# Educational Dissemination for the Implementation of the Covid-19 Health Protocol at Mawar Paud Posts

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#### **ABSTRACT**

In this time of the COVID-19 pandemic, it is important to educate children about health protocols. Education on the application of this health protocol is intended so that children at the Mawar Paud Post can understand and know the health protocols that must be applied, namely the 5 M, namely washing hands, maintaining distance, wearing masks, limiting interactions, and staying away from crowds. Based on observations and interviews conducted with early childhood children at the Mawar Paud Post, it was found that there were still many children who did not apply the health protocol (5 M), namely 1) There were still many children who did not wash their hands when entering the classroom, in the event that water and soap have been prepared to wash their hands in front of the class, 2) They don't keep their distance in class, they tend to still like to gather closely with their friends, 3) There are still many preschool children who don't wear masks in the classroom. in the classroom and in the school environment, 4). Do not limit the interaction of fellow friends at school, 5). Do not stay away from the crowd when in the school environment or in the classroom. Early childhood is an important asset for the future of a nation, therefore an effort is needed to introduce them to be able to understand and implement the Covid-19 health protocol effectively. The method used is the experimental design method. To see the results of education based on a questionnaire obtained from pre-test-post-test data. The results showed that there was an increase in knowledge between before being given education on COVID-19 health protocols and after being given education on Covid-19 health protocols.

KEYWORDS Health Protocol; Early Childhood Education; Covid-19



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## 1. Introduction

Corona virus or often shortened to COVID-19 is a virus that in early 2020 became a disease that attacked the community and was very scary for all citizens in the world, WHO [1]. Covid-19 is a global health problem that not only has an impact on health but also has a significant impact on all areas of human life, both socio-culturally, economically and educationally [2]. This virus causes diseases of the respiratory system ranging from influenza to Middle East Respiratory Syndrome (Mers) and Severe Acute Respiratory Syndrome (SARS) [3]. The incubation period varies from patient to patient, i.e. 2-14 days after exposure to the virus, based on the previously indicated incubation period for the MERS virus [4]. In addition, the Covid-19 virus can spread through droplets that come out when someone coughs and sneezes [5].

Covid-19 has attacked nearly 100 countries in the world, spread very quickly and caused fantastic deaths [6]. The International Impact of COVID-19 on the Diagnosis of Heart Disease was investigated by Einstein [7]. Premature care during the COVID-19 pandemic: A comparative risk analysis of neonatal mortality prevented by maternal kangaroo care versus death from SARS-CoV-2 infection was studied by Minckas [8]. Longitudinal analysis revealed that delayed bystander CD8+ T cell activation and early immune pathology differentiated severe COVID-19 from mild disease studied by Bergamaschi [9]. Plasma LDH: A specific biomarker for pulmonary effects on COVID-19 was studied by Serrano-Lorenzo [10]. The absence of COVID-19-associated changes in plasma coagulation proteins and pulmonary

thrombosis in a ferret model was studied by Kreft [11]. Common Stress Among Young Adults with Asthma During the COVID-19 Pandemic was studied by Ekström [12]. Protecting people who live in vulnerable conditions in the COVID-19 era through universal health coverage and social protection is researched by Barron [13]. Fewer head and neck cancer diagnoses and faster initiation of treatment during COVID-19 in 2020: A national population-based analysis studied by [14]. Risk of death in individuals hospitalized due to COVID-19 with and without psychiatric disorders: a multicenter observational study in France was investigated by [15].

Post-covid has been studied by previous researchers, the data collection of the post-lockdown COVID-19 survey conducted by GIPEyOP in Spain was studied by Pérez [16]. Global impact of pre and post COVID-19 pandemic: A focus on socioeconomic consequences is researched by Mishra [17]. An analysis of the post-COVID-19 condition and its overlap with myalgic encephalomyelitis/chronic fatigue syndrome was investigated by Sukocheva [18]. Evaluation of protection by the COVID-19 vaccine after spread in low- and middle-income countries was studied by Clemens [19]. From the perspective of Traditional Chinese Medicine: Treatment of mental disorders in patients with COVID-19 was studied by [20].

Persistent anticardiolipin IgG autoantibodies associated with the post-COVID syndrome were studied by Bertin [21]. Assessing the impact of the COVID-19 lockdown on the energy consumption of university buildings was researched by Gaspar [22]. Post-MI Ventricular Septal Defect During the COVID-19 Pandemic was studied by [23]. Post-COVID-19 cerebral venous sinus thrombosis; case reports investigated by [24]. Impact of COVID 19 webinar on knowledge, attitudes and practices among the Indian population- A community based study was investigated by Mathad [25].

Laryngotracheal resection for post-tracheotomy stenosis in patients with coronavirus disease 2019 (COVID-19) was studied by Lucchi [26]. Liver abscess with post-COVID-19 necrosis: A case report studied by Liemarto [27]. Sustained inflammation, activation of coagulation, and elevated levels of endothelin-1 without macrovascular dysfunction at 3 months after COVID-19 were studied by Willems [28]. Responsible Transport: The post-COVID agenda for transport policy and practice was researched by Budd [29]. Examining the factors that drive the intention and loyalty to use Fintech after the COVID-19 lockdown as a new normal behavior was studied by Le [30].

Based on the results of observations and interviews for approximately three days by researchers with PAUD children at the Mawar PAUD Post in Beru Village, Sikka Regency, East Nusa Tenggara, it was found that many children at Mawar PAUD Pos, not all of them followed the Covid-19 health protocol. Several previous researchers have conducted research on covid protection. Exploring Personal Protection During High-Risk PCI in COVID-19 Patients was studied by Bettari [31]. Evidence for antibodies as a protective correlation for COVID-19 vaccines was investigated by Earle [32]. Translating known drivers of COVID-19 disease severity to design a better SARS-CoV-2 vaccine was investigated by Pelletier [33]. The management of infection control and radiological protection in the diagnostic radiological examination of COVID-19 cases was studied by Niu [34]. The mental health crisis during the COVID-19 pandemic in older adults and the role of physical distancing interventions and social protection measures in 26 European countries was studied by Mendez-Lopez [35].

A diagonal and social protection plus approach to dealing with the challenges of the COVID-19 pandemic: cash transfers and intimate partner violence interventions in Latin America was investigated by Blofield [36]. Parental and guardian views on future acceptance of the COVID-19 vaccine: A multimethod study in the UK was investigated by Bell [37]. Principles of Islam ifz al-nafs (protection of life) and COVID-19 in Indonesia: A case study of the Nurul faith mosque in Bengkulu city researched by Dahlan [38]. Midwives' perceptions of the benefits of remote healthcare during the COVID-19 pandemic in Switzerland were investigated by Gemperle [39]. Caring for Dialysis Patients in the Time of COVID-

19 was studied by Verma [40]. An analysis of the impact of the COVID-19 pandemic on wildlife protection in protected areas of Zimbabwe in 2020 was investigated by Ndlovu [41]. Covid-19 vaccine innovation and development: Patent review researched by Alshrari [42]. Protection of human rights is needed alongside PPE for health workers responding to COVID-19 researched by Amon [43]. COVID 19: Health care, risk, protection and transmission studied by Leeds [44]. Towards a threshold of population-based protection for a COVID-19 vaccine was investigated by Goldblatt [45].

Many PAUD children do not wash their hands before entering the classroom, do not keep their distance both in class and in the school environment, it is seen that only 3-6 children are wearing masks, (there are many children who wear masks but are brought down to the classrooms). chin), does not limit interaction in the classroom or in the school environment, does not stay away from crowds both in the classroom and in the school environment. Based on these situations and problems, the dedication of the Psychology Study Program at the University of Nusa Nipa Indonesia contributed to educational activities on the implementation of the COVID-19 health protocol for early childhood at the Mawar PAUD POS in Beru Village, Sikka Regency, East Nusa Tenggara as a new lifestyle habituation aimed at in order to provide understanding to PAUD children to apply the 5 M protocol, namely washing hands, maintaining distance, wearing masks, limiting interactions, and staying away from crowds in everyday life both at school and at home in order to increase children's knowledge and understanding PAUD about the importance of the Covid-19 health protocol as a preventive effort to prevent the transmission of Covid-19.

## 2. Method

Initial observation and interview methods, this method is used to observe and dig up information about the problems that occur in PAUD children at the Mawar PAUD Post, Beru Village, Sikka Regency, East Nusa Tenggara related to the implementation of the Covid-19 health protocol. This method is used to observe and dig up information about the problems that occur in PAUD children at the Mawar PAUD Post, Beru Village, Sikka Regency, East Nusa Tenggara regarding the Covid-19 health protocol. Based on the results of observations and interviews for approximately three days with the children of the Mawar PAUD Post in Beru Village, Sikka Regency, East Nusa Tenggara, researchers found that many PAUD children at Mawar PAUD Pos, not all of them followed the Covid-19 health protocol, many children -PAUD children do not wash their hands before entering class, do not keep their distance both in class and in the school environment, only 3-6 children are seen wearing masks, (there are many who wear masks but they are lowered to their chins), do not limit interaction in the classroom and in the environment around the school, not avoiding crowds both in the classroom and in the environment around the school. Based on these situations and problems, researchers from the Psychology Study Program at the University of Nusa Nipa Indonesia conducted educational activities on the implementation of the COVID-19 health protocol for early childhood at the Mawar PAUD POS in Beru Village, Sikka Regency, East Nusa Tenggara.

Coordination, on Monday, October 25, 2021, researchers approached the managers and teachers at the Mawar PAUD Post, Beru Village, Sikka Regency, East Nusa Tenggara to provide education on the implementation of the Covid-19 health protocol, with the result of an agreement that education is educational activities. The implementation of the COVID-19 health protocol for early childhood at the Mawar PAUD POS in Beru Village, Sikka Regency, East Nusa Tenggara will be carried out on Thursday, October 28, 2021, at 09.00 – 10.30 WITA, located in the Mawar PAUD Pos classroom.

The implementation of education on the implementation of the Covid-19 health protocol on Thursday, October 28, 2021, at 09.00 – 10.30, took place in the Mawar PAUD Post classroom, Beru Village, East Alok District, Sikka Regency, East Nusa Tenggara. This education is given with the aim of providing understanding for PAUD children to apply the 5 M protocol, namely washing hands,

maintaining distance, wearing masks, limiting interactions, and staying away from crowds in everyday life both at school and at home in order to increase knowledge and understanding. PAUD children about the importance of the Covid-19 health protocol as a preventive effort to prevent the transmission of COVID-19.

Before carrying out educational activities on the implementation of the Covid-19 health protocol, a pre-test was carried out and after the educational activity on the implementation of the Covid-19 health protocol, a Post-test was carried out, with a total of 12 questions which were compiled based on educational material on the application of the Covid-19 health protocol.

Evaluation of activities and sustainability plans, evaluations are carried out to find out the success of educational activities on the implementation of the Covid-19 health protocol and program sustainability plans in the future. After the educational activity on the implementation of the Covid-19 health protocol at PAUD Mawar, Beru Village, Sikka Regency, East Nusa Tenggara, an evaluation of the activity was carried out. Educational activities for implementing the Covid-19 health protocol at Mawar PAUD are considered useful for PAUD children at Mawar PAUD POS. As a follow-up to this activity, the managers and teachers at the Mawar PAUD Pos PAUD will continue and implement this activity in their daily lives, both at school and at home in coordination with parents.

## 3. Results and Discussion

On Thursday, October 28, 2021, at 09.00 – 10.30 WITA, located in the Mawar PAUD Post classroom, Beru Village, East Alok District, Sikka Regency, East Nusa Tenggara, education on the implementation of the Covid-19 health protocol was carried out as shown in Fig. 1. The picture shows that the implementation of education on the implementation of the Covid-19 health protocol. This activity is given with the aim of providing understanding to PAUD children so that they know about the meaning of the corona virus, the symptoms of the corona virus, the causes of the corona virus, how to spread and prevent the corona virus through the application of the 5 M protocol, namely washing hands, maintaining distance, wearing masks, limiting interactions, and staying away from crowds in everyday life both at school and at home in order to increase the knowledge and understanding of PAUD children about the importance of the Covid-19 health protocol as a preventive effort to prevent the transmission of COVID-19.



Fig. 1. Implementation of education on the implementation of the Covid-19 health protocol

The material provided includes the background of the problem, the understanding of the corona virus, the symptoms of the corona virus, the causes of the corona virus, the spread and prevention of the corona virus including: providing an understanding of 5 M, seven steps on how to wash hands properly shown

in Fig. 2, how to wear good and correct masks, limiting interaction (distance with friends/others 1-2 meters), away from crowds. Health education (education) can increase the knowledge, attitudes and skills of the community about the disease being faced. Socialization and education activities are one way that can be done to provide knowledge to the community. Education about hand washing with soap can significantly increase knowledge about how to wash hands properly.



Fig. 2. Practice of washing hands properly

Before carrying out educational activities on the implementation of the Covid-19 health protocol, a Pre Test was carried out as shown in Fig. 3 and after the educational activity for the implementation of the Covid-19 health protocol was carried out the Post Test was shown in Fig. 4, with a total of 12 questions which were arranged based on educational material on the application of health protocols. Covid-19. The participants of this activity were 15 PAUD children, but only 13 people completed the Pre Test and Post Test. The pre-test and post-test were assisted by three researchers and three PAUD teachers in working on the questions that had been provided, because the children could not read and write yet. The calculation results when viewed from the pre-test and post-test values, namely the pre-test value, the average test result was 7.6923, while the post-test value obtained an average value of 11.6923. The number of respondents used as research samples were 13 children who filled out the pre-test and post-test. Because the average value of the test results in the pre test is 7.6923 < post test 11.6923, it means that descriptively there is a difference in the average test results between the pre test and post test so it can be concluded that there is an average difference between pre test and post test, which means an increase in knowledge after being given education on the implementation of the Covid-19 health protocol. Increased knowledge is very important so that PAUD children can apply health protocols both at school and at home.



Fig. 3. Explanation of pre-test filling



Fig. 4. Post test filling

After the educational activity on the implementation of the Covid-19 health protocol at Mawar PAUD, Beru Village, Sikka Regency, East Nusa Tenggara, an evaluation of the activity and group photos were carried out as shown in Fig. 5 Educational activities for the implementation of the Covid-19 health protocol at Mawar PAUD were considered beneficial for children PAUD at POS PAUD Mawar. As a follow-up to this activity, the managers and teachers at the Mawar PAUD Pos PAUD will continue and implement this activity in their daily lives, both at school and at home in coordination with parents.



Fig. 5. Group photo of researchers, teachers and children at Mawar PAUD Post

## 4. Conclusion

Based on the results of the dissemination of research results the average value of the results on the pretest is 7.6923 < posttest 11.6923, meaning that descriptively there is a difference in the average test results between the pretest and posttest so it can be concluded that there is an average difference between the pretest and the posttest. Pretest and posttest, which means an increase in knowledge after being given education on the implementation of the Covid-19 health protocol. Increased knowledge is very important so that PAUD children at Mawar PAUD Pos can apply health protocols both at school and at home. Through educational activities on the implementation of the Covid-19 health protocol at the Mawar PAUD Pos, it can be concluded that this activity is very effective, because it can provide insight and

knowledge about the Covid-19 health protocol during the pandemic to children at the Mawar PAUD Pos. This education can also be considered as providing a new experience for children at Pos Paud Mawar.

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## **Author Contribution**

Initial observation and interview methods, this method is used to observe and dig up information about the problems that occur in PAUD children at the Mawar PAUD Post, Beru Village, Sikka Regency, East Nusa Tenggara related to the implementation of the Covid-19 health protocol.

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### Conflict of Interest

The authors declare no conflict of interest.

# References

- [1] N. Y. Ahn, J. E. Park, D. H. Lee, and P. C. Hong, "Balancing Personal Privacy and Public Safety During COVID-19: The Case of South Korea," *IEEE Access*, vol. 8, pp. 171325–171333, 2020, doi: 10.1109/ACCESS.2020.3025971.
- [2] L. Carrer et al., "Automatic Pleural Line Extraction and COVID-19 Scoring From Lung Ultrasound Data," *IEEE Trans. Ultrason. Ferroelectr. Freq. Control*, vol. 67, no. 11, pp. 2207–2217, Nov. 2020, doi: 10.1109/TUFFC.2020.3005512.
- [3] S. Roy et al., "Deep Learning for Classification and Localization of COVID-19 Markers in Point-of-Care Lung Ultrasound," *IEEE Trans. Med. Imaging*, vol. 39, no. 8, pp. 2676–2687, Aug. 2020, doi: 10.1109/TMI.2020.2994459.
- [4] S. Tabik et al., "COVIDGR Dataset and COVID-SDNet Methodology for Predicting COVID-19 Based on Chest X-Ray Images," *IEEE J. Biomed. Heal. Informatics*, vol. 24, no. 12, pp. 3595–3605, Dec. 2020, doi: 10.1109/JBHI.2020.3037127.
- [5] D.-P. Fan et al., "Inf-Net: Automatic COVID-19 Lung Infection Segmentation From CT Images," *IEEE Trans. Med. Imaging*, vol. 39, no. 8, pp. 2626–2637, Aug. 2020, doi: 10.1109/TMI.2020.2996645.
- [6] X. Wang et al., "A Weakly-Supervised Framework for COVID-19 Classification and Lesion Localization From Chest CT," *IEEE Trans. Med. Imaging*, vol. 39, no. 8, pp. 2615–2625, Aug. 2020, doi: 10.1109/TMI.2020.2995965.
- [7] A. J. Einstein et al., "International Impact of COVID-19 on the Diagnosis of Heart Disease," J. *Am. Coll. Cardiol.*, vol. 77, no. 2, pp. 173–185, Jan. 2021, doi: 10.1016/j.jacc.2020.10.054.
- [8] N. Minckas et al., "Preterm care during the COVID-19 pandemic: A comparative risk analysis of neonatal deaths averted by kangaroo mother care versus mortality due to SARS-CoV-2 infection," *EClinicalMedicine*, vol. 33, p. 100733, Mar. 2021, doi: 10.1016/j.eclinm.2021.100733.
- [9] L. Bergamaschi et al., "Longitudinal analysis reveals that delayed bystander CD8+ T cell activation and early immune pathology distinguish severe COVID-19 from mild disease," *Immunity*, vol. 54, no. 6, pp. 1257-1275.e8, Jun. 2021, doi: 10.1016/j.immuni.2021.05.010.
- [10] P. Serrano-Lorenzo et al., "Plasma LDH: A specific biomarker for lung affectation in COVID-19?," *Pract. Lab. Med.*, vol. 25, p. e00226, May 2021, doi: 10.1016/j.plabm.2021.e00226.

- [11] I. C. Kreft et al., "Absence of COVID-19-associated changes in plasma coagulation proteins and pulmonary thrombosis in the ferret model," *Thromb. Res.*, vol. 210, pp. 6–11, Dec. 2021, doi: 10.1016/j.thromres.2021.12.015.
- [12] S. Ekström et al., "General Stress Among Young Adults with Asthma During the COVID-19 Pandemic," *J. Allergy Clin. Immunol. Pract.*, vol. 10, no. 1, pp. 108–115, Dec. 2021, doi: 10.1016/j.jaip.2021.10.069.
- [13] G. C. Barron et al., "Safeguarding people living in vulnerable conditions in the COVID-19 era through universal health coverage and social protection," *Lancet Public Heal.*, vol. 7, no. 1, pp. e86–e92, Dec. 2021, doi: 10.1016/S2468-2667(21)00235-8.
- [14] R. C. Schoonbeek et al., "Fewer head and neck cancer diagnoses and faster treatment initiation during COVID-19 in 2020: A nationwide population-based analysis," *Radiother. Oncol.*, vol. 167, pp. 42–48, 5593, Dec. 2021, doi: 10.1016/j.radonc.2021.12.005.
- [15] N. Hoertel et al., "Risk of Death in Individuals Hospitalized for COVID-19 With and Without Psychiatric Disorders: An Observational Multicenter Study in France," *Biol. Psychiatry Glob. Open Sci.*, vol. 3, no. 1, pp. 56–67, Dec. 2021, doi: 10.1016/j.bpsgos.2021.12.007.
- [16] V. Pérez, C. Aybar, and J. M. Pavía, "Dataset of the COVID-19 post-lockdown survey conducted by GIPEyOP in Spain," *Data Br.*, vol. 40, p. 107763, Dec. 2021, doi: 10.1016/j.dib.2021.107763.
- [17] N. P. Mishra et al., "Global impacts of pre- and post-COVID-19 pandemic: Focus on socio-economic consequences," Sensors Int., vol. 1, p. 100042, 2020, doi: 10.1016/j.sintl.2020.100042.
- [18] O. A. Sukocheva et al., "Analysis of post COVID-19 condition and its overlap with myalgic encephalomyelitis/chronic fatigue syndrome," *J. Adv. Res.*, vol. 40, pp. 179–196, Nov. 2021, doi: 10.1016/j.jare.2021.11.013.
- [19] J. Clemens, A. B. Aziz, B. T. Tadesse, S. Kang, F. Marks, and J. Kim, "Evaluation of protection by COVID-19 vaccines after deployment in low and lower-middle income countries," eClinicalMedicine, vol. 43, p. 101253, Dec. 2021, doi: 10.1016/j.eclinm.2021.101253.
- [20] K. Ma et al., "From the perspective of Traditional Chinese Medicine: Treatment of mental disorders in COVID-19 survivors," *Biomed. Pharmacother.*, vol. 132, p. 110810, Dec. 2020, doi: 10.1016/j.biopha.2020.110810.
- [21] D. Bertin et al., "Persistent IgG anticardiolipin autoantibodies are associated with post-COVID syndrome," *Int. J. Infect. Dis.*, vol. 113, pp. 23–25, Dec. 2021, doi: 10.1016/j.ijid.2021.09.079.
- [22] K. Gaspar et al., "Assessing the impact of the COVID-19 lockdown on the energy consumption of university buildings," *Energy Build.*, vol. 257, p. 111783, Dec. 2021, doi: 10.1016/j.enbuild.2021.111783.
- [23] S. Joshi, F. N. Kazmi, I. Sadiq, and T. Azemi, "Post-MI Ventricular Septal Defect During the COVID-19 Pandemic," *JACC Case Reports*, vol. 2, no. 10, pp. 1628–1632, Aug. 2020, doi: 10.1016/j.jaccas.2020.06.019.
- [24] S. A. Ahmad et al., "Post COVID-19 cerebral venous sinus thrombosis; a case report," Ann. Med. Surg., vol. 72, p. 103031, Dec. 2021, doi: 10.1016/j.amsu.2021.103031.
- [25] V. Mathad and A. Shetty, "Impact of COVID 19 webinar on knowledge, attitude and practices among Indian population-A community based study," Clin. Epidemiol. Glob. Heal., vol. 13, p. 100919, Dec. 2021, doi: 10.1016/j.cegh.2021.100919.
- [26] M. Lucchi, M. Ambrogi, V. Aprile, A. Ribechini, and G. Fontanini, "Laryngotracheal resection for a post-tracheotomy stenosis in a patient with coronavirus disease 2019 (COVID-19)," *JTCVS Tech.*, vol. 4, pp. 360–364, Dec. 2020, doi: 10.1016/j.xjtc.2020.08.023.
- [27] A. K. Liemarto, B. P. Budiono, M. A. Chionardes, I. Oliviera, and A. Rahmasiwi, "Liver abscess with necrosis in post COVID-19: A case report," *Ann. Med. Surg.*, vol. 72, p. 103107, Dec. 2021, doi: 10.1016/j.amsu.2021.103107.
- [28] L. H. Willems et al., "Sustained inflammation, coagulation activation and elevated endothelin-1 levels without macrovascular dysfunction at 3 months after COVID-19," Thromb. Res., vol. 209, pp. 106–114, Dec. 2021, doi: 10.1016/j.thromres.2021.11.027.
- [29] L. Budd and S. Ison, "Responsible Transport: A post-COVID agenda for transport policy and practice," Transp. Res. Interdiscip. Perspect., vol. 6, p. 100151, Jul. 2020, doi: 10.1016/j.heliyon.2021.e07821.
- [30] M. T. H. Le, "Examining factors that boost intention and loyalty to use Fintech post-COVID-19 lockdown as a new normal behavior," *Heliyon*, vol. 7, no. 8, p. e07821, Aug. 2021, doi: 10.1016/j.heliyon.2021.e07821.

- [31] L. Bettari et al., "Exploring Personal Protection During High-Risk PCI in a COVID-19 Patient," *JACC Case Reports*, vol. 2, no. 9, pp. 1279–1283, Jul. 2020, doi: 10.1016/j.jaccas.2020.03.006.
- [32] K. A. Earle et al., "Evidence for antibody as a protective correlate for COVID-19 vaccines," *Vaccine*, vol. 39, no. 32, pp. 4423–4428, Jul. 2021, doi: 10.1016/j.vaccine.2021.05.063.
- [33] A. N. Pelletier, R. P. Sekaly, and J. A. Tomalka, "Translating known drivers of COVID-19 disease severity to design better SARS-CoV-2 vaccines," *Curr. Opin. Virol.*, vol. 52, pp. 89–101, Dec. 2021, doi: 10.1016/j.coviro.2021.11.012.
- [34] Y. Niu, J. Xian, Z. Lei, X. Liu, and Q. Sun, "Management of infection control and radiological protection in diagnostic radiology examination of COVID-19 cases," *Radiat. Med. Prot.*, vol. 1, no. 2, pp. 75–80, Jun. 2020, doi: 10.1016/j.radmp.2020.05.005.
- [35] A. Mendez-Lopez, D. Stuckler, M. McKee, J. C. Semenza, and J. V. Lazarus, "The mental health crisis during the COVID-19 pandemic in older adults and the role of physical distancing interventions and social protection measures in 26 European countries," SSM - Popul. Heal., p. 101017, Dec. 2021, doi: 10.1016/j.ssmph.2021.101017.
- [36] M. Blofield et al., "A diagonal and social protection plus approach to meet the challenges of the COVID-19 syndemic: cash transfers and intimate partner violence interventions in Latin America," *Lancet Glob. Heal.*, vol. 10, no. 1, pp. e148–e153, Dec. 2021, doi: 10.1016/S2214-109X(21)00444-7.
- [37] S. Bell, R. Clarke, S. Mounier-Jack, J. L. Walker, and P. Paterson, "Parents' and guardians' views on the acceptability of a future COVID-19 vaccine: A multi-methods study in England," *Vaccine*, vol. 38, no. 49, pp. 7789–7798, Nov. 2020, doi: 10.1016/j.vaccine.2020.10.027.
- [38] M. Dahlan, M. R. Bustami, Makmur, and S. Mas'ulah, "The Islamic principle of hifz al-nafs (protection of life) and COVID-19 in Indonesia: A case study of nurul iman mosque of Bengkulu city," *Heliyon*, vol. 7, no. 7, p. e07541, Jul. 2021, doi: 10.1016/j.heliyon.2021.e07541.
- [39] M. Gemperle, S. Grylka-Baeschlin, V. Klamroth-Marganska, T. Ballmer, B. E. Gantschnig, and J. Pehlke-Milde, "Midwives' perception of advantages of health care at a distance during the COVID-19 pandemic in Switzerland," *Midwifery*, vol. 105, p. 103201, Dec. 2021, doi: 10.1016/j.midw.2021.103201.
- [40] A. Verma, A. B. Patel, M. C. Tio, and S. S. Waikar, "Caring for Dialysis Patients in a Time of COVID-19," *Kidney Med.*, vol. 2, no. 6, pp. 787–792, Nov. 2020, doi: 10.1016/j.xkme.2020.07.006.
- [41] M. Ndlovu, G. Matipano, and R. Miliyasi, "An analysis of the effect of COVID-19 pandemic on wildlife protection in protected areas of Zimbabwe in 2020," *Sci. African*, vol. 14, p. e01031, Nov. 2021, doi: 10.1016/j.sciaf.2021.e01031.
- [42] A. S. Alshrari, S. A. Hudu, M. Imran, S. M. B. Asdaq, A. M. Ali, and S. I. Rabbani, "Innovations and development of Covid-19 vaccines: A patent review," J. Infect. Public Health, vol. 15, no. 1, pp. 123–131, Dec. 2021 doi: 10.1016/j.jiph.2021.10.021.
- [43] J. J. Amon, "Human rights protections are needed alongside PPE for health-care workers responding to COVID-19," *Lancet Glob. Heal.*, vol. 8, no. 7, p. e896, Jul. 2020, doi: 10.1016/S2214-109X(20)30252-7.
- [44] C. Leeds, "COVID 19: Health care workers, risks, protection and transmission," *Lancet Reg. Heal.* Eur., vol. 1, p. 100022, Feb. 2021, doi: 10.1016/j.lanepe.2020.100022.
- [45] D. Goldblatt et al., "Towards a population-based threshold of protection for COVID-19 vaccines," *Vaccine*, vol. 40, no. 2, pp. 306–315, Dec. 2021, doi: 10.1016/j.vaccine.2021.12.006.