Six Indonesian Youth behaviors to Prevent Transmission and Spread of Corona Virus Disease-19

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ABSTRACT

Children and adolescents are the future leaders. During the Corona Virus Disease-19 (Covid-19) pandemic today, Indonesian youths need special attention so that they are not confirmed or not become a source of transmission. They must be healthy and safe. The purpose was to analysis of adolescent adherence in implementing 6-behaviors as a form of commitment to prevent the transmission and spread of Covid-19. The research design is observational. The population is youths aged 12-25 years who live in the territory of Indonesia. A sample of 1027 people were taken using a simple random technique. Data was collected during 1-7 July 2020. The instrument used was a google form which was distributed through the enumerator network. Data analysis was carried out descriptively related to the 6 measured behaviors. Results: youths’ adherence in preventing transmission and spread of Covid-19 to always use a mask 62%, wash hands 63.15%, maintain physical distance 67%, social distancing 71.18%, reduce mobility 77.6% and efforts to improve physical health and body immunity 44.35%. Overall, most youths (64.2%) adhered to always implement the 6-behaviors according to the health protocol. Continuous education is needed so that more Indonesian youths are obedient and committed to implement health protocols.

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ABSTRAK

Anak dan remaja adalah pemimpin masa depan. Pada masa pandemi Corona Virus Disease-19 (Covid-19) dewasa ini, remaja Indonesia perlu mendapatkan perhatian khusus agar mereka tidak terkonfirmasi atau tidak menjadi sumber penularan. Mereka harus sehat dan aman dari dampak covid-19. Tujuan penelitian adalah analisis kepatuhan remaja dalam mengimplementasikan 6-perilaku sebagai bentuk komitmennya dalam mencegah penularan dan penyebaran Covid-19. Desain penelitian adalah Observasional. Populasi adalah semua kawula muda Indonesia berusia 12 - 25 tahun, berada di wilayah Indonesia. Sampel sejumlah 1027 orang yang diambil dengan teknik acak sederhana. Pengambilan data dilakukan tanggal 1 – 7 Juli 2020. Instrumen menggunakan google form yang disebarkan melalui jejaring enumerator. Analisis data dilakukan secara deskriptif terkait 6 perilaku yang diukur. Hasil menunjukkan bahwa kepatuhan kawula mudaladah mencegah penularan dan penyebaran Covid-19 untuk selalu menggunakan masker 62%, mencuci tangan 63,15%, menjaga jarak fisik 67%, menjaga jarak sosial 71,18%, mengurangi mobilitas dengan tetap tinggal di rumah 77.6% dan upaya meningkatkan kesehatan fisik dan imunitas tubuh 44,35%. Conclusions: Secara keseluruhan sebagian kawula...
INTRODUCTION

Teenagers are the nation asset. Indonesian adolescents and young people aged 12-19 and 19-25 are the millennial generation and the golden generation heading for Indonesia Emas 2045. They are the spearhead of Indonesia Emas 2045 leadership. During the Corona Virus Disease-19 (Covid-19) pandemic today, Indonesian adolescents and young people need special attention so that they are not confirmed as Covid-19 or are not a source of transmission. Indonesian adolescents and young people must be healthy and 'safe' from the impact of Covid-19, they must not become 'victims' of Covid-19 due to their non-compliance in implementing health protocols and their role in the Covid-19 pandemic. They should take action in disaster and disease management by managing themselves (self-helper) or other people (agent of change) and motivator of change.

The important role of adolescents in preventing the spread and transmission of Covid-19 is how they adhere to health protocols. They must be able to maintain their own health and that of others from Covid-19 transmission. In this regard, it is important to conduct research related to adolescent behavior in an effort to prevent transmission and spread of Covid-19 as a form of compliance and commitment to implementing health protocols. Indonesian adolescents and young people must play an active role because they are the bearers of the nation's leadership relay and the central figure of Indonesia Emas 2045. The aim of this study is to analyze adolescent adherence to implement 6-behaviors as a form of commitment and its role in preventing the transmission and spread of Covid-19 (Compact for Young People in Humanitarian Action, 2020).

METHOD

Research participants

The research design was observational. The population is all Indonesian adolescents and youths between 12-25 years old in all parts of Indonesia. The research sample was 1027 people, taken by simple random technique. Data was collected during 1-7 July 2020.

Table 1: Distribution of Characteristics of Respondents by Gender, Age, Education, Domicile (N=1027)

| Characteristics | Amount (f) | Percentage (%) | Amount (n) |
|-----------------|------------|----------------|------------|
| Gender          |            |                | 1027       |
| Man             | 276        | 26.9           |            |
| Women           | 751        | 73.1           |            |
| Age             |            |                | 1027       |
| 12 - 15 years   | 185        | 18.0           |            |
| > 15 - 18 years | 88         | 8.6            |            |
| > 18 - 21 years | 657        | 64.0           |            |
| > 21 years      | 97         | 9.4            |            |

Research procedure

The study began by conducting a preliminary study through a google form on a group of teenagers related to their adherence to health protocols. Next, take care of ethical clearance. This research has received ethical approval and was declared ethically worthy from the Health Research Ethics Commission (KEPK) of the Health Polytechnic of Malang based on the Certificate of Passing the Ethical Review No. 972 / KEPK-POLKESMA/2020. The data were taken randomly through a network of youth enumerators using a google form and then analyzed.

Instrument

The instrument used is a google form which was distributed through the enumerator network using the gadget facility. The instrument was developed by the researcher using the health protocol reference set by the government. The instrument includes the biodata and compliance of respondents in implementing 6-behaviors including wearing masks, washing hands, maintaining physical distance, maintaining social distance, reducing mobility by staying at home and efforts to improve physical health and body immunity. Respondents were asked to provide an assessment of the degree of frequency, namely always (meaning very obedient), seldom / occasionally (quite obedient) and never (disobedient) in implementing the 6 measured behaviors.

Data analysis

Data analysis was carried out descriptively related to 6 behaviors that were measured as an effort and form of adolescent commitment in preventing the transmission and spread of Covid-19. The results of the analysis are the percentage of respondents who implement health protocols that show their compliance.

RESULTS AND DISCUSSION

Characteristics of Respondents

Distribution of Characteristics of Respondents by Gender, Age, Education, Domicile as table 1.
Table 1 shows that the majority of respondents are women with a percentage of 71.3% with the category of late adolescence (> 18 - 21 years) with a percentage of 64%, the education of the most respondents is Higher Education 61.5%, and the most place where they live when the research was conducted was in district or rural areas 69.2%.

Characteristics of Respondents by Area of Domicile shows the research locations in 6 provinces and several other provinces (Riau, South Sulawesi, Southeast Sulawesi and West Sumatra).

Most respondents (majority) came from East Java. The results of the identification by city showed that the respondents come from 67 cities in Indonesia. Most respondents respectively came from the cities and districts of Malang (23.37%), Jember (13.44%), Pasuruan (11.88), Ponorogo (11.88), and Nganjuk (5.84%). The rest came from other cities.

Six-Behavior of Indonesian Youth in an Effort to Prevent Covid-19 Transmission and Spread

This section describes 6 behaviors of Indonesian youth and youth in an effort to prevent the spread and transmission of Covid-19 through the application of health protocols. These results illustrate their compliance and commitment in preventing the transmission and spread of Covid-19, as shown in table 3.

Table 2
Six-Respondents’ Behavior in Implementing Health Protocol (N=1027)

| Behavioral Variables                          | Always (%) | Rarely/Sometimes (%) | Never (%) | Total (%) |
|---------------------------------------------|------------|----------------------|-----------|-----------|
| Putting on a mask                           | 637 (62%)  | 339 (33%)            | 51 (5%)   | 1027 (100%)|
| Washing hands & maintaining personal hygiene| 648 (63.15%) | 355 (34.55%)         | 24 (2.3%) | 1027 (100%)|
| Maintaining physical distancing             | 688 (67%)  | 200 (19.5%)          | 139 (13.5%) | 1027 (100%)|
| Avoiding crowds (Social Distancing)        | 731 (71.18%) | 225 (21.94%)         | 71 (6.88%) | 1027 (100%)|
| Being always at home (Stay at Home)         | 797 (77.6%) | 164 (16.0%)          | 66 (6.4%)  | 1027 (100%)|
| Improving physical health and body immunity | 456 (44.4%) | 503 (49%)            | 68 (6.6%)  | 1027 (100%)|
| Total                                       | 659 (64.2%) | 298 (29%)            | 70 (6.8%)  | 1027 (100%)|

Table 3 shows that adolescent adherence as a form of commitment to prevent transmission and spread of Covid-19 is to always use a mask (very obedient or very committed) as much as 62%, wash hands 63.15%, maintain physical distance 67%, maintain social distancing 71.18%.

Respondents’ Compliance in Maintaining Physical Distance and Social Distance Based on Domicile Areas of Cities and Villages

Respondents’ Compliance in Maintaining Physical Distance and Social Distance Based on Domicile Areas of Cities and Villages as table 3.

Table 3
Respondents’ Compliance in Keeping Physical Distance and Social Distance Based on the City and Village Domicile Area

| Compliance Variable                          | Rural (District / Village) | Urban (City) | Total |
|---------------------------------------------|---------------------------|--------------|-------|
| Maintain a physical distance of 1-2 meters   | f | x | f | x | 1027 |
| Less Obedient                               | 25 | 3.5 | 11 | 3.5 |
| Obedient                                    | 350 | 49.3 | 143 | 45.1 |
| Very Obedient                               | 335 | 47.2 | 163 | 51.4 |
| Total                                       | 710 | 100% | 317 | 100% |
| Not shaking hands                           | f | x | f | x | 1027 |
| Less Obedient                               | 44 | 6.2 | 18 | 5.7 |
| Obedient                                    | 317 | 44.6 | 115 | 36.3 |
| Very Obedient                               | 349 | 49.2 | 184 | 58 |
Table 4 shows compliance in maintaining physical and social distance for Indonesian adolescents and young people who live in urban areas have a tendency to obey more than those who live in rural areas. However, overall, they are very obedient to apply all the components of the measured variables. Among the components of the measured compliance variable, maintaining physical and social distance, commitment to maintaining a physical distance of 1-2 meters and not shaking hands, are obeyed by few of them.

**DISCUSSION**

This section describes the discussion of research findings related to the attitudes and behavior of Indonesian youths, which illustrate their commitment and compliance in implementing health protocols during the Covid-19 pandemic. Because the distribution of the respondents' domicile areas is in one area, namely East Java (95.3%), the results of this study represent East Java youths.

**Adolescent adherence to wear masks**

Some Indonesian teenagers and young people say they always use masks to cover their mouths and noses, and change them every 4 hours. This result is quite good, but the implementation of the use of masks by adolescents and young people still needs to be encouraged and continuously educated because there are still some of them who are inconsistent or not obedient to wear masks. There are still young people who are not obedient, possibly related to their development. In the period of its development, young people need to show a perfect identity and appearance, especially in terms of their faces. Most of the respondents are female. During its development, young women will prefer to show their beauty and experiment with facial makeup to look beautiful. Using masks makes them uncomfortable and cannot show their beauty to their social environment.

As the nation’s future future generation, teenagers and young people should obey and have a high commitment in using masks so that they stay healthy and can work. In accordance with the government's instruction that to prevent transmission, it is mandatory to wear a mask if you are in a public place or in a crowd(Kementerian Kesehatan Republik Indonesia; Gerakan Masyarakat Hidup Sehat (Germas), 2020). To prevent transmission, everyone must wear a mask and change it every 4 hours. In a pandemic situation, we do not know whether someone is in good health or is a person without symptoms (OTG) whereas his body already contains the virus;(Yurianto et al., 2020). WHO explained that in various situations, to prevent the spread of Covid-19, it is important that people should use masks(World Health Organization, 2020b).

**Adherence to Adolescent Hand Washing & Maintaining Personal Hygiene**

Some teenagers and young people are obedient to always wash their hands with soap in running water and maintain personal hygiene in the context of implementing Clean and Healthy Behavior (PHBS). This is considered as adequate result because most of the respondents are late adolescents, where there are increased responsibility for themselves and others. Even so, the implementation of washing hands and performing personal hygiene by adolescents and young people still needs to be encouraged and continuously educated because there are still some of them who are not consistent in implementing it.

Adolescents and young people should always be obedient and have a high commitment to maintain hand washing in various situations. This is in accordance with the government’s instruction to prevent the transmission of
Covid-19, that everyone must be diligent in washing hands with soap and running water, especially after handling objects. Washing hands with soap can destroy the external layer of the virus so that the hands are free from viruses. Before washing hands, everyone must not touch mouth, nose and eyes area, because hands are the most dangerous mode of transmission(Yurianto et al., 2020).

The Covid-19 pandemic triggers the importance of making efforts to prevent transmission as soon as possible. Environmental surfaces play a role in disease transmission through physical contact with users(Yatmo et al., 2020). Contaminated surfaces play an important role in endemic transmission and epidemics of certain pathogens that cause infection(Otter et al., 2013). Pathogens can stay on surfaces for a certain period of time and disease transmission can occur when hands touch the contaminated surfaces. Person-to-person transmission can occur in the hospital setting or in the family environment(Kampf et al., 2020). With regard to transmission through touching objects, there are need of intense attention on environmental surfaces in public areas with high contact(Yatmo et al., 2020).

Everyone must participate to prevent the spread of Covid-19 through hand hygiene(World Health Organization, 2020a). For all situations, the important thing to do is hand hygiene(World Health Organization, 2020b). If the individual has to do activities outside, then, after come home, they must leave their shoes outside, take a shower immediately and change clothes(Yurianto et al., 2020).

Adolescent Compliance in Maintaining Physical Distance

Some adolescents and young people are obedient to always maintain physical distancesuch as not shaking hands, not hugging and not kissing the cheeks when meeting their friends. These results indicate that they are quite committed to maintain a distance when interacting and not making direct physical contact. The implementation of maintaining physical distancing still needs to be encouraged and continuously educated because there are still cases who are not consistent in applying it.

This is in accordance with the government's appeal that to prevent transmission of Covid-19, the distance between people is at least 2 meters. Even if they do not interact with each other, they must keep the distance and not touch each other. It was further explained that there is no guarantee that other people's clothes or bodies do not contain the Covid-19 virus so that physical distance must be maintained so as to prevent the transmission and spread of Covid-19(Yurianto et al., 2020). WHO explains that everyone must participate in preventing the spread of cases through physical distancing(World Health Organization, 2020a).

Adolescent Compliance in Avoiding the Crowd (Social Distancing)

Most of the adolescents and young adults behave to always avoid the crowd, not going to the mall, not watching movie, not hanging out with peers as a teenage lifestyle, not attending parties, and not eating together in cafes. These results show that they are committed to prevent the transmission and spread of Covid-19 by stating that they always avoid crowds. This result still needs to be encouraged and continuously educated because there are still a small number of them who are not consistent in implementing it.

The most effective way to prevent the spread of Covid-19 is to break the chain of transmission. The transmission of Covid-19 infection can occur through physical contact. In connection with this event, the prevention of Covid-19 can be focused on safe community behavior patterns, namely conducting independent isolation by staying at home.(Yurianto et al., 2020; Pedoman Pembatasan Sosial Berskala Besar Dalam Rangka Percepatan Penanganan Corona Virus Disease 2019 (Covid-19), 2020). This means that people are encouraged to stay at home and avoid being with large numbers of people for various social activities. The commitment of youth and young people by stating to always avoid crowds is a positive aspect that must be maintained and continuously encouraged so that they avoid infection and potential spread to others. WHO explained that public health measures that can slow the transmission and spread of infectious diseases are by protecting oneself, the environment, maintaining social distancing, refraining from traveling, canceling mass gatherings or closing schools.(World Health Organization, 2020b).

Adolescent Compliance to Reduce Mobility by Always Staying at Home

Most Indonesian adolescents and young people are obedient and committed to prevent the transmission and spread of Covid-19 by always staying at home and not doing activities outside the home if there are no important activities. This is in accordance with experts who state that children and adolescents may be less at risk of contracting Covid-19 with severe symptoms, but the pandemic situation significantly disrupts their lives. Maintaining social distancing from meeting peers and changing school routines has a big impact on adolescents(Volkin, 2020). Brooks et al., (2020) inGuessoum et al. (2020)explained that quarantine (lockdown) has negative effects and the potential for prolonged psychological problems, including symptoms of post-traumatic stress, confusion, and anger.

Mendelson inVolkin (2020)explained that the biggest impact of the social distancing program felt by adolescents comes from closing schools, being at home with family for a long time, and not being able to see peers. Furthermore, it was explained that adolescents have different developmental needs from adults, namely the stage of life where they are highly interested in social relationships with peers and begin to separate themselves from their parents. Social restrictions have an emotional impact on adolescents which can lead to difficulties in adapting and can affect their world(Volkin, 2020).

Marshall inVolkin (2020)explained that there are two development tasks for adolescents who are affected by Covid-19, namely the development of social skills and empathy and the development of identity. The development of these two tasks occurs through interaction with peers. The breakdown of social relations with peers will have an impact on adolescent emotions if they return to the real social environment. Schools are not just places to deliver educational content, but also to enhance their social and emotional development. When adolescents return to school, they will realize that there has been a deterioration, not only
a decline in education, but also a deterioration in their social and emotional skills.(Volkin, 2020).

Wang et al. (2020) in Guessoum et al. (2020) explained that children and adolescents in the period without school will result in a decrease in physical activity. The decision to close schools to cut the transmission and spread of Covid-19, resulted in more teenagers in front of laptop or cellphone screens to study, irregular sleep patterns, and less proper diets. This may result in impaired maturation of the brain and social environment. The Covid-19 pandemic and lockdown are life events full of stress and suffering. Children and adolescents may experience mental health problems caused by reduced outdoor activity and extended stay at home, excessive use of the internet and social media (Guessoum et al., 2020).

**Adolescent Compliance in Efforts to Improve Physical Health and Body Immunity**

A small proportion of adolescents and young people who are obedient and committed to always improving health or body immunity through eating with adequate nutrition and drinking at least 1500 liters per day, regular exercise at least 30 minutes per day, getting enough sleep 6-8 hours per day and sunbathing in the morning. The efforts of adolescents in improving their health and immunity still need to be improved so that they have good defenses or immunity to fight the transmission of Covid-19. The body's ability to fight infection is known as the immune system (Siswanto et al., 2013).

If an infection occurs, the immune system will work by eliminating the action of toxins and other virulent factors. Antigens are compounds in the form of proteins, fats, polysaccharides, nucleic acids, lipopolysaccharides, lipoproteins and others, which can stimulate the formation of antibodies. Antigenic is a property of a compound that is able to stimulate the formation of specific antibodies against that compound (Siswanto et al., 2013). Immunogen is often heard in discussions related to immunity. Immunogens are compounds that can stimulate the formation of immunity, and immunogenic are properties of compounds that can stimulate the formation of specific antibodies that are protective and increase cellular immunity. If the immune system is weakened, the ability to protect the body is also reduced, this can lead to the emergence of pathogens so that the virus can grow and develop in the body (Siswanto et al., 2013). Furthermore, it was explained that one of the important efforts to increase body immunity is by providing adequate nutritional intake and in accordance with nutritional standards. The important thing in food intake is the availability of micronutrients.

Micronutrients are substances that are needed in the body including vitamins and minerals contained in food. While vitamins are organic components that are essential for metabolic reactions in cells, our bodies only need small amounts of vitamins. Vitamins are indispensable for growth and health maintenance. Some vitamins function as coenzymes that are responsible for essential chemical reactions taking place. Most of the coenzymes are present in the form of apoenzymes, which are vitamins that are bound to proteins. Minerals are needed in small amounts in the body, but have an important role for life and health. One of the most important roles of vitamins and minerals is to maintain the immune system (Siswanto et al., 2013).

In addition to adequate nutritional intake, physical activity can also increase body immunity. This is in accordance with the opinion of experts who state that exercise can increase body immunity. Human immunity is the body's ability to fight various pathogenic microbes, including viruses. A body that tends to be quiet and has less activity can affect immune function. Light physical exercise is more beneficial to improve immune function than just sitting or not doing any activity. It is further explained that the increase in the number of leukocytes and platelets in the blood is influenced by the intensity and duration of exercise. Increasing or decreasing in body immunity during physical exercise or sports can provide positive long-term health benefits, namely increasing the body's defense against infection and disease. If an infection occurs, the body will take care to prevent viral infection into the body (Sukendra, 2015).

The body is easily infected with pathogenic organisms if the immune system decreases. The main immune component of the body in circulating blood is leukocytes. Leukocytes can be increased easily by doing light physical exercise, such as 30 minutes of aerobic exercise five times a week. We are advised to do physical exercise or exercise in moderation and in moderation, because excessive exercise can have a negative impact so that the immune system becomes suppressed or decreases immune function (Sukendra, 2015).

During the Covid-19 pandemic, children used gadgets or laptop devices connected to the internet to carry out various activities. This condition needs to get attention from parents because children will tend to stay in place for a long time, have no muscle movement and lack of physical activity so that it can reduce their body immunity.

Apart from physical activity or regular exercise, body immunity can also be increased by getting enough rest and sleep (Sukendra, 2015). It was explained that getting enough sleep rest is believed to improve mental health (Taylor, C., Lillios, C., LeMone, P., 2011). Calmness and mental health are believed to increase immunity.

In addition to various efforts to prevent the transmission and spread of Covid-19 by implementing 6-behavior related to health protocols, Indonesian adolescents and young people should always pray that they are always in God's care and have strong confidence or belief to stay healthy amid the pandemic. This is important because belief or self-belief (self-efficacy) and religion are important in determining the achievement of goals. This opinion is according to opinion Anjaswarni et al. (2019) that religion and strong belief are the capital for adolescents for good self-control in completing tasks and achieving goals. It is further explained that religiosity will harmonize life with society, so that individuals will obey and think positively about an event (Anjaswarni et al., 2019).

**Limitation of The Study**

Cannot directly know the obedience of teenagers in implementing the Covid-19 health protocol, because the data is taken using the google form. It takes honesty and awareness from respondents to report their obedience.

**CONCLUSIONS AND RECOMMENDATION**

Adolescent adherence as a form of commitment in preventing the transmission and spread of Covid-19 to always use a mask 62%, wash hands 63.15%, maintain physical distance 67%, maintain social distancing 71.18%, reduce mobility by staying at home 77.6% and efforts to...
improve physical health and body immunity 44.35%. Overall, most adolescents (64.2%) obeyed to always implement 6 behaviors according to health protocols. Continuous education is needed so that more Indonesian adolescents and young people are obedient and committed to implementing 6 behaviors according to health protocols as an effort and their role in preventing the transmission and spread of CoVid-19.

The adherence to Indonesian youth and youth to always use masks and replace them every 4 hours is still lacking, because covering the nose and mouth for young people can reduce their existence and appearance. Regarding efforts to increase body immunity, it is still lacking because covering the nose and mouth for young people can reduce their existence and appearance. Regarding efforts to implement 6 behaviors according to health protocols as an effort and role in preventing the transmission and spread of CoVid-19, Indonesian adolescents and young people can be better at an effort and role in preventing the transmission and spread of Covid-19. On an individual level, everyone must protect themselves and protect others by implementing preventive behaviors such as washing hands, avoiding touching faces if they have not washed hands, practicing good breathing ethics, maintaining distance, restricting activities outside the home, isolating oneself in facilities, community, or at home if sick, identifying yourself after contact with confirmed patients.

Conflict of Interest Statement

In the last three years, researchers have focused on research related to development and behavior in groups of children, adolescents and young people. We declare no conflict of interest

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