

# The impact of COVID-19 on personal hygiene behavior of female students in islamic boarding school



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## ABSTRACT

**Introduction:** Corona Virus Infection 2019 (Covid-19) is still a problem faced by all countries in the world, including Indonesia. Islamic boarding schools are a vulnerable place to be cluster spread of COVID-19 because there is much interactivity in a limited environment. This study aims to study the impact of Covid-19 on the personal hygiene behavior of female students in Islamic Boarding School.

**Methods:** The research design is cross-sectional. The sample in this study was 117. Data collection using questionnaires and interviews by applying strict health protocols. Data analysis used univariate and bivariate.

**Results:** The results of the study informed that before covid-19 there were many female students who did not practice personal hygiene properly. Meanwhile, during the COVID-19 pandemic, most of the female students had practiced personal hygiene with sufficient category. **Conclusion:** There was a significant change in the personal hygiene behavior of female students in Islamic boarding schools before and during the COVID-19 pandemic.

**Keywords:** covid-19, personal hygiene, female student, Islamic boarding school.

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## INTRODUCTION

Coronavirus disease (Covid)-19 is a global infectious disease or pandemic with high mortality which is still faced by all countries in the world, including Indonesia. Until November 2020, the number of deaths due to Covid-19 has reached 1.2 million people.<sup>1</sup> Eath due to Covid-19 in Indonesia, November 25, 2020, reached 16,225 people from 512,000 cases and 430,000 people recovered. The death rate due to Covid-19 in Indonesia is quite high at 3.7% (higher than India and the Philippines).<sup>2</sup>

To break the chain of the spread of Covid-19, the Indonesian government issued policies including staying at home, social distancing, physical distancing, using personal protective equipment (masks), maintaining personal hygiene (washing hands), working and studying at home (work/study from home), postponing all activities that involve large scale crowds, large-scale social restrictions (PSBB) and enactment of new normal policies.<sup>3</sup> Islamic boarding schools are one of the places that are vulnerable to becoming clusters of the spread of

COVID-19 because there are many interactions in a limited environment and in this place personal hygiene is getting less attention.

Islamic boarding school is a learning institution occupied by students or students who live in it.<sup>4</sup> Islamic boarding schools are identical to closed communities because all activities are carried out together without involving the outside community, so knowledge about the outside world is limited. A large number of students, crowded activities, and limited space are the triggers for not implementing personal hygiene properly.<sup>5</sup> Personal utensils such as plates, glasses, clothes, and towels are often used together and placed in the same area. While personal hygiene is the main factor to improve individual health.<sup>6</sup> Besides that, personal hygiene is a high-risk factor for the spread of Covid-19.<sup>7</sup>

Several ways to prevent the transmission of Covid-19 in Islamic boarding schools are: avoiding eating buffets, drinking, and using eating utensils together, seeking facilities such as prayer utensils and worship utensils to be used separately so

that they do not mix, and personal worship utensils must also be washed regularly, physical activities (exercise every morning, sports, community service), food intake by consuming balanced nutrition, wearing masks, maintaining distance, and washing hands. The purpose of this study was to study the impact of Covid-19 on the personal hygiene behavior of female students at one of the Islamic boarding schools in Probolinggo.

## METHODS

### Study Design

This research is an analytic observational study with a cross-sectional design. The research was conducted at the Darul Ulum Islamic Boarding School Kraksaan Probolinggo in November-December 2020.

### Data Collection

The sample in this study was 117 female students who live in the Darul Ulum Islamic boarding school Kraksaan Probolinggo. Data collection was carried out using questionnaires and interviews to obtain primary data, with strict health

protocols. The personal hygiene practices observed were: clothing hygiene, skin hygiene, hand and nail hygiene, genital hygiene, towel hygiene, bedding hygiene, food, and cutlery hygiene, and personal hygiene practices to prevent covid-19, namely: wearing masks, keeping distance, and washing hands with soap.

### Data analysis

Statistical test using paired sample t-test with SPSS application with a significance limit of 0.05.

## RESULTS

Based on Table 1, the information is obtained that the age of students ranges from 15-18 years with a percentage of 33.3% and the level of education is mostly Madrasah Ibtidaiyah (Primary School).

Based on Table 2, information is obtained that there is a difference in the number of students who practice personal hygiene before COVID-19 and during the Covid-19 pandemic. Before COVID-19, there were still many female students who were lacking in personal hygiene practices. Meanwhile, during the COVID-19 pandemic, many female students carried out personal hygiene in sufficient and good categories. Likewise, the practice of preventing COVID-19 has increased.

Based on Table 3, information is obtained that personal hygiene practices carried out by female students before COVID-19 and during the Covid-19 pandemic have increased. Likewise, the practice of preventing COVID-19 has increased. The results of the statistical test using a paired sample t-test for all observed indicators, such as clothing hygiene, skin hygiene, hand and nail hygiene, genital hygiene, towel hygiene, bedding hygiene, food, and cutlery hygiene, and personal hygiene practices to prevent COVID-19 like wearing a mask, keeping a distance and washing hands with soap, gave a significant value ( $p = 0.000 < p = 0.05$ ). This means that during the COVID-19 pandemic, female students had better personal hygiene practices than before Covid-19.

## DISCUSSION

This study studied the impact of COVID-19 on the personal hygiene practices of 117

female students in the boarding school. Personal hygiene practices observed in this study were: clothing hygiene, skin hygiene, hand, and nail hygiene, genital hygiene, towel hygiene, bedding hygiene, food, and cutlery hygiene, and personal hygiene practices to prevent covid-19 like wearing masks, physical distancing, and washing your hands with soap.

The results of the study provide information that most of the female students in Islamic boarding schools are still young, between 6-18 years, and their background study is Madrasah Ibtidaiyah level (Primary School level), Madrasah Tsanawiyah (Junior High School level), and Vocational High School (High School Level). Generally, the students who study in Islamic boarding schools are still young. Living in Islamic boarding schools, makes them independent, including in personal hygiene practices. And during this covid-19 pandemic, all students must also get used to doing covid-19 prevention practices.

For the cleanliness of clothes, most of the female students have practiced it well (34.2%) and enough (58.1%) during the covid-19 pandemic. This means that female students have changed clothes twice a day, washed clothes with detergent, did not exchange clothes with fellow students, did not soak clothes together with other students' clothes, and dried clothes in the hot sun. The results of the statistical test show that there is a significant difference between the cleanliness of female students' clothes before COVID-19 and during the Covid-19 pandemic. Keeping clothes clean is one of them by drying clothes that

have been washed under the hot sun and changing clothes at least once a day.<sup>8</sup>

For skin hygiene, most of the female students have practiced well (34.2%) and sufficient (61.5%) during the covid-19 pandemic. This means that female students bathe twice a day using soap, scrub their body when bathing, and use their soap. The results of the statistical test show that there is a significant difference between the skin hygiene of female students before Covid-19 and during the Covid-19 pandemic. According to a previous study, skin is an important part of the body that can protect the body from various germs, so good care is needed and is useful as a regulator of body balance and helps sweat production and evaporation, helps balance fluids and electrolytes that prevent excessive body fluid expenditure.<sup>9</sup> Bathing twice a day will keep your body healthy and give you a sense of comfort.<sup>10</sup>

For hand and nail hygiene, most of the female students have practiced well (23.1%) and sufficient (67.5%) during the covid-19 pandemic. This means that female students cut their nails once a week, wash their hands with soap after defecating, and wash their hands after cleaning the bathroom. The results of the statistical test showed that there was a significant difference between the cleanliness of the hands and nails of female students before Covid-19 and during the Covid-19 pandemic. Keeping nails clean is important in maintaining personal hygiene because various germs can enter the body through nails. Treatments can be combined while bathing or at separate times. The purpose of foot and nail care is

**Table 1. Characteristics of Female Students.**

Characteristics of Female Students	n	%
<b>Age (years)</b>		
6-8	21	17,9
9-11	26	22,2
12-14	31	26,5
15-18	39	33,3
<b>Total</b>	117	100,0
<b>Level of Education</b>		
MI/Primary School	49	41,9
MTs/Junior High School	31	26,5
MA/Senior High School	37	31,6
<b>Total</b>	117	100,0

**Table 2. Personal Hygiene Practices for Female Students Before and During the Covid-19 Pandemic.**

Personal Hygiene Practices for Female Students	Before Covid-19		During Covid-19	
	n	(%)	n	(%)
<b>Cleanliness of clothes</b>				
Good	23	19,7	40	34,2
Enough	56	47,9	68	58,1
Less	38	32,5	9	7,7
<b>Skin hygiene</b>				
Good	30	25,6	40	34,2
Enough	61	52,1	72	61,5
Less	26	22,2	5	4,3
<b>Hand and nail hygiene</b>				
Good	15	12,8	27	23,1
Enough	23	19,7	79	67,5
Less	79	67,5	11	9,4
<b>Genital hygiene</b>				
Good	35	29,9	43	36,8
Enough	54	46,2	67	57,3
Less	28	23,9	7	6,0
<b>Towel cleanliness</b>				
Good	23	19,7	49	41,9
Enough	37	31,6	58	49,6
Less	57	48,7	10	8,5
<b>Cleanliness of bedding</b>				
Good	31	26,5	46	39,3
Enough	43	36,8	63	53,8
Less	43	36,8	8	6,8
<b>Cleanliness of food and cutlery</b>				
Good	30	25,6	42	35,9
Enough	54	46,2	63	53,8
Less	33	28,2	12	10,3
<b>Covid-19 Prevention Practices</b>				
<b>Wearing a mask</b>				
Always	0	0	2	1,7
Often	0	0	95	81,2
Sometimes	2	1,7	20	17,1
Never	115	98,3	0	0,0
<b>Physical distancing</b>				
Always	0	0,0	2	1,7
Often	0	0,0	95	81,2
Sometimes	0	0,0	20	17,1
Never	117	100,0	0	0,0
<b>Wash hands with soap</b>				
Always	0	0,0	38	32,5
Often	7	6,0	67	57,3
Sometimes	110	94,0	12	10,3
Never	0	0,0	0	0,0

important in maintaining self-care to have intact skin and a soft skin surface, feel comfortable and clean so someone will understand and perform the foot and nail care method correctly.<sup>9</sup>

For genital hygiene, most of the female students have practiced well (36.8%) and sufficient (57.3%) during the covid-19 pandemic. This means that female students change their underwear after bathing, wash their underwear using detergent, clean their genitals after defecating, dry their underwear in the sun, and not mix their underwear with other female students. The results of statistical tests show that there is a significant difference between the genital hygiene of female students before Covid-19 and during the Covid-19 pandemic. Personal care in genitalia is the way to prevent infection, prevent skin damage, increase comfort and maintain personal hygiene.<sup>9</sup> External female genitalia treatment consisting of mons veneris, labia majora, labia minora, clitoris, urethra, vagina, perineum and anus.

For the cleanliness of towels, most of the female students have practiced it well (41.9%) and enough (49.6%) during the covid-19 pandemic. This means that most female students have used their towels, dried towels after bathing, did not wash towels by mixing with other students and used towels in a dry state. The results of the statistical test show that there is a significant difference between the cleanliness of female students' towels before and during the Covid-19 pandemic. Maintaining skin cleanliness can be done by using your towel and not using it interchangeably with other students.<sup>8</sup>

For the cleanliness of bedding, most of the female students have practiced it well (39.3%) and enough (53.8%) during the covid-19 pandemic. This means that most students do not use their bedding together with other students, wash their bedding once a week, and do not mix with other students' bedding when washing their bedding. The results of the statistical test show that there is a significant difference between the cleanliness of the female students' bedding before Covid-19 and during the Covid-19 pandemic. The health efforts made by students to maintain and supervise environmental factors that can

**Table 3. Personal Hygiene Practices for Female Students Before and During the Covid-19 Pandemic.**

Personal Hygiene Practices	n	Mean	Std Deviation	Std Error Mean	p-value
<b>Cleanliness of clothes</b>					
Before the Covid-19 Pandemic	117	1,7350	0.59296	0.05482	0,000
During the Covid-19 Pandemic		2,1282	0.71364	0.06598	
<b>Skin hygiene</b>					
Before the Covid-19 Pandemic	117	1,7009	0.54559	0.05044	0,000
During the Covid-19 Pandemic		1,9658	0.69396	0.06416	
<b>Hand and nail hygiene</b>					
Before the Covid-19 Pandemic	117	1.8632	0.55563	0.05137	0,000
During the Covid-19 Pandemic		2.5470	0.71312	0.06593	
<b>Genital hygiene</b>					
Before the Covid-19 Pandemic	117	1.6923	0.57926	0.05355	0,000
During the Covid-19 Pandemic		1.9402	0.73450	0.06790	
<b>Towel cleanliness</b>					
Before the Covid-19 Pandemic	117	1.6667	0.62972	0.05822	0,000
During the Covid-19 Pandemic		2.2906	0.77748	0.07188	
<b>Cleanliness of bedding</b>					
Before the Covid-19 Pandemic	117	1.6752	0.59927	0.05540	0,000
During the Covid-19 Pandemic		2.1026	0.79204	0.07322	
<b>Cleanliness of food and cutlery</b>					
Before the Covid-19 Pandemic	117	1.7436	0.63183	0.05841	0,000
During the Covid-19 Pandemic		2.0256	0.73651	0.06809	
<b>Covid-19 Prevention Practices</b>					
<b>Wearing a mask</b>					
Before the Covid-19 Pandemic	117	2.1538	0.40716	0.03764	0,000
During the Covid-19 Pandemic		3.9829	0.13018	0.01204	
<b>Physical distancing</b>					
Before the Covid-19 Pandemic	117	2.1538	0.40716	0.03764	0,000
During the Covid-19 Pandemic		4.0000	0.23819	0.00000	
<b>Wash hands with soap</b>					
Before the Covid-19 Pandemic	117	1.7778	0.61744	0.05708	0,000
During the Covid-19 Pandemic		2.9402	0.23819	0.02202	

affect health are called environmental hygiene. One of the elements in environmental hygiene is sanitation or the cleanliness of the residence or Islamic boarding school. In addition, students can sweep and mop the floor.

For the cleanliness of food and cutlery, most of the female students have practiced well (35.9%) and sufficient (53.8%) during the covid-19 pandemic. This means that students maintain the cleanliness of the food consumed, use clean eating and drinking utensils, do not use eating and drinking utensils together with other students, and wash eating and drinking utensils again after use. The results of

the statistical test show that there is a significant difference between the cleanliness of food and cutlery for female students before Covid-19 and during the Covid-19 pandemic. Food is cooked in the kitchen, where there is much equipment used by food handlers to make food ingredients cooked which, if not sterilized, will cause various health problems.

According to Fatmawati (2013), one of the basic principles of institutional food administration is food administration that applies hygiene and sanitation following applicable regulations.<sup>11</sup> One of the factors that support the principles of food hygiene and sanitation is the hygiene

factor of food handlers or individual hygiene. Personal hygiene is the behavior of clean, safe, and healthy food handlers to prevent contamination of food from food preparation to food presentation. The personal hygiene conditions of food handlers greatly affect the cleanliness and health of the food they cooked. Cook who does not pay attention to personal hygiene can transmit various diseases. One of the hygiene and sanitation behaviors for food health is the processing and serving of unhealthy food from food handlers.

For the practice of wearing masks, most female students often use masks (81.2%) during the covid-19 pandemic. The results

of the statistical test show that there is a significant difference between the use of female santri masks before the Covid-19 and during the Covid-19 pandemic. The use of masks prevents the transmission of the Covid-19 virus through the air so that it cannot bind to the ACE-2 receptor in the respiratory mucosa.<sup>12</sup> Masks is used to keep the droplets containing the virus that are released when someone talks, coughs, or sneezes from escaping and infecting others. Masks also have another benefit, namely increasing our chances of physically distancing ourselves from other people. So every day we need a reminder where the mask is a reminder that tells us to always be careful. Therefore, if the warning to wear masks continues to be echoed, more people will maintain social distance, so that it can reduce the transmission of the virus.

For the practice of physical distance, most of the female students have often physical distancing (81.2%) during the covid-19 pandemic. The results of the statistical test show that there is a significant difference between the activities of keeping female students at a distance before Covid-19 and during the Covid-19 pandemic. Respondents' hygiene behavior in preventing Covid-19 infection was measured based on compliance with social distancing, washing hands, and wearing masks. Research in England shows that social distancing can reduce the risk of contact and thus prevent the transmission of Covid-19 infection.<sup>13</sup> Even as campaigned during the COVID-19 pandemic, social distancing is the best way to prevent the spread of COVID-19. However, not all students here can keep their distance continuously due to the limited environment of the cottage and almost all activities are carried out together.

For the practice of washing hands with soap, most female students always and often wash their hands with soap with a percentage of 32.5% and 57.3% during the covid-19 pandemic. The results of the statistical test show that there is a significant difference between the practice of washing hands with soap for female students before Covid-19 and during the Covid-19 pandemic. Hand washing is known to be effective in preventing

COVID-19 infection because washing hands removes the attached virus thereby reducing the risk of sticking to the eyes and respiratory tract.<sup>14</sup> By practicing washing hands with this soap the students can maintain cleanliness as well because sometimes the attached virus is usually in the hand area so students are required to always be vigilant and wash their hands in the washing area that has been provided in front of the cottage gate and various door areas other. So that when students have carried out this strategy, it is hoped that they will avoid viruses that stick to their hands because viruses or bacteria do not last long and will die.

## CONCLUSION

From this discussion, researchers can conclude that there is an increase in personal hygiene practices including clothing hygiene, skin hygiene, hand and nail hygiene, genital hygiene, towel hygiene, bedding hygiene, food and cutlery hygiene, and personal hygiene practices to prevent COVID-19. Namely: wearing masks, maintaining distance, and washing hands with soap carried out by students at Darul Ulum Islamic Boarding School in the period before the Covid-19 pandemic and during the Covid-19 pandemic.

## DISCLOSURE

### Author Contribution

All authors have contributed to this research process, including conception and design, analysis and interpretation of the data, drafting of the article, critical revision of the article for important intellectual content, final approval of the article, collection and assembly of data.

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### Conflict of Interest

There is no conflict of interest for this manuscript.

### Ethical Consideration

This research was approved by Ethics Commission of Nahdlatul Ulama

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## REFERENCES

1. Pristandaru DL. Update Covid-19 Dunia: Angka Kematian 1,2 Juta dan Laporan Terbaru Sejumlah Negara. 2020;
2. Mukaromah VF. Persentase Kematian Akibat Corona di Indonesia Lebih Tinggi dari India dan Filipina, Apa Penyebabnya? 2020;
3. Tuwu D. Kebijakan Pemerintah Dalam Penanganan Pandemi Covid-19. *J Publichuo*. 2020;3(2):267.
4. Syafe'i I. Pondok Pesantren: Lembaga Pendidikan Pembentukan Karakter Al-Tadzkiyyah. *J Pendidik Islam*. 2017;8(1):61.
5. Machfutra ED, Noor A, Asropi A, Luxiarti R, Mutmainah NF. Perilaku Hidup Bersih Dan Sehat Santri Putri Pesantren X Yogyakarta. *Bul Penelit Sist Kesehat*. 2019;21(4).
6. Zakiudin A, Shaluhiah Z. Perilaku Kebersihan Diri (Personal Hygiene) Santri di Pondok Pesantren Wilayah Kabupaten Brebes akan Terwujud Jika Didukung dengan Ketersediaan Sarana Prasarana. *J Promosi Kesehat Indones*. 2016;11(2):64.
7. Amanina RA, Nurjazuli, Setiani O. Analisis Tingkat Pengetahuan terhadap Personal Hygiene dalam Pencegahan Covid-19 di RW II Desa Kedusan Kecamatan Wirosari Kabupaten Grobogan. *J Kesehat Masy*. 2021;9(3):426-32.
8. Wijaya S, Asih AYP. Studi Kebijakan Ponpes dalam Upaya Mewujudkan Pesantren Sehat di Pondok Pesantren Amanatul Ummah Surabaya. *JIKES J Ilmu Kesehat*. 2021;4(2):8.
9. Mubarak WI, Indrawati L, Susanto J. *Buku Ajar Ilmu Keperawatan Dasar*. Jakarta: Salemba Medika; 2015.
10. Nadiya A, Listiawaty R, Wuni C. The Correlation Between Personal Hygiene And Environment Sanitation With Scabies Disease In Students At Sa'adatuddaren Islamic Boarding School. *Contag Sci Period J Public Heal Coast Heal*. 2020;2(2).
11. Fatmawati S, Rosidi A, Handarsari E. Perilaku Higiene Pengolah Makanan Berdasarkan Pengetahuan Tentang Higiene Mengolah Makanan Dalam Penyelenggaraan Makanan Di Pusat Pendidikan Dan Latihan Olahraga Pelajar Jawa Tengah. *J Gizi*. 2013;2(2).
12. Chao F. Adolescents' face mask usage and contact transmission in novel Coronavirus. *J Public health Res*. 2020;9(1).
13. Jarvis CI, Van Zandvoort K, Gimma A, Prem K, Klepac P, Rubin GJ, et al. Quantifying the impact of physical distance measures on the transmission of COVID-19 in the UK. *BMC Med*. 2020;18(1):124.
14. Przekwas A, Chen Z. Washing hands and the face may reduce COVID-19 infection. *Med Hypotheses*. 2020;144:1-3.



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