

Health Protocol Intellectual Improvement During the COVID-19 Pandemic

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ABSTRACT

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-Cov-2) or commonly known as COVID-19 has changed the social fabric of society. COVID-19 is spreading rapidly in more than 200 countries. Various regulations and policies have been made by the government to break the chain of transmission from COVID-19. However, not all people understand and obey because there is so much untrue information (hoax) circulating in the community. It is very important to educate the public, both in the city and in the village, about the importance of implementing the 5M health protocol (wearing masks, washing hands, maintaining distance, limiting mobility, and avoiding crowds), so that people can still carry out their activities outside the home, especially the breadwinners. The purpose of this activity is to increase the Intellectuality of Health Protocols during the COVID-19 Pandemic. The method of activity is given in the form of providing health education related to health protocols which are carried out door to door to reduce the risk of crowds. From the results of the community services the conclusion involve (1) The knowledge of the resident were improved which is known as local adherence (2) Residents want to apply health protocols when doing activities outside the home (3) The pandemic has created all to learn about the knowledge, motivation, self-esteem and believe encourage the level of enthusiasm of the societies accompany by the community's services team that provides the resident facing the outbreak are no longer alone, we are aligned with the government to face it together. A determined strategy has to be improved to re-control the motivation and the behavior of the participant especially live in suburban and rural areas.

KEYWORDS

Intellectual Improvement;
Health Protocol;
COVID-19



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1. Introduction

Coronavirus Disease or commonly referred to as COVID-19 is a contagious respiratory infection disease caused by Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) [1]. WHO declared COVID-19 a pandemic [2–5]. The spread of this disease is very fast [6], which is transmitted from human to human and has spread widely in more than 200 countries [7]. The number of deaths worldwide as of August 8, 2021, there are 4.55 million cases out of 219 million confirmed cases [8–10]. Although the incidence rate in Indonesia has shown a slight increase (sloping), there are still confirmed cases of COVID-19 and as of September 20, 2021, there have been 4.19 million positive cases and 141 thousand deaths.

During the pandemic, Indonesia was affected by the effect of COVID-19 in the first and second waves which challenged the ability to implement the health protocols aim to prepare the mitigation of the increased number of the third wave.

Several strategies and policies have been developed by the government [11–13], Missing attention and less understanding allow societies to distribute misleading information. In the development of these difficulties, education should be given to implementing protocols effectively, both in rural and urban areas. The education involves COVID-19, prevention, and management of pandemic. Thus, education

might aim to update societies on how they might help the government facing this serious situation and to reduce the cases of COVID-19 which is not yet known how long this pandemic will end up.

At first, this disease was thought to be an epidemic that only occurred in China. Then the World Health Organization (WHO) declared this coronavirus outbreak to be a pandemic that attacked the whole world on March 11, 2020, with symptoms of transmission that were almost the same as flu accompanied by high fever. The method of spreading this virus is quoted from the website kemkes.go.id that this disease can spread through small droplets from the nose or mouth when coughing or sneezing.

The droplet then falls on objects around it. If another person touches an object that has been contaminated with the droplet, then that person touches the eyes, nose, or mouth (facial triangle), then that person can be infected with COVID-19. Or it could also be that someone is infected with COVID-19 when accidentally inhaling droplets from sufferers. That's why we need to keep a distance of up to one meter from people who are sick [14].

As a form of community service, the University of Muhammadiyah Surabaya, Indonesia develops integration of real work lectures and community services which is applied to the concept of "back to village" (BTV Program). The completion of the BTV program consists of the following second year's student guide by the lecturer/facilitator, billed as a group which on have numerous majors which there have to reside in the selected village in Indonesia. This form of activity has been to achieve their major goal to provide knowledge and encourage the community to jointly break the chain of the spread of the Coronavirus by implementing the right based on the protocol [15–19].

Location

The community services in the form of "back to village" services are located in the district of Asem Nunggal, Kalianget Barat, region of Sumenep, Madura Island Indonesia. The situation of COVID-19 worsening, in addition, the mortality rate caused by COVID-19 increases by 55%. Therefore, the situation is complicated due to the cultural background of societies, the most reasonable of the high transfer of the virus is the resident has a job as a migrant worker that located overseas, due to the pandemic they have to return their home and become unemployed, thus might stimulate the un-stabilized condition and very detrimental to the community, especially in aspects of health and economic. Furthermore, there is a lack of knowledge and less skill determination management of Covid-19.

The challenge for societies to prevent the spread of the pandemic is they do not obey the management of covid prevention. the residents violate health protocols, they do not practice hand washing, sometimes they only wear masks, and there is no physical distance, instead of the government has made several policies in tackling COVID-19 cases such as limiting community activities, tightening health protocols, and providing vaccinations [20].

During the pandemic, many aspects of the societies of the Kalianget Sumenep region were affected. The biggest problem due to the pandemic is related to the un-stabilized income due to lost lot of expenditure, in the other hand they often have to comply with the health protocols based on government policies. It has resulted in a participant's lack of adherence to health policies.

Furthermore, the situation based on the background of the societies which [1] they lived in suburban and rural areas which signal or Wi-Fi for economic business and learning are run out (98 %) (2) Most of the businesses are closed during the pandemic, this is a very serious situation to force the societies to do nothing and loss their income (98%) (3) because they are to concentrate of their economic state they even do not take care and do not have the strength of adherence to their health management which are they easy surfer of the virus and lack of barrier of body immune (97%)

This community service formulated the application of health protocol Intellectual Improvement, consisting of (1) Wearing masks, (2) Washing Hands (3) Physical Distance. We stimulate the societies to the importance of the application of the protocol in their daily living event they go outside of their home to continue their job [21–25].

2. Method

- a) Target: residents of the Asem Nunggal region of Kalianget Barat, Sumenep Madura Island
- b) Time and Place: August 15 and 22, 2021.

c) Activity Method:

Conducting intellectual activity strategies based on the implementation of the principle of health protocol of COVID-19 management. The method of this community service should allow flexibility in offering both in-person and door-to-door interaction without need the for-protocol modifications. For maintaining the spread of the pandemic, they are limited time to straight forward aim to border the meeting.

d) Evaluation:

1) Planning Evaluation

This activity is primarily before the strengthening of collaboration with the local leader management in the sub-village leader, thus activities are continued during the community services.

2) Process Evaluation

Residents were very enthusiastic when they were given counseling about health protocols during the COVID-19 pandemic.

3) Evaluation of Results

4) In the evaluation of community services in the post-evaluation resulted 85% of residents start to understand the importance of health protocol, and they commit to implementing the application of health protocol Intellectual Improvement, consists of (1) Wearing masks, (2) Washing Hands (3) Physical Distance in their routines.

3. Results and Discussion

Carry out intellectual activity strategies based on the application of the principles of the health protocol for handling COVID-19. Including the implementation of the Intellectual Improvement health protocol, which consists of (1) Wearing a mask, (2) Washing Hands (3) Physical Distancing. Therefore, the activity was delivered by providing health education in two series (15 and 22 August 2022). This community service method should allow flexibility in offering interactions both in person and door to door without requiring modifications to the protocol shown in Figure 1. The figure shows that in order to keep the spread of the pandemic at bay, they have limited time to move on. aiming to limit gatherings, each house visited will be given counseling on the importance of implementing health protocols such as masks, hand sanitizers, how to choose highly nutritious foods, and leaflets about washing hands and wearing masks properly [25],[26].



Fig. 1. Door-to-door strategy

Local Compliance

The obstacle in this community is that at this time we noticed that during working hours there were no residents staying, and we saw that they were only a group of elderly people living at home. We prioritized this condition to transfer counseling to the workplace. In the door-to-door process based on the survey results, there are several interesting factors as a series of factors that might influence the implementation of the Intellectual Improvement health protocol such as a series of psychological factors including motivation, negative attitudes, beliefs, lack of awareness, weak locus of management, low self-efficacy, and maladaptive coping strategies, initially thus the factors that can contribute high to non-adherence behavior because of the protocol. Thus, low adherence may affect particularly vulnerable groups such as the elderly who are severely affected and increase mortality due to COVID-19 [27–29].



Fig. 2. Changes in strategy with the on work approach



Fig. 3. Vulnerable sub-groups

Make sure based on the self-approach shown in Figure 2, to involve the community more, in-depth try to understand what they are dealing with about increasing collaboration and coordination between the team and participants, they have high enthusiasm, they are willing to admire the team trying to help, this as their high priority understanding tries to accept and consider what new knowledge they should absorb. In addition, the establishment of direct guidelines from health workers and the community service team provides a sense of security for their psychological approach, so that it can influence the community to start changing attitudes and increasing adherence to implementing the Intellectual Improvement health protocol as shown in Figure 3 [30–33]. The figure shows that they believe that considering common

problems and dealing with them together stimulates their motivation to comply with the implementation of the health protocol and Intellectual Improvement based on their local wisdom which they believe may be a technical obstacle that we encounter as "local compliance".

Sustainability Potential

In order to manage the generalization of the implementation of the Intellectual Improvement health protocol, it is necessary to maintain a door to door strategy that aims to reach the layers of society in the village. Potential Sustainability can be achieved when prolonged dilemmas can be resolved or coordinated, in other words, everyone fulfills work for daily needs, but the application of Intellectual Improvement health protocols is increasingly being complied with is shown in Figure 4. The figure shows that thus, it may still be limiting the rules of staying at home, or setting the duration for going outside but also before the locals that they must always take care of themselves wherever they are, and remember that when they apply the Intellectual Improvement health protocol, they are willing to take care of their health in the face of a pandemic [34].



Fig. 4. Local compliance with assistance as a form of "back to the village"

In addition, the situation continues to be monitored and discussed as regional and government policy planning to achieve the best strategy according to community demands. The robustness of the protocol that can be implemented door to door with full supervision can be beneficial for the community to control the spread of the virus, especially at work and when they go home.

4. Conclusion

The Covid-19 pandemic has affected all of the layers of living and ultimately, the pandemic impacts willing strategies to cope with this situation. The community service from the university Muhammadiyah Surabaya in the form of "back to the village" formulated the application of health protocol Intellectual Improvement maximizing the strategy of door-to-door manner needs to be maintained to reach layers of society in the village. Creative approaches have been done by providing health education related to health protocols. The monitor discipline of the participant used local wisdom of their beliefs to increase their local adherence to the protocol and ensure that with the Sustainability Potential. Overall, the pandemic has created all to learn about knowledge, motivation, and self-esteem, and believe that encouraging the level of enthusiasm of the societies accompany by the community services team that provides the residents facing the outbreak are no longer alone, we are aligned with the government to face it together. A determined strategy must be improved to re-control the motivation and the behavior of the participant especially live in suburban and rural areas, and how to maintain their adherence to the willingness of formulated the application of health protocol Intellectual Improvement.

Acknowledgment

Special thanks to the internal funder for community service from the University of Muhammadiyah Surabaya.

Author Contribution

The activity plans to implement the solutions offered there are five series of activities, namely coordination, logo design, socialization of covid, implementation, and evaluation of education in the form of back to the village in the rural setting area with door-to-door strategy approach.

Funding

Special thanks to the internal funder for community service from the University of Muhammadiyah Surabaya.

Conflict of Interest

The authors declare no conflict of interest.

References

- [1] Debnath CR, Khan SI, Khan SI, Nath P. Coronavirus Pandemic A comprehensive design for prevention and management of COVID-19 in a tertiary medical institution in Bangladesh. 2020;4–9.
- [2] Sekiguchi K, Watanabe N, Miyazaki N, Ishizuchi K, Iba C, Tagashira Y, et al. Incidence of headache after COVID-19 vaccination in patients with history of headache : A cross-sectional study. 2022;
- [3] Filon FL, Rui F, Ronchese F, Michieli P De. Incidence of COVID - 19 infection in hospital workers from March tested , before and after vaccination with BNT162B2. Sci Rep [Internet]. 2022;2021:1–9. Available from: <https://doi.org/10.1038/s41598-021-04665-y>
- [4] Parameswaran A, Apsingi S, Kiran K, Chandra E, Dannana S. Incidence and severity of COVID - 19 infection post - vaccination : a survey among Indian doctors. Infection [Internet]. 2022;50(4):889–95. Available from: <https://doi.org/10.1007/s15010-022-01758-2>
- [5] Stouten V, Hubin P, Haarhuis F, Loenhout JAF Van, Billuart M, Brondeel R, et al. Incidence and Risk Factors of COVID-19 Vaccine Breakthrough Infections : A Prospective Cohort Study in Belgium. 2022;1–14.
- [6] Kim KM, Rhee HS. Influential factors for COVID - 19 related distancing in daily life : a distinct focus on ego - gram. BMC Public Health [Internet]. 2022;1–13. Available from: <https://doi.org/10.1186/s12889-022-13336-0>
- [7] Moore S, Public BMC, Moore ES, Lambert J, Grey E, Gillison F, et al. Life in lockdown : a longitudinal study investigating the impact of the UK COVID - 19 lockdown measures on lifestyle behaviours and mental health. BMC Public Health [Internet]. 2022;1–15. Available from: <https://doi.org/10.1186/s12889-022-13888-1>
- [8] Song S, Liu X, Li Y. Pandemic policy assessment by artificial intelligence. Sci Rep [Internet]. 2022;1–15. Available from: <https://doi.org/10.1038/s41598-022-17892-8>
- [9] Fillmore NR, Szalat RE, La J, Branch-elliman W. Recent common human coronavirus infection protects against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection : A Veterans Affairs cohort study. 2022;119(46):10–1.
- [10] Moore R, Rojo MO, Purvis RS, Marin LP, Yáñez J, Reece S, et al. Overcoming barriers and enhancing facilitators to COVID - 19 vaccination in the Hispanic community. BMC Public Health [Internet]. 2022;1–11. Available from: <https://doi.org/10.1186/s12889-022-14825-y>
- [11] Holtzman CW, Godfrey C, Ismail L, Raizes E, Ake JA, Tefera F, et al. PEPFAR ' s Role in Protecting and Leveraging HIV Services in the COVID - 19 Response in Africa. Curr HIV/AIDS Rep [Internet]. 2022;26–36. Available from: <https://doi.org/10.1007/s11904-021-00587-6>
- [12] Kale D, Herbec A, Beard E, Gold N, Shahab L. Patterns and predictors of adherence to health - protective measures during COVID - 19 pandemic in the UK : cross - sectional and longitudinal findings from the HEBECO study. BMC Public Health [Internet]. 2022;1–14. Available from: <https://doi.org/10.1186/s12889-022-14509-7>
- [13] Goulding M, Ryan GW, Minkah P, Borg A, Medina N, Suprenant P, et al. Parental perceptions of the COVID-19 vaccine for 5- to 11-year-old children : Focus group findings from Worcester Massachusetts ABSTRACT. Hum Vaccin Immunother [Internet]. 2022;18(6). Available from: <https://doi.org/10.1080/21645515.2022.2120721>

- [14] Id AA, Id BF, Wassie M. Adherence to Covid-19 mitigation measures and its associated factors among health care workers at referral hospitals in Amhara regional state of Ethiopia. 2022;1–13. Available from: <http://dx.doi.org/10.1371/journal.pone.0272570>
- [15] Id GFA, Larbi RT, Addo B, Id WA, Id FK, Appiah M. Facilitators and barriers to COVID-19 vaccine uptake among women in two regions of Ghana: A qualitative study. 2022;(May):1–17. Available from: <http://dx.doi.org/10.1371/journal.pone.0272876>
- [16] Berry E, Jenkins C, Allen S. Facilitators and barriers to social distancing for young people during the COVID - 19 pandemic. BMC Public Health [Internet]. 2022;1–15. Available from: <https://doi.org/10.1186/s12889-022-13325-3>
- [17] COVID-19 vaccine surveillance report. 2022;(January).
- [18] Farid M, Talaat R, Pacino V, Tak HJ, Elrayes W. Household disinfection practices by women living in Egypt during the 2020 COVID - 19 lockdown and the association of information sources and suspected bleach toxicity. BMC Public Health [Internet]. 2022;1–8. Available from: <https://doi.org/10.1186/s12889-022-14570-2>
- [19] Alhamad H. Healthcare Providers ' Perspectives Toward the Integration of over the Counter Supplements During COVID-19 Pandemic : A Cross-Sectional Study from Jordan. 2022;
- [20] Romate J, Rajkumar E, Greeshma R. Using the integrative model of behavioural prediction to understand COVID - 19 vaccine hesitancy behaviour. Sci Rep [Internet]. 2022;1–13. Available from: <https://doi.org/10.1038/s41598-022-12466-0>
- [21] Ciaunica A, Mcellin L, Kiverstein J, Gallese V. Zoomed out : digital media use and depersonalization experiences during the COVID - 19 lockdown. Sci Rep [Internet]. 2022;1–13. Available from: <https://doi.org/10.1038/s41598-022-07657-8>
- [22] Aksoy O. Within-family influences on compliance with social-distancing measures during COVID-19 lockdowns in the United Kingdom. 2022;6(December).
- [23] Pan S, Yang Y, Zhang M, Tung T. Willingness to pay for booster dose of COVID-19 vaccine among healthcare workers in. Hum Vaccin Immunother [Internet]. 2022;18(5). Available from: <https://doi.org/10.1080/21645515.2022.2063629>
- [24] Bergmann C, Dimitrova N, Alaslani K, Almohammadi A, Alroqi H, Aussems S, et al. Young children ' s screen time during the first COVID - 19 lockdown in 12 countries. Sci Rep [Internet]. 2022;1–15. Available from: <https://doi.org/10.1038/s41598-022-05840-5>
- [25] Fan Q, Liang M, Chu J, Fang X, Song Y, Wang Y. Wearing face masks and possibility for dry eye during the COVID - 19 pandemic. Sci Rep [Internet]. 2022;1–9. Available from: <https://doi.org/10.1038/s41598-022-07724-0>
- [26] Carolina A, Moreira F, Tavares G, Karla A, Melo G De, Cruz VA, et al. Update to " guidelines on COVID - 19 vaccination in patients with immune - mediated rheumatic diseases : a Brazilian Society of Rheumatology task force ." Adv Rheumatol [Internet]. 2022;1–2. Available from: <https://doi.org/10.1186/s42358-022-00256-1>
- [27] Ramlawi S, Muldoon KA, Dunn SI, Murphy MSQ, Harvey ALJD, White RR, et al. Worries , beliefs and factors influencing perinatal COVID - 19 vaccination : a cross - sectional survey of preconception , pregnant and lactating individuals. BMC Public Health [Internet]. 2022;1–13. Available from: <https://doi.org/10.1186/s12889-022-14617-4>
- [28] Neofotistos G, Angeli M, Mattheakis M. Susceptibility to Resurgent COVID-19 Outbreaks Following Vaccine Rollouts : A Modeling Study. 2022;1–11.
- [29] Bossi F, Zaninotto F, Arcangelo SD, Lattanzi N, Malizia AP, Ricciardi E. Mindfulness - based online intervention increases well - being and decreases stress after Covid - 19 lockdown. Sci Rep [Internet]. 2022;1–13. Available from: <https://doi.org/10.1038/s41598-022-10361-2>
- [30] Gao L, Su S, Du N, Han Y, Wei J, Cao M, et al. Medical and non-medical students ' knowledge , attitude and willingness towards the COVID-19 vaccine in China : a cross-sectional online survey. Hum Vaccin Immunother [Internet]. 2022;18(5). Available from: <https://doi.org/10.1080/21645515.2022.2073757>
- [31] Id TY, Id TC, Koirala N, Rai D. Knowledge , attitude and practices towards COVID-19 preventive measures among adults in Bhutan : A cross-sectional study. 2022;1–11. Available from: <http://dx.doi.org/10.1371/journal.pone.0278535>
- [32] Ondieki ED, Barsosio HC, Obinge EO, Shagari S. Knowledge , attitude and practice of COVID-19 preventive measures among pregnant women in antenatal clinics in western Kenya.

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- [33] Luo Y, Chen L, Yang S. Knowledge , Attitude , and Practice (KAP) toward COVID-19 Pandemic among the Public in Taiwan : A Cross-Sectional Study. 2022;1–14.
- [34] Deveaux L, Schieber E, Cottrell L, Triplett RF, Adderley R, Macdonell K, et al. Implementing a school - based HIV prevention program during public health emergencies : lessons learned in The Bahamas. *Implement Sci* [Internet]. 2022;1–12. Available from: <https://doi.org/10.1186/s13012-022-01240-5>
- [35] World Health Organization. 2020. Naming the coronavirus disease (COVID-19) and the virus that causes it. Geneva: World Health Organization; 2020 [cited 2021 Agustus 29]. Available from: [https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-\(covid-2019\)-and-the-virus-thatcauses-it](https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-thatcauses-it).
- [36] World Health Organization. 2020. WHO Director-General's opening remarks at the media briefing on COVID-19. [updated 2020 March 11]. Available from: <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19-11-march-2020>.
- [37] Setiati S, Azwar MK. COVID-19 and Indonesia. *Acta Med Indones* 2020;52(1):84–9.
- [38] World Health Organization. 2020. Coronavirus disease 2019 (COVID-19) Situation Report-70. WHO; 2020 [updated 2020 March 30; cited 2020 March 31]. Available from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200330-sitrep-70-covid-19.pdf?sfvrsn=7e0fe3f8_2
- [39] Kemenkes. RI (2021) [updated 202; cited 2021 September 18]. Available from: <https://www.kemkes.go.id/folder/view/full-content/structure-faq.html>