

Knowledge, Availability of Facilities and Family Support in Implementing Health Protocols After Covid-19 Vaccination

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Abstract. Along with the Covid-19 vaccination, the public is encouraged to continue to apply health protocols. Individuals who have been vaccinated still have a risk of contracting Covid-19. This study analyzed the correlation of knowledge, the availability of facilities, and family support with the application of health protocols after Covid-19 vaccination among FKM students. The research used analytic observational with a cross-sectional approach and 296 students as the research sample, obtained with a stratified random sampling technique. The results showed that there was a correlation between knowledge ($p = 0.000$), availability of facilities ($p = 0.000$), and family support ($p = 0.000$) with the implementation of post-Covid-19 vaccination health protocols for FKM students. FKM students should be good role models and use different ways of health promotion to raise the public's awareness of the significance of health protocol implementation after the Covid-19 vaccination.

Keywords: Covid-19 vaccination, health protocol, knowledge.

Abstrak. Seiring dengan vaksinasi Covid-19, masyarakat dianjurkan untuk tetap menerapkan protokol kesehatan. Individu yang telah divaksinasi masih memiliki risiko terinfeksi Covid-19. Penelitian ini bertujuan untuk menganalisis hubungan antara pengetahuan, ketersediaan dan dukungan keluarga dengan penerapan protokol kesehatan pasca vaksinasi Covid-19 pada mahasiswa FKM Undana. Penelitian ini menggunakan penelitian observasional analitik dengan pendekatan *cross-sectional* dan 296 mahasiswa sebagai sampel yang diperoleh melalui teknik *stratified random sampling*. Hasil penelitian menunjukkan bahwa terdapat hubungan antara pengetahuan ($\rho = 0,000$), ketersediaan sarana ($\rho = 0,000$), dan dukungan keluarga ($\rho = 0,000$) dengan penerapan protokol kesehatan pasca vaksinasi Covid-19 pada mahasiswa FKM Undana. Mahasiswa FKM Undana perlu menjadi panutan yang baik dan menggunakan berbagai pendekatan promosi kesehatan untuk menyadarkan masyarakat akan pentingnya penerapan protokol kesehatan setelah vaksinasi Covid-19.

Kata kunci: Vaksinasi Covid-19, protokol kesehatan, pengetahuan

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Introduction

The Covid-19 vaccination is one of the Indonesian government's efforts to suppress the transmission rate of Covid-19. The Covid-19 vaccination program can reduce transmission or transmission of Covid-19 and mortality and morbidity due to the Covid-19 virus (Kemenkes RI 2021). The Indonesian government is targeting a vaccination target of 208,265,720 people to achieve herd immunity by the end of June 2022. The coverage of vaccination until 17 April 2022 has reached 162,781,789 people who have been fully vaccinated (doses 1 and 2) (78.16%) of the target national vaccination target (Ministry of Health, Republic of Indonesia 2022). Although the vaccination program has been carried out, the public is encouraged to continue to apply the existing health protocols such as wearing masks, washing hands, maintaining distance, avoiding crowds, and increasing body resistance by implementing PHBS.

Compliance with health protocols is a form of embodiment of community behavior in breaking the chain of transmission of Covid-19 (Kemenkes RI 2020). However, violations of health protocols still occur in various circles of society. This is evidenced by the number of cases of Covid-19, which is still increasing. Change agents are needed to improve community compliance with health protocols. Students are known as change agents. Unfortunately, Several previous research results found that some students still did not comply with implementing health protocols after being vaccinated against Covid-19. Hutapea's research (2021) showed that of the 87 students who had been vaccinated, 13 students (15%) still found it challenging to reduce the frequency of interactions with people who were not at home, 33 students (38%) still occasionally washed their hands and five students (5, 7%) still sometimes wear a mask.

Facilities and infrastructure are supporting factors in implementing the Covid-19 prevention health protocol. Previous research conducted by Afrianti & Rahmiati (2021) stated that the high level of public knowledge regarding Covid-19 could encourage people to be more obedient in implementing the health protocols

that have been set. Research conducted by Purba (2021) shows that the availability of facilities and infrastructure can also affect compliance. Research conducted by Fausi (2021) shows that family support also has a positive relationship with compliance with the application of health protocols during the Covid-19 pandemic.

FKM Undana students are agents of change to prevent the spread of Covid-19. However, there are still students who have not complied with the implementation of the Covid-19 prevention health protocol. Based on an initial study conducted by researchers in February 2022 that out of 10 FKM Undana students who had been fully vaccinated (doses 1 and 2), as many as six students (60%) found it was still difficult to keep their distance and reduce the number of people they met every day, two students (20%) still find it difficult to limit themselves to traveling to public places, and three students (30%) still find it difficult to wash their hands with soap and running water. This shows that FKM Undana students have not fully complied with the health protocol despite being vaccinated.

Entering the transition period from pandemic to endemic, the development of Covid-19 cases in Indonesia has decreased since the beginning of 2023. This is due to the coverage of Covid-19 vaccinations and the implementation of good health protocols. Based on data from the Covid-19 Task Force as of 2 March 2023, positive cases fell by 24% to 278 cases, from 366 cases on 1 January 2023. The active cases fell by 63% to 3,558 from 9,577 in January 2023. The Covid-19 Task Force stressed that various efforts still need to be made to control active cases and minimize mortality, such as implementing health protocols, wearing masks, washing hands with soap, accelerating booster vaccinations, and strengthening testing, tracking, and treatment (3T) in the field (Covid-19 Task Force, 2023).

This study hypothesizes that there is a relationship between knowledge, availability of facilities, and family support with the application of health protocols after Covid-19 vaccination.

Method

This study used an analytic observational study with a cross-sectional research design. This research was conducted at the Faculty of Public Health, Undana Kupang, from February to October 2022. The population of this study was all students of FKM Undana class of 2019, 2020, and 2021. The sample size in this study was 296 students taken using a stratified random sampling technique. The data collection technique was carried out by online survey using a questionnaire. Before the questionnaires were distributed to respondents, they were first tested for validity and reliability. Based on the results of the validity and reliability tests of the questionnaires in this study, it was found that all question statement items in the questionnaire for each variable were valid and reliable. The data that has been collected is then processed, and univariate and bivariate analysis is performed, namely the chi-square test and Fisher exact if the chi-square test does not meet the requirements. The data that has been processed and analyzed are then presented in the form of narratives, tables, and percentages based on the variables studied.

Result

Table 1.

Distribution of Respondents Based on Gender, Entry Force, Study Program, Number of Vaccines Received, and Types of Vaccines Received by FKM Undana Students in 2022

Karakteristik	n	%
Gender		
Man	76	25,7
Woman	220	74,3
Entry Force		
2019	124	41,9
2020	88	29,7
2021	84	28,4
Study Program		
IKM	167	56,4
Psychology	129	43,6
Total	296	100
Number of Vaccines Received		

Twice	159	53,9
Three Times	136	46,1
Types of Vaccines Received		
Astra Zeneca	124	41,9
Sinovac	112	37,8
Pfizer	20	6,8
Moderna	36	12,2
Biopharma	3	1,0
Coronavax	1	0,3
Total	296	100

Table 1 shows that the majority of respondents are female (74.3%), most of the respondents are students of class 2019 (41.9%), and come from the IKM study program (56.4%). Based on the number of vaccines received, most of the respondents had been vaccinated twice (53.9%), and the type of Covid-19 vaccine that was received the most by respondents was the Astra Zeneca vaccine (41.9%).

Table 2.

Distribution of Respondents Based on Knowledge Variables, Availability of Facilities, Family Support, and Implementation of Health Protocols for FKM Undana Students in 2022

Variable	n	%
Knowledge		
Good	242	81,8
Pretty Good	54	18,2
Not Good	0	0,0
Availability of Facilities		
Support	211	71,3
Less Supportive	85	28,7
Family Support		
Good	270	91,2
Not Good	26	8,8
Implementation of Health Protocols		
Apply	251	84,8
Not Apply	45	15,2
Total	296	100

Table 2 shows that the majority of respondents have good knowledge (81.8%), positive attitude (89.9%), and high motivation (92.6%) towards the implementation of health protocols after the Covid-19 vaccination. In addition, most

respondents considered that the availability of facilities and infrastructure was supportive (71.3%). Most respondents received good support from their families (91.2%) and implemented health protocols after the Covid-19 vaccination (84.8%).

Table 3.

Relationship of Knowledge, Availability of Facilities, and Family Help with the Implementation of Health Protocols for FKM Undana Kupang Students Post-Covid-19 Vaccination in 2022

Variables	Implementation of Health Protocols				Total	ρ -value
	Apply		Not Apply			
	N	%	n	%		
Knowledge						
Good	214	88,4	28	11,6	242	0,000
Pretty Good	37	68,5	17	31,5	54	
Not Good	0	0	0	0	0	
Availability of facilities						
Support	194	91,9	17	8,1	211	0,000
Less Supportive	57	67,1	28	32,9	85	
Family Support						
Good	237	87,8	33	12,2	270	0,000
Not Good	14	53,8	12	46,2	26	

The chi-square test results obtained an ρ -value = 0.000 (<0.05), indicating a relationship between knowledge and the application of health protocols to FKM Undana students after the Covid-19 vaccination. Table 3 shows that most FKM students with good knowledge tend to apply health protocols after Covid-19 vaccination (88.4%). The results of this study also show that most FKM students with fairly good knowledge apply health protocols after the Covid-19 vaccination (68.5%).

FKM students who assessed that the infrastructure was supportive or unsupportive tended to apply health protocols after the Covid-19 vaccination (91.9% and 67.8%). The chi-square test results obtained an ρ -value = 0.000 (<0.05),

indicating a relationship between the availability of infrastructure and the implementation of health protocols for FKM Undana students after the Covid-19 vaccination.

The results of the analysis show that two cells have an expected count value <5 . This means that it does not meet the requirements of the chi-square test, then the Fisher's exact test is then used with an exact significance value of 0.000 (<0.05), which means that there is a relationship between family support and the application of health protocols for Undana FKM students after the Covid-19 vaccination. FKM students with good or low-income family support tend to apply health protocols after the Covid-19 vaccination (87.8% and 53.8%).

Discussion

Knowledge is a predisposing factor influencing a person's health behavior. Knowledge results from knowing someone that occurs after sensing a particular object. The results of this study indicate that most FKM students have good knowledge about Covid-19, and no respondents with poor knowledge. This study's results also show a relationship between knowledge and the application of health protocols after the Covid-19 vaccination for FKM Undana students.

This study's results align with research conducted by Muti'ah (2021), which states a relationship exists between knowledge and community compliance in implementing health protocols in Cempaka Village. A similar study by Linawati et al. (2021) also stated that there was a significant relationship between moderate to high levels of knowledge and Covid-19 prevention behavior, and it was concluded that students with moderate to high levels of knowledge had a greater chance of carrying out Covid-19 prevention behavior compared to those with high levels of low knowledge.

Based on research, most FKM students know about Covid-19, such as the cause of Covid-19, transmission of Covid-19, and prevention of Covid-19. In

addition, most of the respondents knew about the Covid-19 vaccination, such as the definition of vaccination, the type of Covid-19 vaccine, and the purpose of the Covid-19 vaccination. Most respondents also know that people who have been vaccinated against Covid-19 can still be infected and transmit Covid-19 to other people, so the Covid-19 prevention health protocol must continue to be applied.

This good knowledge is due to a high level of education in the health sector and easy access to information about Covid-19 and ways to prevent it. The results of this study are supported by research by Anggreni & Safitri (2020), which states that a person's knowledge is influenced by the level of education, occupation, age, interests, experience, environment, and information obtained.

The results of this study also found that the knowledge possessed by FKM students was in line with the behavior of compliance with the Covid-19 prevention health protocol. Most respondents with good and fairly good knowledge tend to be obedient in implementing health protocols after the Covid-19 vaccination. The knowledge of FKM students is not only limited to knowing, but the knowledge has reached the application level, affecting the actions taken. Everyone has a different level of knowledge. According to Notoatmodjo (2014), a person's level of knowledge consists of knowing (knowing), understanding (comprehensive), application (synthesis), and evaluation (evaluations). If a person's level of knowledge is already at the application level, then that person can practice the material that has been studied in real or actual conditions.

The results of this study found that knowledge is an important determining factor for compliance with health protocols after Covid-19 vaccination. FKM students, as agents of change in the health sector, play an essential role in being good role models and educating and increasing public awareness of the importance of complying with health protocols after the Covid-19 vaccination.

Adequate facilities can support individual behavior to become more obedient to a policy (Yuliyanti, 2021). The facilities in this research are the availability of masks, the availability of hand washing facilities and running water,

the availability of hand soap, the availability of hand dryers, and the presence of symbols/signs to maintain distance. The statistical analysis results show a relationship between the availability of facilities and the application of health protocols after the Covid-19 vaccination for FKM Undana students. The results showed that most of the FKM students considered that the availability of facilities was supportive.

This study's results align with the research of Nismawati & Marhtyni (2020), which shows a relationship between the availability of infrastructure facilities and the application of health protocols for micro-enterprises. Another study by Muhith (2021) also showed a significant relationship between the provision of infrastructure and compliance with the implementation of health protocols for employees at IKesT Muhammadiyah Palembang. Based on this research, implementing health protocols for employees at IkesT Muhammadiyah Palembang will be carried out well if there are supporting facilities and infrastructure. For example, a place to wash hands, soap, and clean water to wash hands is provided, or a mask is provided to be used during activities.

This study also found that many FKM students rated the facilities less supportive. This is due to several rarely found or unavailable facilities, such as hand dryers and symbols/signs of social distancing. Although a small number of FKM students assessed that the availability of facilities was not supportive, 67.1% of respondents remained obedient in implementing health protocols. This compliance is due to other factors influencing Covid-19 prevention behavior, such as predisposing factors (knowledge) and reinforcing factors (family support). Means is an external enabling factor that has a significant influence on behavior. However, its influence on behavior must be accompanied by other factors because behavior is a joint result of various factors, namely external and internal factors (Notoatmodjo, 2014).

The availability of health protocol infrastructure is a factor that affects the compliance of FKM students in implementing health protocols after the Covid-19

vaccination. Therefore, it is essential to provide facilities that support the implementation of health protocols, such as the availability of masks, hand washing facilities with soap, and symbols/signs to maintain distance to avoid the transmission of Covid-19.

Family support is one of the reinforcing factors for the occurrence of a behavior (Notoatmodjo, 2014). This study's results indicate that most FKM students have good support from their families, and among these respondents, most have respectful behavior toward health protocols after the Covid-19 vaccination. The statistical test results show a relationship between family support and the implementation of health protocols after the Covid-19 vaccination for FKM Undana students.

This study's results align with Adni's (2021) research, which states that there is a relationship between family support and the implementation of health protocols in the community in Nuha District, East Luwu Regency. Another study by Fausi (2021) also stated a positive relationship between family support and adherence to health protocols in adolescents during the Covid-19 pandemic. The study concluded that the higher the family support, the higher the adherence to implementing the Covid-19 health protocol in adolescents.

Based on the study's results, the forms of support obtained by FKM Undana students include informational, appreciation, emotional, and instrumental support. The form of informational support is shown from the family seeking a lot of information about the importance of implementing the Covid-19 health protocol after vaccination, providing understanding to family members, giving advice, and reminding them every time they leave the house to comply with health protocols such as wearing masks and carrying hand sanitizer. The form of assessment support, namely the family reminding and guiding to consistently apply the health protocol. The form of emotional support is shown by the family giving special attention, encouragement, and enthusiasm, to implement health protocols consistently. The results of the study also found that there was instrumental support

in the form of families being able to provide equipment to implement health protocols such as providing masks, hand washing, soap, hand sanitizer, etc.

Frideman (2015) in Mutmaina et al. (2022) reveals that the family plays an essential role in shaping the health behavior of family members. Family is where a person can manage health in various aspects. The aspect in question is how the family recognizes health problems, the ability to make decisions, provide care, improve and maintain the home environment's health, and find the necessary health facilities. The existence of supportive family support can be a success factor for compliance with health protocols because someone gets what is needed to carry out health protocols.

This research shows that the family has an important role in preventing Covid-19 because a new culture can be instilled in the family, such as living clean and healthy during the Covid-19 pandemic. The new culture always applies health protocols such as diligently washing hands with soap and running water, wearing masks, maintaining distance, avoiding crowds, and implementing other health protocols. This is supported by the opinion of Frideman in Alvita et al. (2021) that good family support strongly influences character and culture, especially in health behavior. If the family performs its role optimally, the spread of diseases can be prevented including Covid-19.

Conclusion

Based on the results of this study, it was concluded that knowledge, availability of facilities, and family support were related to implementing post-Covid-19 health protocols for FKM Undana students.

Suggestion

FKM Undana students are expected to be able to educate the public in Kupang City by promoting health both through social media and print media during the Covid-19 pandemic to increase public awareness of the importance of implementing health protocols after Covid-19 vaccination. Further researchers are

expected to be able to examine based on who the respondent lives with so that the discussion in the study can be analyzed in depth.

Reference

- Adni, Ade Nur. (2021). "Determinants of the Implementation of Health Protocols in the Community of Nuha District, East Luwu Regency in the New Normal Period of the COVID-19 Pandemic in 2021." State Islamic University Aauddin Makassar.
- Afrianti, Novi & Rahmiati, Cut. (2021). "Factors Affecting Public Compliance with the Covid-19 Health Protocol." Scientific Journal of STIKES Kendal 11(1): 113–24.
- Anggreni, Dhonna & Safitri, Citra Adityarini. (2020). "The Relationship of Adolescent Knowledge About Covid-19 with Compliance in Implementing Health Protocols in the New Normal Period." Hospital Majapahit 12(2): 134–42.
- Elon & Yani, FDR. (2021). "Explanation of Knowledge and Exposure to Counseling on Covid-19 Protocol Compliance in Bandar Lampung Adolescents." Nursing Scientific Journal 5(2): 46–55.
- Faussie, Aris Al. (2021). "The Relationship between Family Support and Compliance with the Implementation of Health Protocols in Adolescents During the Covid-19 Pandemic (Study at RW 08 Mlajah Bangkalan)." STIKes Ngudia Husada Madura.
- Helmina, et al. (2021). "Knowledge and Motivation of Covid-19 Health Protocol Compliance: Online Survey of East Java Students." Health Research Bulletin 49(2): 71–80.
- Indrawati, L & Karo, M.B. (2022). "Knowledge and Attitudes of the Community towards the Behavior of Preventing the Spread of Covid-19." Journal of Medicine and Health 18(1): 123–30.
- Jahromi, et al. (2020). "Public Masking: An Urgent Need to Revise Global Policies to Protect against Covid-19." Am. J. Trop. Med. Hyg 102(6): 11601161.
- Indonesian Ministry of Health. (2020). "Decree of the Minister of Health of the Republic of Indonesia No. HK. 01.07./Menkes/413/2020 Regarding Guidelines for the Prevention and Control of Coronavirus Disease 2019 (COVID-19)."
- Compri. 2015. Learning Motivation Perspective of Teachers and Students. Bandung: PT Pemuda Rosdakara Offset.

- Linawati, Hasna. et al. (2021). "Knowledge, Attitudes, and Behavior of Student Covid-19 Prevention." *Journal of Health Research and Development Media* 31(2): 125–32.
- Maulidiana, Ilvie. (2022). "The Relationship between Attitudes and Public Compliance in the Implementation of Health Protocols in Covid-19 Cases in South Wonorejo Rt o8 Rw 08 Surabaya City."
- Muhith, Subhan. (2021). "Covid-19 Health Protocol Compliance Analysis at the Muhammadiyah Palembang Institute of Health and Technology in 2021."
- Muti'ah, Alnaya. et al. (2021). "Factors Relating to Community Compliance Implementing Health Protocols in Cempaka Village, Banjarbaru City in 2021."
- Mutmaina, Isma L. et al. (2022). "Factors Affecting Compliance with Health Protocols in Preventing Covid-19 in the Community in Rw 03 Sadeng Village in 2021." *Public Health Student Journal* 5(3): 260–72.
- Nismawati & Marhtyni. (2020). "Factors Related to the Implementation of Health Protocols on Micro Entrepreneurs During the Covid-19 Pandemic." *UNM Environmental Journals* 3(4): 116–24
- Notoatmodjo, Soekidjo. (2014). *Health Promotion Theory and Applications*. Jakarta: Rineka Cipta.
- Purba, et al. (2021). "Factors Affecting the Level of Patient Compliance with Health Protocols in Preventing Covid-19 at the Simalingkar Health Center Medan 2021." *Journal of Health Technology and Medicine* 7(2): 1548–57.
- Putra, Ifon Driposwana et al. (2021). "The Compliance Level of Health Students in Health Protocols After More Than One Year During the Covid-19 Pandemic." *Mental Health Junal (JKJ): Indonesian National Nurses Association* 9(2): 429–34.
- Sari, Ratna Kartika. (2021). "Identification of the Causes of Citizens' Non-compliance with the Implementation of the 3M Health Protocol during the Covid-19 Pandemic (Case Study of Violators of the 3M Health Protocol in Ciracas, East Jakarta)." *JOURNAL OF FARM CHAMPION* 6(1): 84–94.
- Simanjuntak, Hermanto et al. (2021). "Factors Relating to Compliance with Health Protocols in Stopping the Spread of Covid-19 at the Police Mobile Brigade Forces of North Sumatra in 2021." *Journal of Healthcare Technology Medicine* 7(2): 836–52.
- Sukesih, et al. (2020). "Knowledge and Attitude of Health Students About Covid-19 Prevention in Indonesia." *Journal of Nursing and Midwifery Sciences* 11(2): 258–64.

- Sulfemi, W.B. (2019). "Management of Educational Facilities and Infrastructure." In STKP Muhammadiyah Bogor.
- Suryani, et al. (2022). "Determinants of Covid-19 Prevention Behavior in Bengkulu City People." *Journal of Equatorial Public Health* 9(1): 24–33.
- Syafrida & Hartati, Ralang. (2020). "Together Against the Covid-19 Virus in Indonesia." *Islamic Journal of Social and Cultural Affairs* 7(6): 495–508.
- Wijaya, Redno Eka. (2021). "Analysis of Factors Relating to Compliance with the Implementation of Health Protocols at the Ditpolairud Polda South Sumatra." *Journal of Health Saemakres PERDANA* 4(2).
- Yulia, Siti. (2015). "Factors Affecting Adherence to Diet in Patients with Type 2 Diabetes Mellitus."
- Yulisetianingrum & Dewi, Rita. (2022). "Community Motivation to Improve Compliance with Health Protocols in Preventing Covid-19." *Journal of Nursing and Midwifery Sciences* 13(1): 156–63.
- Yuliyanti, et al. (2021). "Factors Affecting Community Compliance with the Covid-19 Prevention Health Protocol in Banyukuning Village, Bandungan District, Semarang Regency." *Indonesian Journal of Public Health Media* 20(5): 335–41.