



# Compliance of the COVID-19 prevention protocols on daily activities among adolescents in the period of early adapting new habits, South Sulawesi Province, Indonesia

Bs. Titi Haerana\*, Dian Ihwana Ansyar, Rimawati Aulia Insani Sadarang, Tri Addya Karini, Yudi Adnan, Zilfadhilah Arranury

Department of Public Health, Faculty of Medicine and Health Science, Universitas Islam Negeri Alauddin, Indonesia

## ARTICLE INFO

### Article history:

Received 28 June 2021

Accepted 30 July 2021

### Keywords:

Adolescents  
Compliance  
COVID-19  
Prevention

## ABSTRACT

**Objective:** This research was exploring the activities undertaken and compliance of the COVID-19 prevention protocols among adolescents in the period of adapting new habits.

**Methods:** This research was a study of prevalence through online surveys among adolescents (12–25 years). There were 190 participants, used probabilistic sampling. Data was collected between 20th–24th June 2020.

**Result:** We found it very small that did the domestic and general activities with not comply (0–8%), except family gatherings (14%). The transportation activities were not carried out by most participants who did contact with others, they perform by riding with their own motorbikes alone (80%) did comply. One-third of participants did dine outside, those who did not comply were those who buy/receive food or goods without leaving home (4–7%). Sport, health, and entertainment activities mostly (75%–93%) were not carried out, unless the sport was mostly performed well (82%).

**Conclusion:** Adolescents in the COVID-19 pandemic at the beginning of the new habit adaptation largely restrict/did not perform outdoor activities. Those who were conducting their activities implemented prevention protocols.

© 2021 SESPAS. Published by Elsevier España, S.L.U. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## Introduction

COVID-19 has been a pandemic including in all provinces in Indonesia. The cases in Indonesia reached 132,816 in positive confirmation on August 14, 2020.<sup>1</sup> South Sulawesi Province recorded 10,749 positive confirmed cases as of August 14, 2020, and became the province with the third-highest cases after DKI Jakarta and East Java.<sup>2</sup> World Health Organization (WHO) continues to support to loosen of large-scale social restrictions (PSBB) with the assessment of epidemiological criteria, as recommended in the WHO guidelines for adjusting Public Health and Social Measure (PHSM).<sup>3</sup> So in many countries, including Indonesia, begin a new normal policy for economic activities to run but still pay attention to health protocols. The Government is responsive by issuing the COVID-19 regulatory prevention and control guidelines and public health campaigns that advise the public to adhere to the COVID-19 prevention protocol including handwashing with soap and water or hand sanitizer, maintaining physical distance, and using masks.<sup>4–6</sup>

Adolescents are a productive age group that has more activities and mobilization outside the home. Almost half (49%) Population of Indonesia under 25 years.<sup>7</sup> This age group is certainly a

group of high transmission potential if it does not adhere to the prevention protocols. Previous studies in Indonesia revealed that young people's knowledge of the prevention of COVID-19 on a scale is quite up to good.<sup>8</sup> In addition, fear and anxiety against the plague of COVID-19 forced communities to adhere to government recommendations.<sup>9</sup>

The finding that adolescents have a good knowledge of the prevention of COVID-19 certainly brings good news. However, whether good knowledge is in line with their actions to prevent the transmission of COVID-19 in this pandemic time by limiting the activity and complying with health protocols in conducting daily activities. This research was exploring the activities undertaken and compliance of the COVID-19 prevention protocols in the period of new habits adaptation of the adolescent group.

## Methods

This research was a study of prevalence through online surveys conducted in teenagers aged 12–24 years. Online surveys were conducted with online questionnaires distributed to groups of WhatsApp, Facebook with public settings, and other social media. We ask for approval before completing questionnaires and participant's self-reported questionnaires. A total of 190 adolescents were eligible (age and full variable data) as samples, used probabilistic sampling methods. Samples were restricted to teenagers residing in the South Sulawesi Province. The data collected between 20th–24th June 2020, about 1 month after WHO recommended the Ministry

Peer-review under responsibility of the scientific committee of the 3rd International Nursing, Health Science Students & Health Care Professionals Conference. Full-text and the content of it is under responsibility of authors of the article.

\* Corresponding author.

E-mail addresses: [bs.titihaerana@gmail.com](mailto:bs.titihaerana@gmail.com), [pmc@agri.unhas.ac.id](mailto:pmc@agri.unhas.ac.id) (Bs.T. Haerana).

of Health in developing guidance and protocols in various sectors for the “new normal/adapting new habits” scenarios.<sup>2</sup>

The questionnaire was consists of five components: (1) The characteristics of the socio-demographic consisted of gender, age, marital status, regency/city of residence, education level, and employment status (2) domestic activities and daily public activities consisted of all daily activities undertaken by the public, include activities at home, study, work and use public facilities and religious activities, (3) Transportation activities used of transportation means, such as private transportation, public transport, and online transportation, (4) Consumption activities consisted of all activities related to the activities of goods, food, and vehicles. (5) Sports, health, and entertainment activities consisted of sporting activities, entertainment venues, health, and beauty consultations. (6) The journey to and from the red-zone of the virus transmission Covid-19, red zones were zone with a high risk of the disease if the spread of the virus has not been controlled.

There were three answers to the questionnaire: (1) do not means you do not do any activity, (2) comply means doing by complying with health protocols, including wearing masks, handwashing using SOAP/hand sanitizer, and physical distance, (3) Not comply means doing it by not complying with the health protocols such as wearing masks, hand wash soap/hand sanitizer, and keep the physical distance. The analysis was conducted in Stata 13 and SPSS version 25. Descriptive statistics for all variables present the number of respondents and percentages.

## Result

A total of 190 adolescents aged 12–25 years, from 20 districts/cities in South Sulawesi Province, Indonesia filled in questionnaires. Most of the participants were domiciled in urban areas namely Makassar City, the capital of South Sulawesi Province. The average age of elementary school participants was  $19.93 \pm 2.61$ , the dominant participants of the late adolescent age group (91.1%). Most of the late adolescent categories (91.1%), female genders (80.5), have completed in senior high school education (77.9%), and unmarried status (95.8%). Daily participants were students (80.5%), who were almost half domiciled in the area with the status of red-zone of COVID-19 transmission (48.4%) (Table 1).

Fig. 1 showed that most participants did not do activities such as attended the funeral (68%), social services (64.8%), laundry services (83.2%), maintenance services come to home (80.4%), close contact with the suspect and probable cases (87% and 91%), working (77.4%), and used public facilities (70%). Most of the activities were comply among others worship outside (60.3%), visit someone (67%), family gathering (63.3%), study (67.1%), and bank services

**Table 1**  
The socio-demographic characteristic of participants (n: 190).

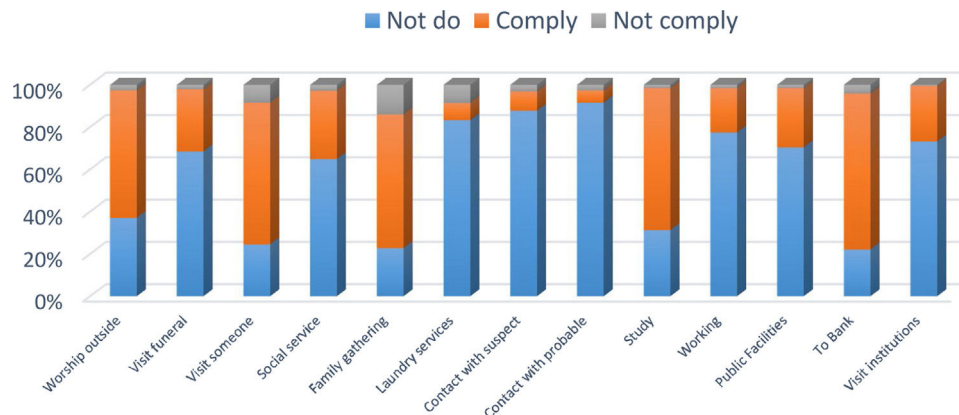
Characteristics	Variable	Total (n=190)	Weighted (%)
Age (years)	Mean $\pm$ SD	19.93 $\pm$ 2.61	
	Early adolescent (12–16)	17	8.9
	Late adolescent (17–24)	173	91.1
Gender	Male	36	18.9
	Female	153	80.5
	Missing	1	
Education	Primary school	8	4.2
	Junior high school	14	7.4
	Senior high school	148	77.9
	Bachelor-level or above	20	10.6
Marital status	Married	7	3.7
	Never married	182	95.8
	Separated	1	0.5
	Unemployed	20	10.5
Employee status	Employee	17	9.0
	Student	153	80.5
	Missing	2	1.1
Area of residence based on risk zone of transmission	Red zone	92	48.4
	Orange zone	37	19.5
	Yellow zone	59	31.1
	Green zone	0	0
	Missing	2	1.1

Source: Primary Data, 2020, <https://covid19.go.id/peta-risiko>.

(74%). It is very small that did the activation with not comply (0–8%), excepted the family gathering (14%) (Fig. 1).

Fig. 2 showed that most participants did not conduct transportation activities that allow contact with others such as the station (83%), traveling by plane (91%), by ship (93%), by railway (92%), by bus (89%), by taxi (86%), by public transport (85%), by car and motorbikes without housemate (64% and 52%). Participants carried out their transport activities with their own motorbikes (80%) or with housemates (80%) did with complying. Some respondents who did not comply with transportation activities were those who traveling with housemates.

Fig. 3 showed that consumption activities outside the home were already started. One-third of participants have done fine dining activities in indoor restaurants (43%) as well as in the outdoor restaurant (33%). Shopped in a traditional market (63%) and supermarkets (87%) did comply with healthcare protocols. Those who did not comply were those who buy/receive food or goods without leaving home i.e. buying from peddler (6.4%), buying via online transportation/courier (7.5%), and receive from the post office (4.7%). Most did not do activities for vehicle needs such as



**Fig. 1.** Domestic activities and general activities daily.

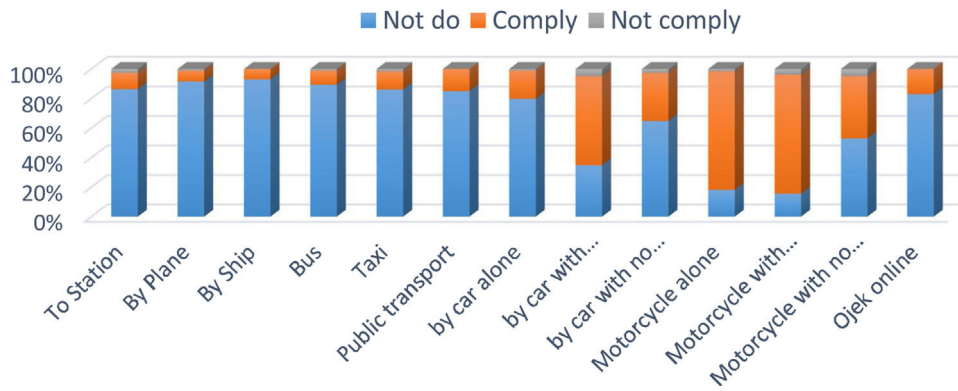


Fig. 2. Transportation activities.

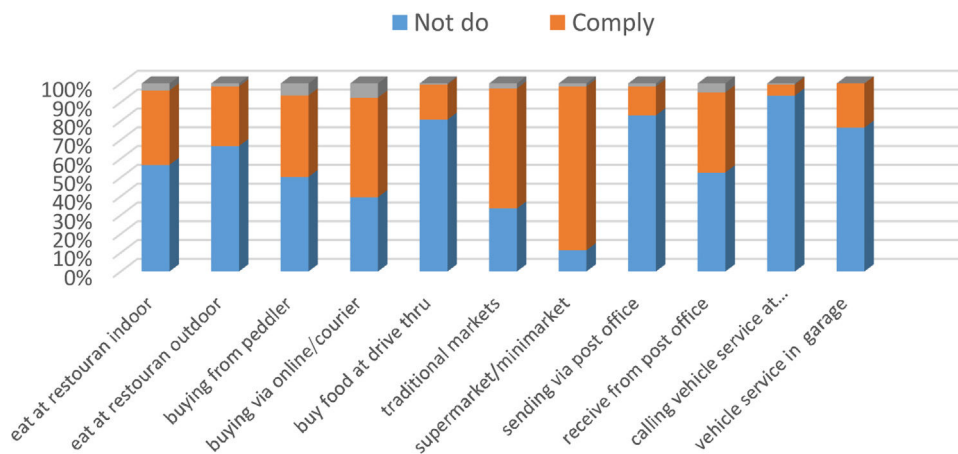


Fig. 3. Consumption activities.

service in a garage (76%), service visit (93%), and vehicle showroom (91%) (Fig. 3).

Fig. 4 showed that sport, health, and entertainment activities were mostly not done, 75%–93% of participants' answers were not doing the activity. Unless the sport itself was most of them performed well (82%). Did it well with comply (75%) and not comply (8%) (Fig. 4).

Participants who were traveling (39.5%) and from (40.1%) red zone spread of COVID-19 adhering to health protocols. Very small (1%) The journey did with not comply. The dominant participants did not do the activity. Red zones area was a high risk of the disease if the spread of the virus has not been controlled (Fig. 5).

## Discussion

The strength of this research was exploring all the daily activities that have a potential for the transmission of COVID-19 so that it becomes the basic data to determine health intervention in this age group. The limitations of this research were the lack of comparing literature, and the collection of data online, so that those living in rural areas with limited Internet access may not have participated.

Indonesia has started to loosen large-scale social restrictions (PSBB) and introduce a new activity standard by opening up all cultural, social, and public activities. Society should work, research, and socialize once again to be successful in the pandemic period. This means that people who have to stay at home have to perform activities adapting new habits while maintaining a health

protocol. It protects yourself and others with the safe living discipline by constantly washing hands with a soap/hand sanitizer, wearing masks, and keeping a distance.<sup>10</sup>

Adherence to the prevention of COVID-19 in adolescents indicated a moderate level of compliance. They follow the government's recommendation for more stay at home if there is no urgent need, and if doing the activity of implementing prevention protocols COVID-19 of them often wash hands, use masks, and keep the distance/avoid the crowd. The "Fear" of the new virus has an effect on government-recommended public health behavior compliance.<sup>9</sup>

Predominantly adolescents restricted the daily activities of potentially contact with others, and their activities were done in compliance with the prevention protocols. Although some reports that young people considered themselves more immune to viruses. This has no effect on prevention protocol compliance in the findings of this study. This may be because they have a concern about spreading coronaviruses to others without even realizing it. The level of adolescent concerns is no different from adults.<sup>11</sup>

News reports in other cities in Indonesia reveal differently that poor public adherence to health protocols appears to have triggered the spread of the coronavirus in the city of Jakarta.<sup>12</sup> A study in Brazil found that poor adherence with containment measure was directly linked to antisocial traits, especially lower levels of empathy and higher levels of callousness, deceitfulness, and risk-taking. This explains the reason why people continue not to follow containment measures even with the increasing number of cases and deaths.<sup>13</sup>

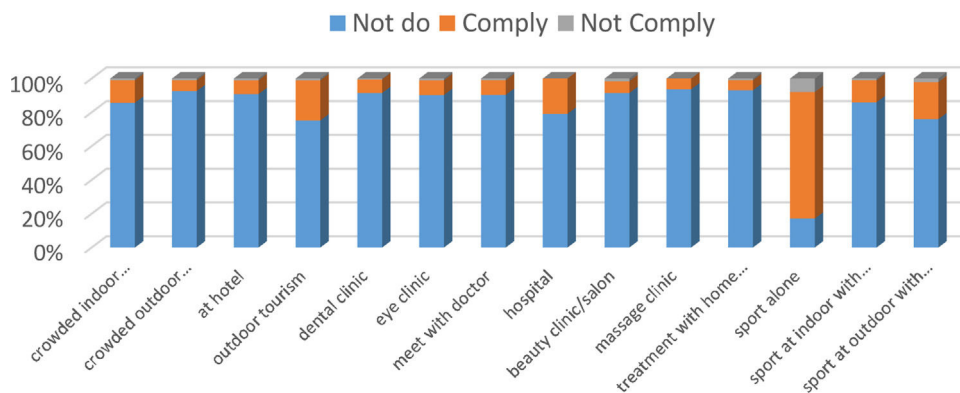


Fig. 4. Sport, health, and entertainment activities.

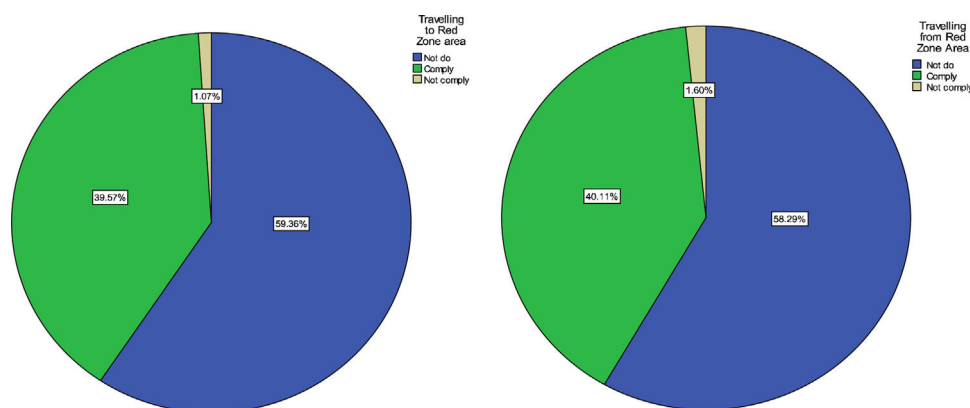


Fig. 5. Traveling to and from red zone area.

Adolescents have understood the severity of the COVID-19 pandemic phenomena that occur and adapt to the recommended precautions. They avoided activities that have a higher risk of activity that has a level of physical proximity with others and activities that have a high relationship with the spread of disease. For example, entertainment activities (malls, cinemas, discotheques, bars, karaoke bars, concerts, and exhibitions) and transportation (by plane, by bus, by public transportation, and by ship). Adolescents were able to demonstrate an excellent ability to live adjusting unsafe situations and face unfavorable conditions with new normal adaptations.<sup>14</sup>

## Conclusion

Our conclusion, adolescents in the COVID-19 pandemic at the beginning of the new habit adaptation largely restrict/did not perform outdoor activities. Those who were conducting their activities implemented health protocols and very small ones that did not comply. Public health interventions with adolescents' goals should always be enhanced given the unstable adolescent character's psychologically so compliance with current healthcare protocols can turn into future non-compliance. The intervention is in conformity with the desire so can motivate internalized, positive behavior change, and consistently.

## Ethical approval

The institutional review board approved the study prior to data collection. We ask for approval before becoming a participant. The study team strictly followed ethical standards in research; that is, all individual information was strictly kept confidential and not reported in the paper.

## Conflict of interest

All authors declare no conflict of interest.

## References

1. Worldometer. Coronavirus Update (Live): 11,191,810 Cases and 529,127 Deaths from COVID-19 Virus Pandemic - Worldometer. Available at: <https://www.worldometers.info/coronavirus/> [accessed 4.07.20].
2. WHO-Indonesia. who-situation-report-10.pdf. s.f. Available at: [https://www.who.int/docs/default-source/searo/indonesia/covid19/who-situation-report-10.pdf?sfvrsn=a9ceb157\\_2](https://www.who.int/docs/default-source/searo/indonesia/covid19/who-situation-report-10.pdf?sfvrsn=a9ceb157_2).
3. WHO-Indonesia. who-situation-report-11.pdf. s.f. Available at: [https://www.who.int/docs/default-source/searo/indonesia/covid19/who-situation-report-11.pdf?sfvrsn=a5ee6cc2\\_2](https://www.who.int/docs/default-source/searo/indonesia/covid19/who-situation-report-11.pdf?sfvrsn=a5ee6cc2_2).
4. Health of Ministry, Indonesia. webmaster. Menuju Adaptasi Kebiasaan Baru. Direktorat Promosi Kesehatan Kementerian Kesehatan RI. Available at: <http://promkes.kemkes.go.id/menju-adaptasi-kebiasaan-baru> [accessed 17.07.20].
5. Health of Ministry, Indonesia. Home» Info Infeksi Emerging Kementerian Kesehatan RI. Info Infeksi Emerging Kementerian Kesehatan RI. Available at: <https://covid19.kemkes.go.id/> [accessed 3.07.20].
6. Badan Nasional Penanggulangan Bencana. COVID-19 GTPP. Peta Risiko|Gugus Tugas Percepatan Penanganan COVID-19. covid19.go.id. Available at: <https://covid19.go.id/peta-risiko> [accessed 13.07.20].
7. Badan Pusat Statistik. Available at: <https://www.bps.go.id/publication/2019/12/20/8250138f59ccebff3fed326a/statistik-pemuda-indonesia-2019.html> [accessed 16.08.20].
8. Halim DA, Kurniawan A, Agung FH, et al. Understanding of young people about COVID-19 during early outbreak in Indonesia. Asia-Pac J Public Health. 2020, <http://dx.doi.org/10.1177/1010539520940933>.
9. Harper CA, Satchell LP, Fido D, et al. Functional fear predicts public health compliance in the COVID-19 pandemic. Int J Ment Health Addict. 2020:1–14, <http://dx.doi.org/10.1007/s11469-020-00281-5>.
10. How to Protect Yourself & Others|CDC. Available at: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html> [accessed 17.07.20].
11. NW L. St., Suite., Inquiries D 20036USA202-419-4300 | M-857-8562 | F-419-4372 | M. Health Concerns From COVID-19 Much Higher Among Hispanics and

- Blacks Than Whites. Pew Research Center - US Politics & Policy; 2020. Available at: <https://www.pewresearch.org/politics/2020/04/14/health-concerns-from-covid-19-much-higher-among-hispanics-and-blacks-than-whites/>.
12. Media KC. Poor Public Compliance with Health Protocols Fuels Jakarta's High Covid-19 Cases Halaman all. KOMPAS.com. Available at: <https://go.kompas.com/read/2020/07/13/194500574/poor-public-compliance-with-health-protocols-fuels-jakartas-high-covid-19-cases> [accessed 4.10.20].
  13. Miguel FK, Machado GM, Pianowski G, et al. Compliance with containment measures to the COVID-19 pandemic over time: do anti-social traits matter? *Person Individual Differences*. 2021;168:110346, <http://dx.doi.org/10.1016/j.paid.2020.110346>.
  14. Buzzi C, Tucci M, Ciprandi R, et al. The psycho-social effects of COVID-19 on Italian adolescents' attitudes and behaviors. *Ital J Pediatr*. 2020;46:69, <http://dx.doi.org/10.1186/s13052-020-00833-4>.