

RESEARCH ARTICLE

Implementation of Clean and Healthy Lifestyles and Social-Physical Distancing by Indonesian Students during the New Normal of the COVID-19 Pandemic

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Abstract

Applying a clean and healthy lifestyle is one of the measures to prevent the massive transmission of COVID-19. This study aimed to determine the application of a clean and healthy lifestyle and social-physical distancing carried out by Indonesian students during the new normal of COVID-19. This research was conducted in June 2020 with a cross-sectional study approach, with the number of respondents being 5,924 students in Indonesia. The technique of filling out the questionnaire was done online by Google Forms. Furthermore, respondents would be asked to fill in the available consent letter and answer questions. Based on the results, most respondents were female students with majors in health (3,982 respondents) from undergraduate study programs (2,529 respondents). The place of residence during the pandemic was staying home with the family (2,715 respondents). A clean and healthy lifestyle involves several variables. Those were included touching eyes, nose, and mouth; using hand sanitizer; keeping a mask; opening the door with elbows; touching public equipment; shaking hands; touching with family; washing hands with soap; cleaning; changing clothes; washing masks; personal equipment; and washing hands directly after arrival had a significant relationship, with $p < 0.005$, and $p < 0.002$ for soaking clothes was also significantly related. Therefore, the clean and healthy lifestyle conducted by respondents could be undergone improvement. Also, respondents did not follow the health protocols, which might trigger COVID-19 transmission.

Keywords: Clean and healthy lifestyle, COVID-19, Indonesia, new normal, social-physical distancing

Introduction

The spreading of COVID-19 worldwide has entered the category of warning. This virus has infected big cities and remote villages.¹ The impact of this transmission provides many losses for the community, significantly affecting income and community activities.^{2,3} Restrictions imposed by the government are one way to reduce the spread of COVID-19. Although previously, the government conducted to carry out restrictions on a large scale and temporarily did not carry out other activities. It turned out to affect the household and caused an increase in the unemployment rate.³

The government finally took action to carry out rules to carry out routines with the new normal of

COVID-19.⁴ The regulation expects the public to do their activities in general, along with applying health protocols correctly. Health protocols that can be carried out include maintaining distances, washing hands, cleaning the body after and before leaving the house, wearing masks, limiting mobilization and interaction, and staying away from crowds.⁵

The application of health protocols is an obligation during outdoor activities; it is also a discipline that must be carried out by every level of society.^{4,6} The case of the COVID-19 pandemic brought various changes in society. In the new normal era of COVID-19, a clean and healthy lifestyle should not be abandoned. On the contrary, it is a restricted recommendation for the community.⁷ A complete implementation

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of health protocols must accompany a clean and healthy lifestyle. It is the primary key to preventing the spread of the COVID-19 virus. In addition to this implementation, nutritional intake is also supported by increasing the body's immune system. Good information for consumption during a pandemic is according to the body's needs and multivitamin supplementation.⁸

The importance of healthy and clean living behavior can improve the quality of life and public health.⁹ A clean and healthy lifestyle can be implemented in the household, school, workplace, and public places. The implementation has many benefits for health, even during the COVID-19 pandemic. This has become an obligation not to be hosted by the virus.²

Healthy and clean lifestyles are all behaviors carried out based on awareness so that such behavior can help both the environment and oneself. A clean and healthy lifestyle includes many factors, including consuming nutritious food, exercising/physical activity, washing hands in running water, using soap, not smoking, avoiding touching the face, wearing masks, and getting enough rest by following the clean and healthy lifestyle pattern. This study aimed to determine the application of a clean and healthy lifestyle and social-physical distancing carried out by Indonesian students during the new normal of COVID-19.

Methods

This research was conducted in June 2020 with a cross-sectional study approach. The

respondents involved were 5,924 students throughout Indonesia with a range of ages 17–24. Respondents who participated in this study agreed and signed the online informed consent attached to the questionnaires. Furthermore, the respondent could fill out the questionnaire after signing the agreement. Dissemination of the questionnaire itself was done by distribution via social media and presented in Google Forms. Respondents who contributed to the research had an associate degree of D3, an associate degree of D4, and a bachelor's degree. Before the questionnaire was used as a measuring tool in this study, the researchers conducted a validity and reliability test.

The analysis used in this research was descriptive quantitative with a bivariate test through SPSS 25. The code of ethics for this study was approved by the Health Research Ethics Committee of the Politeknik Kesehatan Kementerian Kesehatan Mataram, number LB.01.03/1.1/2208/2020.

Results

Most students came from health major study programs, with about 3,982 respondents, and the most dominant gender in this study was female (3,682 respondents). The most widely taken education was a bachelor's degree from 2,529 respondents, and then in the sequence was an associate degree of D3 from 2,169 respondents and an associate degree of D4 from 1,226 respondents (Table 1). Furthermore, about 2,715 respondents chose to live with their

Table 1 Respondents Characteristics

Characteristics	Male		Female		Total		p Value
	n=845	%	n=5,079	%	n=5,924	%	
Major							
Health	300	7.5	3,682	92.5	3,982	100	0.000
Non-health	545	28.0	1,397	72.0	1,942	100	
Education							
Associate degree D3	210	9.7	1,959	90.3	2,169	100	0.000
Associate degree D4	138	11.2	1,088	88.8	1,226	100	
Bachelor degree	497	19.7	2,032	80.3	2,529	100	
Residence							
Boarding house	344	13.8	2,147	86.2	2,491	100	
With family	406	14.9	2,309	85.1	2,715	100	0.160
Dormitory	92	13.0	617	87.0	709	100	
Others	3	33.3	6	66.7	9	100	

Table 2 Implementation of Healthy and Clean Lifestyles for Indonesian Students during the New Normal Period of COVID-19

Variables	Male		Female		Total		p Value
	n=845	%	n=5,079	%	n=5,924	%	
Clean and healthy lifestyle							
Never	134	19.74	545	80.26	679	100	0.000
Rarely	124	14.76	716	85.24	840	100	
Sometimes	306	13.53	1,956	86.47	2,262	100	
Often	192	13.07	1,277	86.93	1,469	100	
Always	89	13.21	585	86.79	674	100	
Touching eyes, nose, and mouth							
Yes	571	12.88	3,860	81.22	4,431	100	0.000
No	274	18.35	1,219	81.65	1,493	100	
Using hand sanitizer							
Yes	422	10.50	3,597	89.50	4,019	100	0.000
No	423	22.21	1,482	77.79	1,905	100	
Keep using mask							
Yes	743	13.26	4,858	86.74	5,601	100	0.000
No	102	31.57	221	68.43	323	100	
Open the door by the elbow							
Yes	437	11.04	3,520	88.96	3,957	100	0.000
No	308	15.65	1,559	79.25	1,967	100	
Touching common equipment							
Yes	677	12.83	4,598	87.17	5,275	100	0.000
No	168	26.73	481	75.27	639	100	
Handshake							
Yes	673	12.56	4,682	87.44	5,355	100	0.000
No	172	30.23	397	69.77	569	100	
Touching family members							
Yes	154	19.39	640	80.61	794	100	0.000
No	691	13.46	4,439	86.54	5,130	100	
Wash hands with soap							
Yes	780	13.67	4,924	86.33	5,704	100	0.000
No	65	29.56	155	70.45	220	100	
Clean up							
Yes	741	13.65	4,685	86.35	5,426	100	0.000
No	104	20.88	394	79.12	498	100	
Changing clothes							
Yes	637	12.76	4,355	87.24	4,992	100	0.000
No	208	22.31	724	77.69	932	100	
Soaking clothes							
Yes	592	13.80	3,469	86.20	4,001	100	0.002
No	313	16.27	1,610	83.73	1,923	100	
Wash mask							
Yes	576	12.99	3,860	87.01	4,436	100	0.000
No	269	18.07	1,219	81.93	1,488	100	
Personal equipment							
Yes	457	12.95	3,072	87.05	3,529	100	0.000
No	388	16.21	2,007	83.79	2,395	100	
Wash hands when arriving							
Yes	788	13.81	4,922	86.19	5,710	100	0.000
No	57	26.63	157	73.37	214	100	

families during the COVID-19 pandemic. The remaining 2,491 respondents lived in boarding houses and dormitories (709 respondents), and about nine chose others. Table 1 explains a significant relationship between majors and gender, education level, and gender ($p=0.000$). The residence also had a significant relationship ($p=0.16$).

Table 2 shows respondents who apply a healthy and clean lifestyle are categorized into occasional (2,262). As many as 1,469 respondents were included in frequently applying a clean and healthy lifestyle. While in the variable "touching the eye" (4,431 respondents). Besides, for the variable using hand sanitizer, respondents commonly already applied it (4,019 respondents). About 5,601 out of 5,924 respondents still used masks ($p<0.05$). Then 3,957 respondents answered opening the door with their elbow, and 1,967 did not open it with their elbow when entering. On the variable "touching public equipment," 5,275 respondents answered "yes," while 639 respondents answered "no," mainly when they left the house and opened the car door or other public equipment. Finally, the data presented show that respondents had avoided shaking hands directly with the community (5,355 respondents).

The variable "touching family members" showed that as many as 5,130 respondents answered "no." It indicated that the respondents understood the safety of family members and guarded against contamination due to activities carried out outside the home. Another variable, namely "washing hands with soap," showed 5,704 respondents answered "yes" and 220 respondents answered "no." Then, for the variable "clean up," they answered "yes" (5,426 respondents). Moreover, the variable "change clothes" is where 4,992 respondents answered "yes." Then, followed by the variable "soaking clothes" after entering the house were 4,001 respondents ($p<0.005$).

In addition, 4,436 respondents showed that they answered "yes" to the variable "wash masks." Cleaning personal equipment that had been used was responded to "yes" (3,529 respondents) and "no" (2,395 respondents). This data illustrates that many respondents still did not care about their respective personal roles. Meanwhile, when arriving and leaving the house, 5,710 respondents answered: "yes" to the variable "wash hands when arrived" ($p<0.005$).

Discussion

The majority of respondents mainly were female from health majors. The large number of female respondents majoring in health was because the Indonesian region tends to choose the disciplines of health and biology.^{10,11} In addition, the health department is influenced because it has something to do with social construction, the influence of parents and gender associations, and the influence of employment. Besides that, the health department is considered one of the most suitable women.¹²

This study shows that a bachelor's degree is a higher education with more decent job opportunities than diplomas. Besides that, the bachelor's level is regarded as the most sought-after and the icon of the bachelor, which the public considers to have a broader scope of material compared to other associate degree education levels. It was further explained that the higher number of bachelor graduates indicates the quality of education in Indonesia itself.¹³

The Ministry of Education, Culture, and Technology Research, in Letter Number 15 of 2020 concerning the implementation of learning, issued a temporary ban that all have to stay at home in the new normal period. The goal is to stop the spread of the COVID-19 virus. By the prohibition, many respondents prefer to remain temporarily with families. However, almost the same number of respondents choose to live in boarding houses.

This study result shows many respondents who "sometimes" lived clean and healthy lifestyles. This could be due to the influence of adaptation to new habits, so many respondents still needed to get used to it.^{14,15} The importance of implementing clean and healthy living behavior during a pandemic should become a daily habit. In addition, this movement aims to improve the quality of life and public health. The application of clean and healthy living can be made in schools, workplaces, and other public facilities.¹⁶

The work of the COVID-19 virus is that it can cause invasion of parts of the body so that the virus can bind to protein parts in the body. The respondents' understanding is considered significant ($p<0.005$) on the condition of touching the eyes, nose, and mouth.¹⁷ The cause is not allowed to touch the eye area, nose, and mouth because the body has a mechanism to remove immune mediators that attack these

areas.^{18,19} Moreover, in such cases, the virus can take advantage of body parts, bind to proteins, and replicate by infecting.

Most of the respondents in this study had implemented hand sanitizers well ($p < 0.005$). In this case, the respondent maintained hand hygiene outside the house. The use of hand sanitizers is one of the efforts to prevent the spread of the COVID-19 virus. This is also in line with respondents who continue to use masks when traveling; using masks when outside is aimed at protecting themselves from contamination.

Regarding COVID-19, opening the door with an elbow is a practical step in avoiding the spread of the virus. Furthermore, it is in line with respondents who had a significant relationship with the behavior of respondents in taking care of themselves ($p < 0.005$). Thus, respondents have followed the rules to protect themselves from being infected directly or indirectly by spreading the virus, even by touching public equipment.

Shaking hands is a part of social culture, but by the COVID-19 pandemic, this culture has had to be temporarily suspended. Because shaking hands can attach various viruses, bacteria, or germs to the hands,^{20,21} this is also the case with contact with family. Moreover, considering the transmission of the virus can be through various unknown media, this very microscopic size becomes one of the parts that cannot be detected.

The respondents who washed their hands were included in the excellent category ($p < 0.005$). Washing hands with soap consistently can improve health status. Washing hands looks easy, but many people still need to do it better or tend to be underestimated. Furthermore, the condition of the respondents also did a lot of self-cleaning when they got home. This awareness is one of the increased awareness of the respondents.^{1,22}

One way to stop the spread of the COVID-19 virus was to self-clean.^{23,24} See Table 2 that respondents had done self-cleaning well ($p < 0.005$). Cleaning oneself could prevent the spread of COVID-19; this self-cleaning could also be in the form of changing clothes ($p < 0.005$), soaking clothes ($p < 0.005$), washing masks ($p < 0.005$), personal equipment ($p < 0.005$). In addition, when they came home after outside activities, many respondents washed their hands when they got home ($p < 0.005$).^{14,22-25}

With the massive spread of COVID-19, people must always maintain personal hygiene and care for themselves whenever and wherever. So it is

because self-cleaning can benefit self-protection to be healthier and avoid the COVID-19 virus.

Conclusions

The implementation of clean and healthy living by Indonesian students is good. Although the tightening had been carried out well, the facilities provided by the government still needed to be improved to optimize the reduction of COVID-19. With this support, new virus cases can be avoided.

Conflict of Interest

None declared.

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References

1. Bhatt T, Kumar V, Pande S, Malik R, Khamparia A, Gupta D. A review on COVID-19. *SCI*. 2021;924:25–42.
2. Fitria L, Ifdil I. Kecemasan remaja pada masa pandemi Covid-19. *J Educatio*. 2020;6(1):1–4.
3. Susilawati, Falefi R, Purwoko A. Impact of COVID-19's pandemic on the economy of Indonesia. *BIRCI J*. 2020;3(2):1147–56.
4. Rani AP, Elizabeth RF, Nathan MM. Water, sanitation and hygiene challenges faced in India in COVID-19 prevention: a literature review. *Indian J Public Health Res Dev*. 2021;12(1):22–5.
5. Nopriyati, Trilisnawati D, Yahya YF, Devi M, Toruan TL. Prevention of irritant contact dermatitis due to hand hygiene in the era of COVID 19 pandemic. *Bioscientia Medicina*. 2020;4(4):29–44.
6. Disemadi HS, Handika DO. Community compliance with the Covid-19 protocol hygiene policy in Klaten regency, Indonesia. *LJIH*. 2020;28(2):121–33.
7. Supriatna E. Wabah corona virus disease (Covid 19) dalam pandangan Islam. *Salam*. 2020;7(6):555–64.
8. Baker TL, Greiner JV, Maxwell-Schmidt E, Lamothe PH, Vesonder M. Guidelines for frontline health care staff safety for COVID-19. *J Prim Care Community Health*.

- 2020;11:2150132720938046.
9. Setyawan FEB, Lestari R. Challenges of stay-at-home policy implementation during the coronavirus (COVID-19) pandemic in Indonesia. *JAKI*. 2020;8(1):15–20.
 10. Organization for Economic Co-operation and Development. Programme for International Student Assessment (PISA). Result from PISA 2015: Indonesia [Internet]. Paris: Organization for Economic Co-operation and Development; 2016 [cited 2022 February 2]. Available from: <https://www.oecd.org/pisa/PISA-2015-Indonesia.pdf>.
 11. Huyer S. Is the gender gap narrowing in science and engineering. In: UNESCO science report: towards 2030. Paris: UNESCO Publishing; 2015. p. 85–103.
 12. Organization for Economic Co-operation and Development. PISA 2015 results in focus [Internet]. Paris: Organization for Economic Co-operation and Development; 2015 [cited 2022 February 28]. Available from: <https://www.oecd.org/pisa/pisa-2015-results-in-focus.pdf>.
 13. Organization for Economic Co-operation and Development. Education at a glance 2019: Indonesia [Internet]. Paris: Organization for Economic Co-operation and Development; 2019 [cited 2022 March 3]. Available from: https://www.oecd.org/education/education-at-a-glance/EAG2019_CN_IDN.pdf.
 14. MacIntyre CR, Dung TC, Chughtai AA, Seale H, Rahman B. Contamination and washing of cloth masks and risk of infection among hospital health workers in Vietnam: a post hoc analysis of a randomised controlled trial. *BMJ Open*. 2020;10(9):e042045.
 15. Purnama SG, Susanna D. Hygiene and sanitation challenge for COVID-19 prevention in Indonesia. *Kesmas*. 2020;1(Spec 1):6–13.
 16. Handayani RT, Arradini D, Darmayanti AT, Widiyanto A, Atmojo JT. Pandemi COVID-19, respon imun tubuh, dan herd immunity. *JIPJISK*. 2020;10(3):373–80.
 17. Kristiandi K, Yuniarto AE, Darawati M, Doloksaribu TH, Anggraeni I, Pasambuna M, et al. Food consumption patterns of male and female undergraduate students in Indonesia during new normal implementation of pandemic Covid-19 era. *OAMJMS*. 2021;9(E):278–82.
 18. Susilo A, Rumende CM, Pitoyo CW, Santoso WD, Yulianti M, Herikurniawan, et al. Coronavirus disease 2019: tinjauan literatur terkini. *J Penyakit Dalam Indones*. 2020;7(1):45–67.
 19. Cao X. COVID-19: immunopathology and its implications for therapy. *Nat Rev Immunol*. 2020;20(5):269–70.
 20. Lei Y, Zhang HW, Yu J, Patlas MN. COVID-19 infection: early lessons. *Can Assoc Radiol J*. 2020;71(3):251–2.
 21. Shereen MA, Khan S, Kazmi A, Bashir N, Siddique R. COVID-19 infection: Origin, transmission, and characteristics of human coronaviruses. *J Adv Res*. 2020;24:91–8.
 22. Chughtaita AA, Seale H, MacIntyre CR. Effectiveness of cloth masks for protection against severe acute respiratory syndrome coronavirus 2. *Emerg Infect Dis*. 2020;26(10):e200948.
 23. Sari NN, Yulianan D, Hervieda R, Annisa Agata. Protokol kesehatan Covid-19: sebagai upaya pencegahan Covid-19 di area kerja pada karyawan perkantoran di Bandar Lampung. *J Peduli Masy*. 2020;2(4):173–80.
 24. Yanti NPED, Nugraha IMADP, Wisnawa GA, Agustina NPD, Diantari NPA. Gambaran pengetahuan masyarakat tentang COVID-19 dan perilaku masyarakat di masa pandemi COVID-19. *JKJ*. 2020;8(3):491–504.
 25. Wu YC, Chen CS, Chan YJ. The outbreak of COVID-19: an overview. *J Chin Med Assoc*. 2020;83(3):217–20.