KNOWLEDGE, ATTITUDE, AND PRACTICES (KAP) TOWARDS COVID-19 PREVENTION OF COVID-19 AMONG HIGH SCHOOL STUDENTS

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Abstract

Immense efforts have been implemented by the North Sumatera government since the beginning of the Covid-19 pandemic to mitigate the spread and the increasing numbers of cases. However, the numbers continued to grow, and Indonesia contributed to one of the highest numbers of Covid-19 among children globally. Although cases in children are commonly mild, but the long-term health impact of Covid-19 is still unknown. Therefore, protection against infection on the first place is highly important. We aimed to determine the prevalence of Covid-19 infection among high school students and their knowledge, attitude and practices (KAP) towards Covid-19 prevention. **Methods**: The study was conducted in Medan, Indonesia from 24 November 2020 to 12 January 2021. Nasopharyngeal swab specimen was collected from individuals. Detection of either E, N, and ORF1ab gene using RT-PCR was used to confirm the presence of current infection. The information on KAP was obtained from a self-administered questionnaire. Data on age, sex, district of residency, parent's background, swab results were analyzed. **Results**: A total of 672 individuals were enrolled to the study. The majority of respondents had a good level of knowledge, attitudes, and practice against COVID-19, with percentage of 45.4%, 76.3%, 58.5% respectively. Conclusion: Most respondents have a good level of knowledge, attitudes, and practice against COVID-19.

Keywords: knowledge, attitude, practice, COVID-19

The prevalence of adolescents in Indonesia, especially those aged 15 to 19 years, is 23,122,993 people (8.5%) are expected to have a good level of knowledge in preventing Covid-19 and this is believed to be in line with their attitudes and practices in preventing these infections. [1] Adolescents are mostly asymptomatic and tend to engage in risky behaviors, including not wearing masks. The knowledge level of adolescents in the Iranian study was also low. [2,3]

The non-compliance of adolescents with Covid-19 infection prevention is an important factor in controlling the spread of the disease. This is related to the level of knowledge and attitude towards Covid-19. [1,2,4] Raising awareness and promoting positive attitudes towards Covid-19 is important and correlates with preventive measures against the infection. [1,4] The pattern of attitudes and preventive measures towards Covid-

19 in different countries was varied with China, Malaysia, Saudi Arabia, Nigeria, Pakistan, India showing good preventive measures. While Iran, USA, Jordan and UK had moderate measures. Turkey and Qatar had low level of Covid-19 practices. [1,2] Thus, we are interested in studying the level of knowledge, attitude and preventive measures towards Covid-19 among adolescents in Medan and factors affecting them.

1. Methods

This study was a descriptive study to determine knowledge, attitude, and practices score in adolescent in Medan. It is conducted at the public high school SMAN 3 and AI Ittihadyah Boarding School in North Sumatera, Indonesia, the study spanned from November 2020 to January 2021 which achieved the required sample size according to the sample size formula.

Adolescents attending both public high school and AI Ittihadyah Boarding School were recruited for this study. The inclusion criteria for the patients to be included were: (1) aged 15-18 years old, (2) willing to fill out the questionnaire, and (3) parental willingness to participate in the research, confirmed by signing the informed consent form. Samples were collected using a consecutive sampling method. 652 adolescents were included in the study. Respondents who do not understand how to use the google form were excluded. Demographic and clinical data were collected from all participants, including age, gender, knowledge, attitude, practice, and status of orphanage. The data were collected through direct interviews. Before obtaining consent, all participants received an explanation regarding the study's purpose and procedures.

The score of knowledge, attitude, and practice (KAP) were assessed using questionnaires by google form to reduce the risk of COVID-19 transmission. The point of knowledge, attitude, and practices consist of 4 questions, 7 questions, and 5 questions respectively. All questions have been tested for validity and reliability using the product moment technique and alpha cronbach method. The scores for knowledge, attitude, and practice (KAP) are considered good, moderate, and poor when the scores are more than 75%, 40-75%, and less than 40% respectively. Factors influencing KAP were assessed using logistic regression test. The data collected was processed and analyzed using the Statistical Package for Social Science (SPSS) computer software version 23.0.

2. Results

A total of 672 adolescents were included in this study, and their demographic characteristics are presented in **Table 1.** Female adolescents were more than male adolescents with a total of 364 (54.2%). The mayority respondents was 15 years old, totaling 305 people (45.4%). There are 109 adolescents (16.2%) who is orphanage. The father's age was mostly in the 40 - 49 years age group, totaling 286 people (42.6%). Meanwhile, the mother's age was also mostly in the age group of 40 - 49 years, totaling 414 people (61.6%). The father's education level was mostly high school, totaling 349 people (51.9%). The mother's education level was also mostly senior high school, totaling 335 people (49.9%). **Figure 1** showed the percentage of KAP.

Table 1. Demographic Characteristics of participants

Characteristics	n = 672
Gender, n (%)	
Boy	308 (45,8)
Girl	364 (54,2)
Age, n (%)	
15 years old	305 (45,4)
16 years old	193 (28,7)
17 years old	142 (21,1)
18 years old	32 (4,8)
Orphanage, n (%)	
No	563 (83,8)
Yes	109 (16,2)
Father's age, n (%)	
30-39 years old	20 (3)
40-49 years old	286 (42,6)
50-59 years old	222 (33)
60-69 years old	34 (5,1)
70-79 years old	2 (0,3)
Died	108 (16,1)
Father's education, n (%)	
Uneducated	2 (0,3)
Elementary school	16 (2,4)
Junior high school	30 (4,5)
Senior high school	349 (51,9)
Academy	43 (6,4)
Bachelor	165 (24,6)
Master	31 (4,6)
Doctorate	5 (0,7)
Unknown	31 (4,6)
Mother's age, n (%)	
30-39 years old	80 (11,9)
40-49 years old	414 (61,6)
50-59 years old	134 (19,9)
60-69 years old	12 (1,8)
70-79 years old	2 (0,3)

Died	30 (4,5)
Mother's education, n (%)	
Uneducated	1 (0,1)
Elementary	30 (4,5)
Junior high school	50 (7,4)
Senior high school	335 (49,9)
Academy	53 (7,9)
Bachelor	155 (23,1)
Master	18 (2,7)
Unknown	30 (4,5)

Figure 1. The Percentage of KAP

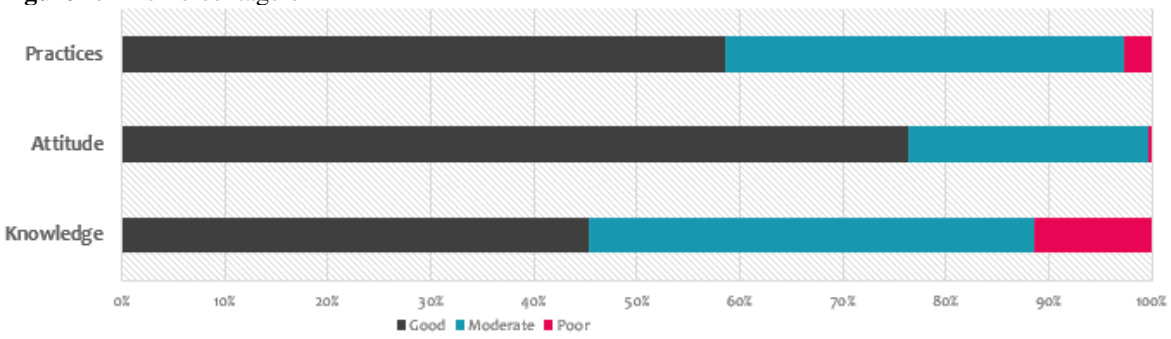

Table 2. Factors statistically significant affecting knowledge

Variable	Knowledge		P value	RP 95% CI
	Poor	Good and moderate		
Orphanage, n (%)				
Yes	22 (20,2)	87 (79,8)	0,002[a]	2,066 (1,318-3,240)
No	55 (9,8)	508 (90,2)		
Mother's age				
60 – 80 years old	4 (33,3)	8 (66,7)	0,022[b]	3,601 (1,552-8,357)
30 – 59 years old	51 (9,3)	500 (90,7)		

Table 3. Factors statistically significant affecting attitude

Variable	Attitude		P value	RP
	Poor	Good and moderate		
Orphanage, n (%)				95% CI
Yes	4 (3,7)	105 (96,3)	0,043[a]	4,132
No	5 (0,9)	558 (99,1)		1,128-15,142

Table 4. Factors statistically significant affecting practice

Variable	Practices		P value	RP
	Poor	Good and moderate		
Orphanage, n (%)				95% CI
Yes	17 (15,6)	92 (84,4)	<0,001[a]	7,317
No	12 (2,1)	551 (97,9)		3,598-14,882

3. Discussion

The results showed that most students in Medan City (45.4%) had good knowledge and 11.5% had poor knowledge. Factors statistically significant affecting knowledge was orphanage status (p=0.002; PR 2.066; CI 95% = 1.318 - 3.240) Table 2. This is in accordance with the role of parents in providing good knowledge to adolescents, including for knowledge about COVID-19. [4,5]

The results of our study showed that most of the subjects (76.3%) showed a good level of attitude and only 3 children (0.4%) showed a poor level of attitude towards COVID-19 prevention. Statistically significant factors affecting the preventive attitude were the status of orphanage (p=0.043; PR 4.132; CI 95% = 1.128 - 15.142) and mother's education (p=0.009). This is consistent with the study which states that mothers have an important role in the need for love, care, and nurture and that mothers are the people who spend the most time with a child. [6,7]

The results of our study showed that most of the subjects had a good level of action totaling 393 people (58.5%). Poor precautions were only found in 18 children (2.7%). The statistically significant factor affecting preventive measures was the status of orphanage (p=0.001; PR 7.317; CI 95% = 3.598 - 14.882), gender (p<0.002; PR 4.530; CI 95% = 1.869 - 10.983), knowledge (p=0.003; PR 2=3.477; CI 95% = 1.642 - 7.362), and psychology (p=0.003; PR 2=3.477; CI 95% = 1.642 - 7.362) and psychology (p=0.001; PR 4.350; CI 95% = 2.070 - 9.142). This is in accordance with the study Makarabhirom which obtained the same results where girl have better preventive measures than men. In addition, good knowledge and perceptions about covid-19 also play a role in a better level of covid-19 prevention. [8,9,10,11]

Overall, the majority of the levels of knowledge, preventive attitudes, and preventive actions of COVID-19 are good. These good knowledge supported by positive attitude and good practices are critical not only to prevent further infection, but more importantly in protecting their generation from the unknown long-term impact of Covid-19.

4. Conclusion

Overall, most respondents have a good level of knowledge, attitudes, and practice against COVID-19 prevention.

5. References

1. LA, Khalaf I, Nabolsi M, Nassar O, Halasa S. Developing an Understanding of Adolescents' Knowledge, Attitudes, and Practices Toward COVID-19. J Sch Nurs. 2020;36(6):430–41.
2. BL, Luo W, Li HM, Zhang QQ, Liu XG, Li WT, dkk. Knowledge, attitudes, and practices towards COVID-19 among Chinese residentsduring the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey. Int J Biol Sci. 2020;16(10):1745–52.
3. Fuady A, Khoe LC, Azzahra TB, Lestari HM, Sutanto RL, Yo EC, dkk. Good Knowledge but Poor Practice Toward COVID-19 Among Indonesian Youth. Asia Pac J Public Health. 2021; 33(5):605–7.
4. Feleke A, Adane M, Embrandiri A, Berihun G, Walle Z, Keleb A, dkk. Knowledge, Attitudes, and Misconceptions About COVID-19 Prevention Practices Among High and Preparatory School Students in Dessie City, Ethiopia. J Multidiscip Healthc. 2022;15:1035–55.
5. Hatami H, Abbasi-Kangevari M, Malekpour MR, Kolahi AA. Knowledge, Attitudes, and Safety Practices About COVID-19 Among High School Students in Iran During the First Wave of the Pandemic. Front. Public Health. 2021;9:1-7.
6. Petpaiboon T. Knowledge, attitudes, and preventive behaviors toward coronavirus disease-19: A study among high school students inBangkok. Int J Med Sci Public Health. 2021;10(1):62-67.
7. Anand P, Subudhi, Shridevi K. Knowledge, Attitude and Practices regarding Covid and its Prevention among High School Students in Urban Field Practice area of a Private Medical College. Int J Contemp Med Res. 2021; 8(7):G10-7.
8. Makarabhirom T. Knowledge, attitude, and preventive behavior toward COVID-19 of high school students in Bangkok, Thailand: A study among students in Harrow International School. Int J Med Sci Public Health. 2021;10(2):262-8.
9. Ningsih OS, Eka AR, Danal PH. Factors Predicting Adolescents' Compliance on Covid-19 Prevention Protocols. INJEC. 2021;6(1):55-63.
10. Hasan M, Ma'abreh M, Al-Masri AR. Attitude towards Coronavirus Pandemic"Covid-19" and Its Relationship to Optimism and Pessimism among a Sample of Residents in Irbid. J Public Health. 2021;9(1):1-7.
11. Yesuf M, Abdu M. Knowledge, attitude, prevention practice, and associated factors toward COVID-19 among preparatory school students in Southwest Ethiopia, 2021. PLoS ONE. 2022; 17(1):1-12