are 23.73% with poor nutritional status. The results of this study indicate that there is a significant relationship between household clean and healthy behavior and the nutritional status of children under five (p = 0.001).</p>
<p>14 Knowledge, Clean And Healthy Living Behavior With The Nutritional Status Of Toddlers<sup>27</sup></p> <p>Yuni Uswatun Khasanah.2015</p>	<p>There is an influence of mother's knowledge about toddler nutrition with toddler's nutritional status and the correlation coefficient is 0.029, there is an influence between healthy clean living behavior and the nutritional status of toddlers and the correlation coefficient is 0.032 and there is an influence between mother's knowledge about toddler nutrition and healthy clean living behavior with nutritional status of toddlers, namely by testing the F count greater than F table, namely 15,164 &gt; 3,179. The better the knowledge about nutrition education and clean and healthy living behavior in mothers, the better the nutritional status of children under five.</p>
<p>15 The Effect of Clean and Healthy Life Behavior on Stunting in Toddlers in Jelbuk Village, Jember Regency<sup>28</sup></p> <p>Djoko Purwanto, Rias Elia Rahmad,2020</p>	<p>Based on data on the coverage of RDS (Healthy Village Houses) in Jelbuk District there are 46 children under five, while those in Jelbuk village are 27%. The high prevalence of stunting in Jelbuk District, especially Jelbuk Village, is thought to be due to many factors, including knowledge of maternal nutrition, low family behavior that is aware of nutrition and clean and healthy living behavior by parents of children under five Stunting, knowledge of maternal nutrition, and clean and healthy living behavior. Health is a factor that can affect the occurrence of stunting. How to prevent it by providing adequate nutritional intake to children</p>

## Discussion

A clean and healthy lifestyle is one of the factors that affects nutrition and health. Individuals in optimal health and nutrition are influenced by healthy lifestyle habits in their daily activities<sup>29</sup>. Good health refers to good physical, mental and socioeconomic status, while good nutrition refers to food availability and good consumption patterns to increase labour productivity and engage in socially and economically productive activities<sup>30</sup>. A person A healthy state of health requires a

good nutritional status. The findings found significant associations between clean and healthy living habits, indicators of a smoke-free home environment, and nutritional status under five years of age<sup>14</sup>. There is also an association between clean and healthy lifestyle choices and attitudes about the nutritional status of adolescent girls.<sup>15</sup> Clean and healthy living behavior of households with nutritional status of children under five.

This result is consistent with Riskesdas (2013), which also found that the proportion of households using all indicators of clean and healthy lifestyle behaviors in Indonesia is still low, at about 32.3%. This shows that awareness of promoting a clean and healthy lifestyle at home still needs to be improved. A qualitative study in Bangladesh found that the application of home hygiene and hygiene is influenced by many factors, such as: B. Social status, traditional culture or lack of knowledge of clean and healthy lifestyle behaviours<sup>31</sup>. South Kalimantan Other research in 2008 has also shown that the application of clean and healthy lifestyle behaviours in the home is influenced by knowledge, culture, socioeconomics, beliefs and availability of facilities or technologies<sup>32</sup>. Applications of Lifestyle Behavior A clean and healthy home can also indirectly influence the development of stunting. Unclean and healthy lifestyles increase the risk of exposure to fecal-oral bacterial infections, which can adversely affect absorption.

Adopting a clean and healthy lifestyle can indirectly prevent nutritional problems caused by infection. One of the healthy behaviors is physical activity. Use regular physical activity to maintain your body's stamina. Physical activity also affects metabolism by regulating energy levels. The implementation of a good, clean and healthy lifestyle will affect the nutritional status of the clean and healthy lifestyle, facing various uncertainties in the face of Covid19. Uncertainty felt by the community, such as the availability of a vaccine not yet available, especially during the study period, economic uncertainty, virus mutation, and impact on all aspects of life<sup>33</sup>. Lifestyle will be positive if there is a shift in the health paradigm, namely the shift from curative to preventive models. Prevention measures can be taken by consuming nutraceuticals and healthier foods as a step to increase body immunity<sup>34</sup>.

pandemic conditions can also push in a negative direction if there is an increase in consumption of junk food, snacks, and fast food<sup>35</sup>. Parents play a role in reminding, educating, providing role models and support, advice, and emphasizing the importance of clean and healthy living behavior as a reinforcing factor in changing adolescent behavior<sup>36</sup>. the role of parents in the clean and healthy lifestyle behavior of children, where the better the role of parents, the better the practice of clean and healthy lifestyle behavior .

## CONCLUSION

The findings of the review show that adopting a good, clean and healthy lifestyle affects children's nutritional status. The application of clean and healthy living habits in household arrangements is influenced by knowledge, culture, socioeconomics, beliefs, and the availability of facilities or technologies. During the Covid-19 pandemic, parents can play a role in reminding, educating, providing role models and support, advising, and emphasizing the importance of clean and healthy living.

## References

1. De Pedraza, P., Guzi, M., & Tjens, K. (2020). Life Dissatisfaction and Anxiety in COVID-19 pandemic (No. 2020-03). MUNI ECON Working Paper.
2. Aburto, J. M., Schöley, J., Kashnitsky, I., Zhang, L., Rahal, C., Missov, T. I., ... & Kashyap, R. (2022). Quantifying impacts of the COVID-19 pandemic through life-expectancy losses: a population-level study of 29 countries. *International journal of epidemiology*, 51(1), 63-74.
3. Le, K., & Nguyen, M. (2021). The psychological burden of the COVID-19 pandemic severity. *Economics & Human Biology*, 41, 100979.

4. Kasar, K. S., & Karaman, E. (2021). Life in lockdown: Social isolation, loneliness and quality of life in the elderly during the COVID-19 pandemic: A scoping review. *Geriatric Nursing*, 42(5), 1222-1229.
5. Kılınçel, Ş., Kılınçel, O., Muratdağı, G., Aydın, A., & Usta, M. B. (2021). Factors affecting the anxiety levels of adolescents in home-quarantine during COVID-19 pandemic in Turkey. *Asia-Pacific Psychiatry*, 13(2), e12406.
6. Möhring, K., Naumann, E., Reifenscheid, M., Wenz, A., Rettig, T., Krieger, U., ... & Blom, A. G. (2021). The COVID-19 pandemic and subjective well-being: longitudinal evidence on satisfaction with work and family. *European Societies*, 23(sup1), S601-S617.
7. Öztürk Çopur, E., & Karasu, F. (2021). The impact of the COVID-19 pandemic on the quality of life and depression, anxiety, and stress levels of individuals above the age of eighteen. *Perspectives in Psychiatric Care*, 57(4), 1645-1655.
8. Lesourd, B. (2006). Nutritional factors and immunological ageing. *Proceedings of the Nutrition Society*, 65(3), 319-325.
9. Watson, J., & Hill, A. (2015). *Dictionary of media and communication studies*. Bloomsbury Publishing USA.
10. Nieman, D. C., & Wentz, L. M. (2019). The compelling link between physical activity and the body's defense system. *Journal of sport and health science*, 8(3), 201-217.
11. Mardojo, S., & Thohari, I. (2015). Perilaku Hidup Bersih Dan Sehat Pada Tatanan Rumah Tangga Dan Kejadian Penyakit Diare. *Gema Lingkungan Kesehatan*, 13(1).
12. Arifin, M. H. (2021). Higienic and Healthy Lifestyle During the Covid-19 Pandemic. *Prosiding Pengembangan Masyarakat Mandiri Berkemajuan Muhammadiyah (Bamara-Mu)*, 1(1), 338-341.
13. Aguayo, V. M., & Menon, P. (2016). Stop stunting: improving child feeding, women's nutrition and household sanitation in South Asia. *Maternal & child nutrition*, 12, 3-11.
14. Yuniar, W. P., Khomsan, A., Dewi, M., Ekawidyani, K. R., & Mauludyani, A. V. R. (2020). Hubungan antara Perilaku Gizi dan Perilaku Hidup Bersih dan Sehat (PHBS) dengan Status Gizi Baduta Di Kabupaten Cirebon. *Amerta Nutrition*, 4(2), 155-164.
15. Damayanti, A. Y. (2020). Perilaku Hidup Bersih Dan Sehat Dan Status Gizi Santriwati Di Pondok Pesantren. *Perilaku Hidup Bersih Dan Sehat Dan Status Gizi Santriwati Di Pondok Pesantren*, 4(2), 143-150.
16. Salman, Y., & Ranti, S. (2021). Analisis Penerapan Perilaku Hidup Bersih dan Sehat Serta Aktivitas Fisik dengan Status Gizi Anak Sekolah Dasar. *Jurnal Kesehatan Indonesia*, 11(2), 82-86.
17. Julius, W. D., Zuraida, R., & Saftarina, F. (2014). Hubungan Perilaku Hidup Bersih dan Sehat dan Status Kesehatan dengan Status Gizi Balita Pada Rumah Tangga Miskin di Kabupaten Way Kanan. *Jurnal Majority*, 3(6).
18. Fitriani, U. F., Tiboyong, W. G., Ardhani, D., Naufal, A., Agustina, N., & Fahrudin, T. M. (2022). Sosialisasi Dan Penerapan Perilaku Pola Hidup Bersih dan Sehat (PHBS) Sebagai Upaya Penurunan Angka Stunting di Sekolah Dasar Desa Kunjorowesi. *KARYA UNGGUL-Jurnal Pengabdian Kepada Masyarakat*, 1(2), 1-8
19. Zainal, A. U. (2021). Implementasi Perilaku Hidup Bersih dan Sehat Untuk Mewujudkan Gaya Hidup Sehat Sejak Dini di SDN Pekayon 18 Jakarta Timur. *Jurnal Solma*, 10(1), 8-13.
20. Naelasari, D. N., & Nurmaningsih, N. (2022). Edukasi PHBS di Rumah Tangga Dalam Mencegah Stunting Pada Ibu Balita di Perumahan Lingkar Permai Kota Mataram. *Abdonesia: Jurnal Pengabdian*
21. Anggraini, F. Y., Hanafi, A. H., Renaldi, R., Widodo, M. D., & Raviola, R. (2021). Faktor-Faktor Yang Berhubungan Dengan Implementasi Program Perilaku Hidup Bersih Dan Sehat (Phbs) Pada Tatanan Rumah Tangga Di Desa Kampar Kecamatan Kampar Timur: Factors Related To The Implementation Of A Clean And Healthy Lifestyle Program In The Household Structure In Kampar Village, Kampar Timur District. *Media Kesmas*
22. Rexamawati, S., & Santi, A. U. P. (2021, November). Pengaruh Peran Keluarga Terhadap Perilaku Hidup Bersih Dan Sehat (Phbs) Pada Anak Sekolah Dasar Usia 10 Sampai 12 Tahun Di Kampung Baru Pondok Cabe Udik. In *Prosiding Seminar Nasional Penelitian LPPM UMJ (Vol. 1, No. 1)*.
23. Lestari, P. H. (2021). Gambaran Perilaku Hidup Bersih Dan Sehat (Phbs) Pada Tatanan Keluarga Di Desa Wangungjaya Cianjur. *Kosala: Jurnal Ilmu Kesehatan*, 9(1).
24. Rizkina, F. D., Setiawan, A. P., Assadam, A., Nalawati, A. N., Triyudhani, I. L., & Firmansyah, A. (2022). Pengenalan Sanitasi Dan Perilaku Hidup Bersih Sehat Pada Siswa Sma Muhammadiyah 3 Jember. *Jurnal Pengabdian Mandiri*, 1(3), 457-468.

25. SEPTIANI, Dwi. Hubungan antara Perilaku hidup bersih dan sehat (PHBS) rumah tangga dengan status gizi balita usia 6-36 bulan di wilayah kerja Puskesmas Maluku, Kabupaten Pulang Pisau. 2017. PhD Thesis. Poltekkes Kemenkes Palangka Raya.
26. Purwanto, D., & Rahmad, R. E. (2020). Pengaruh Perilaku Hidup Bersih dan Sehat Terhadap Stunting Pada Balita di Desa Jelbuk Kabupaten Jember. *JIWAKERTA: Jurnal Ilmiah Wawasan Kuliah Kerja Nyata*, 1(1), 10-13.
27. Khasanah, Y. U. (2015). Pengetahuan, Perilaku Hidup Bersih Dan Sehat Dengan Status Gizi Balita. *Jurnal Ilmu Kebidanan*, 1(2), 111-118.
28. Purwanto, D., & Rahmad, R. E. (2020). Pengaruh Perilaku Hidup Bersih dan Sehat Terhadap Stunting Pada Balita di Desa Jelbuk Kabupaten Jember. *JIWAKERTA: Jurnal Ilmiah Wawasan Kuliah Kerja Nyata*, 1(1), 10-13.
29. Stuckler, D., Basu, S., Suhrcke, M., Coutts, A., & McKee, M. (2011). Effects of the 2008 recession on health: a first look at European data. *The Lancet*, 378(9786), 124-125.
30. Yuniastuti, A. (2008). Gizi dan kesehatan.
31. Akter, T., & Ali, A. M. (2014). Factors influencing knowledge and practice of hygiene in Water, Sanitation and Hygiene (WASH) programme areas of Bangladesh Rural Advancement Committee. *Rural and remote health*, 14(3), 31-40.
32. Arifin, M. H. (2021). Higienic and Healthy Lifestyle During the Covid-19 Pandemic. *Prosiding Pengembangan Masyarakat Mandiri Berkemajuan Muhammadiyah (Bamara-Mu)*, 1(1), 338-341.
33. Zvolensky, M. J., Garey, L., Rogers, A. H., Schmidt, N. B., Vujanovic, A. A., Storch, E. A., ... & O'Leirigh, C. (2020). Psychological, addictive, and health behavior implications of the COVID-19 pandemic. *Behaviour research and therapy*, 134, 103715.
34. Aday, S., & Aday, M. S. (2020). Impact of COVID-19 on the food supply chain. *Food Quality and Safety*, 4(4), 167-180.
35. Rundle, A. G., Park, Y., Herbstman, J. B., Kinsey, E. W., & Wang, Y. C. (2020). COVID-19 related school closings and risk of weight gain among children. *Obesity (Silver Spring, Md.)*, 28(6), 1008.
36. Setianingsih, S., & Indrayati, N. (2021). Analisis Penerapan Protokol Kesehatan Pada Anak Di Era Pandemi Covid-19. *Jurnal Ilmu Kesehatan Bhakti Husada: Health Sciences Journal*, 12(2), 192-203.
37. Karuniawati, B., & Putrianti, B. (2020). Gambaran perilaku hidup bersih dan sehat (phbs) dalam pencegahan penularan covid-19. *Jurnal Kesehatan Karya Husada*, 8(2), 112-131.