

# IMPLEMENTATION OF INFECTION CONTROL AND PREVENTION IN DENTAL PRACTICE IN PALEMBANG DURING THE COVID-19 PANDEMIC

Ratri Ayu Shintya<sup>1</sup>, Yuanita Windusari<sup>2</sup> and Rizma Adlia Syakurah<sup>3</sup>

<sup>1</sup>Undergraduate Master Study Program of Public Health Sciences, <sup>2</sup>Environmental Health Study Program, <sup>3</sup>Public Health Sciences Study Program, Faculty of Public Health, Universitas Sriwijaya, Ogan Ilir, Sumatera Selatan, Indonesia

**Abstract.** The Indonesian Dentist Association (PDGI) has introduced regulations and recommendations to guarantee the safety of dental practitioners and patients during pandemics, yet, the implementation have not been optimal. This study aimed to analyze the implementation of infection control prevention in dental practices during the pandemic in Palembang using a qualitative approach. Focus group discussions (FGD) have been performed to batches of dentists, followed by in-depth interviews with the Head of the PDGI Palembang. Observations were also carried out to pertain more information on the on-site implementation. Research shows that despite having sufficient knowledge and a favorable attitude on corona virus disease 2019 (COVID-19) transmission prevention and guidelines were made by PDGI, the majority of dentists did not adhere to the guidelines and failed to provide the necessary, such as pay with cashless, using telemedicine, level 3 personal protective equipment (PPE), aerosol, vacuum aerosol, and room renovation due to financial difficulties, room availability, swelter, the glasses fog up, and the limitations of telemedicine services. The absence of particular government regulation on dental practices hindered PDGI's ability to impose strict sanctions on those who failed to adhere. PDGI has socialized infection management and infection control prevention, yet its implementation is inadequate due to budgetary constraints and a lack of government regulation. Congruence and updated regulation need to be performed by the government with the support of PDGI to command dental practices and healthcare practices in delivering safe and quality dental services to the patients.

**Keywords:** dentist, dental care, COVID-19, Indonesia, infection control

---

Correspondence: Rizma Adlia Syakurah, Faculty of Public Health, Universitas Sriwijaya, Jl. Raya Palembang- Prabumulih Km.32 Indralaya, Ogan Ilir, Sumatera Selatan, Indonesia  
Tel: +62 8194863001 E-mail: rizma.syakurah@gmail.com

## INTRODUCTION

As of 8 February 2021, 33 Indonesian dentists passed away due to COVID-19 infection (Nursanti, 2020). Heads of the National Disaster Management Agency Indonesia (Badan Nasional Penanggulangan Bencana Indonesia–BNPB) and the Ministry of Health have called to temporarily stop most medical services except for emergency cases. Dental and oral health services were included to the limitation due to their high risk of COVID-19 transmission during dental and oral health procedures (Amtha *et al*, 2020).

Through the implementation of new normal protocols, many essentials and public services were allowed to function on certain personal protective equipment (PPE) protocols, including dental practices (Amtha *et al*, 2020; MOH RI, 2020). PDGI, the Indonesian Dental Association, provided guidelines to adhere to ensure the safety of both health practitioners and patients during dental and oral health procedures. The guidelines regulated waiting and treatment rooms airway management, list of approved dental procedures, and standardized PPE during treatment (Amtha *et al*, 2020). Nevertheless, there has never been a study of how infection control was implemented in private dental practices in Palembang. During the pandemic, preliminary observations made at one of Palembang's private dental practices have found that infection prevention and control have not yet been optimal, such as the use of PPE and the inappropriate action room. Therefore, this study aimed to evaluate and analyze the implementation of infection control prevention in dental practices in Palembang during pandemic.

## MATERIALS AND METHODS

### Subject

This study was conducted retrospectively using a qualitative approach in Palembang, Indonesia. In-depth interview to the head of PDGI Palembang was performed, followed by a series of FGDs to 21 dentists practicing privately, divided into clinic owners and non-clinic owners for each group, supplemented with observation to each clinic using a checklist sheet. Informants were chosen using a purposive sampling technique based on criteria, namely having knowledge and understanding of infection control prevention implementation in dental practice during the COVID-19 pandemic in Palembang, and having primary duties and responsibilities that affect this implementation. All informants were recruited voluntarily and without financial incentives.

### **Data collection and questions**

Data was obtained from May - June 2021. The FGD was held virtually with two sessions, roughly 60-90 minutes, utilizing the Zoom Meeting and was not repeated. The questions, according to Green (1980), consisted of predisposing factors (their basic knowledge of COVID-19, guidelines from PDGI on recommended PPE, management, and facilities needed during each procedure, their attitudes towards the importance of PPE and adhering to the guidelines, and their act and attitude based on that knowledge), enabling factor (facilities and infrastructure, such as aerosol vacuum machines, donning and doffing rooms, rubber dams, and room management, and also financial factors), and reinforcing factor for in-depth interview (the PDGI's role as Indonesian dental professional association and organization). The observation using checklist sheet based on Dentist's Guide in The New Normal Era (Amtha *et al*, 2020).

### **Data analysis**

Transcripts were not sent to participants and the data's credibility was verified via triangulation of sources, data, and methodologies. The data coding began early after the first discussion, and the second was done by categorizing the data. The data transcript was managed by Microsoft Office

Word software version 2010, and the manual analysis was done as needed with participant quotations to maintain anonymity.

## Ethical consideration

Ethical clearance was obtained from The Ethic Commission of Public Health Faculty, Universitas Sriwijaya with reference number 164/UN9.FKM/TU.KKE/2021

## RESULTS

### Characteristic of informants

The informants who participated in FGD consisted of dental clinic owners (42.86%) and non-clinic owners (57.14%). Majority of informants were females (76.19%), and mean age  $\pm$  standard deviation (SD) of informants was  $30.00 \pm 4.347$  years (Table 1).

Table 1  
Characteristic of Informants

Characteristic	Result
Ownership status, <i>n</i> (%)	
Dental clinic owners	9 (42.86)
Non-clinic owners	12 (57.14)
Gender, <i>n</i> (%)	
Male	5 (23.81)
Female	16 (76.19)
Age in years, mean $\pm$ SD	$30 \pm 4.35$

SD: Standard Deviation

### Predisposing factors

According to Green (1980), predisposing factors are the basis of a person’s motivation or intention to do something (Notoatmodjo, 2003; Harahap, 2016). Comes to no surprise that all dentists (100%) were well versed in COVID-19 related knowledge, transmission, and recommended PPE, management, and facilities of prevention during practice. They also explained in detail on PPE level 3, aerosol vacuum machine, exhauster, changing rooms, donning and doffing off, and rubber dams. Their attitudes were also mostly (66.67%, *n*=14) favorable towards PDGI’s guidelines and socialization on the guidelines. They further stated that the guidelines were not burdensome as they view them as recommendations and not mandatory, also that the rules were set to protect their safety, but indeed they acknowledge that there were many obstacles to follow those recommendations.

Table 2

Factors of the implementation of infection control prevention in dental practices in Palembang during pandemic

Variable	Interpretation
Predisposing factor	
Knowledge	All dentists were well versed in COVID-19 related knowledge, transmission, and recommended PPE, management, and facilities of prevention during practice
Attitude	Favorable and not burdensome towards PDGI’s guidelines
Behavior of prevention	Set of screening processes and few of them required the tested with COVID-19 antigen. The other prevention: spraying disinfectant all over the body restricting the number of daily patients treated making appointment online preliminary consultation cashless transactions

Table 2 (cont)

Variable	Interpretation
<b>Enabling factor</b>	
Supporting facilities and infrastructure, such as aerosol vacuum machines, donning and doffing rooms, rubber dams, and room management	There are obstacles to providing new facilities and infrastructures that weren't used before the pandemic and caused financial issues, so few dentists modified it.
Financial issue	Increasing the costs of dental care The dental practice's revenue has decreased, while expenses have increased.
<b>Reinforcing factor</b>	
PDGI's role	PDGI conducts online seminars regularly to communicate with the dentist. The PDGI's authority is unable to give penalty to those who violate the rules
Effect of clinical ownership	The dental clinic owner cannot renovate the room and has not equipped the clinic with supporting facilities due to limited funds and building land.

COVID-19: Corona virus disease 2019; PDGI: Perhimpunan Dokter Gigi Indonesia (The Indonesian Dentist Association); PPE: personal protective equipment

During practice, all of the informants (100%) performed a set of screening processes to all of the patients, starting with temperature check, history-taking, and few of them required the patients to be tested with COVID-19 antigen before entering the treatment room. Some additional acts performed outside the treatment room were spraying disinfectant all over the body, restricting the number of daily patients treated, making orders on patients according to their treatments, conducting online preliminary consultation, and doing cashless transactions. During the treatment process, they focused on level 3 PPE as main protocols, although only some of them claimed to use level 3 PPE on every dental procedure.

## **Enabling factor**

This segment focused on enabling behavior or actions (Notoatmodjo, 2003; Harahap, 2016). As stated beforehand, although all informants were well aware of the need to follow through PDGI's guidelines, their obstacles mostly came in providing new facilities and infrastructures that weren't used before pandemics. Some informants (19.04%, n=4) committed to renovate the clinic to install additional exhausters and more ventilation, but others struggled to provide them due to budget limitation and lack of support from their employers. Surprisingly, through these hurdles, came invention. Few informants modified their PPE by adding some form of extra protection to them, and modified their tools' function to reduce the transmission risks. None of the clinics ticked all the checklists in PDGI's guidelines, but they surely tried their best despite the circumstances. Local and national governments did not provide private clinics with financial aid during this pandemic.

## **Reinforcing factor**

Green (1980) explained that reinforcing factors are factors that encourage or strengthen a person's behavior due to the attitudes of husbands, parents, community leaders, or health workers (Notoatmodjo, 2003; Harahap, 2016). PDGI served as one of the reinforcing factors as Indonesian dental professional association and organization. Their roles, although acknowledged to be of importance by dentists interviewed, but mostly considered as a recommendation, hence their guidelines and routine socialization towards the members were treated as one a mere recommendation without obligation to comply. It was shown continuously during FGDs that informants stated that the recommendations were not burdening them, as it was not a mandate, also supported by the observation performed that none of the clinics were up to the level of PDGI guidance standard. This phenomenon was acknowledged by the head of PDGI Palembang, stating that PDGI as an organization was not authorized to put up sanction or severe punishment on their members' misconduct, especially when the government did not provide a legal base on dental practice regulation. They can only

do what they can within their power, such as conducting routine seminars and socialization on safety guidelines and new information on COVID-19 in association with dental practices.

## DISCUSSION

Dental practices are where dentists improve patients' dental and oral health. Competent medical experts must manage private dental practice adequately, successfully, and efficiently. General practitioners or dentists usually manage private dental practices to oversee and execute private practice. Therefore, dentists and nurses must be hygienic and aware of their surroundings to prevent cross-infection.

Dentists are at increased risk of contracting COVID-19 infection because, in general, dental treatments are performed within one meter of patients and dentists and are constantly exposed to saliva, blood, and other body fluids from patients. Furthermore, some dental operations might produce aerosols, raising the risk of airborne illness (Amato *et al*, 2020; Ayu Shintya *et al*, 2021). Therefore, dentists should comply with the Infection Control Prevention's (ICP's) implementation in dental practice. Unfortunately, some factors may influence this compliance, like predisposing, enabling, and reinforcing factors.

### **Predisposing factors**

Knowledge and attitudes towards COVID-19 can influence the compliance of health workers (Limbu *et al*, 2020; Samad, 2017). This study found that all informants were knowledgeable in PPE standard for dental practices. In line with previous study that "higher-educated people typically have a broader knowledge and understanding, making it easier for them to absorb and receive information and contribute to the resolution of health issues for themselves and their families" (Yuswantina *et al*, 2019; page 26). Previous studies reinforce that education (Samad, 2017) and age (Akalu *et al*, 2020) have a relationship with knowledge.

However, this broad knowledge did not transform into practice when faced with barriers, such as accessibility to PPE, lack of funding, time wasted in donning and doffing, and the inexistence of government regulation to force them performing PPE. The informants have not managed the practice space, and some have not used the appropriate PPE. Dentists who lack an understanding of infection control are more likely to disobey. In contrast, well-versed dentists in basic precautions have a high level of concern about infection, resulting in a positive attitude toward protecting themselves and being more selective in implementing healthcare management practices (Tada *et al*, 2014; Utami *et al*, 2017). This shows that good knowledge and attitude do not ensure positive conduct (Mohamed *et al*, 2021). The cost and inconvenience of using level 3 PPE contributed to the dentist's non-compliance in this study. Knowledge about COVID-19 is significantly related to COVID-19 prevention practices (Akalu *et al*, 2020). Meanwhile, poor knowledge can affect preventive behavior and increasing the risk of transmitting COVID-19 (Melesie Taye *et al*, 2020).

Although dentists' practices have implemented preventive management, not all of them have been optimized. For example, telemedicine faces challenges because it is limited to patient history, prescribing, and establishing a provisional diagnosis to plan further treatment. Meanwhile, dental services are a direct oral action between the patient and the dentist. Cashless payment methods are also not optimal, even though the tools are already available. So that some dentists carry out money disinfection to kill the COVID-19 virus (Peditto *et al*, 2020; Zhang and Zheng, 2020). Antigen testing as a preventive measure is more recommended than spraying disinfectants on patients (Durner *et al*, 2021; Sumiyati, 2020).

## **Enabling factors**

Effectiveness and efficient program implementation requires the provision of suitable facilities and infrastructure, and program implementation might be delayed by a lack of availability of these resources (Long *et al*, 2020). Dental instruments can produce aerosols and have a high risk of causing

COVID-19 transmission to dentists. The highest range of droplet contamination from using dental instruments is at a distance of 1 meter from the oral cavity, while aerosol contamination can spread over a longer distance (Li *et al*, 2021). Therefore, most dentists modify their tools in their practice to produce a similar tool effect. In line with the previous study that overcomes the lack of facilities and infrastructure by improvising tools or extending the time lag in rooms with no aerosol vacuum or HEPA so that droplets or aerosols can settle on the surface and be quickly disinfected (Long *et al*, 2020). Meanwhile, specialist dentists who have vacuum support facilities can be influenced by health education, like previous research (Ismiati, 2018).

Provision of new facilities and infrastructure that were not in use before the pandemic created financial difficulties for some practice sites due to an income-to-expenditure imbalance. Several dental practices have even seen a considerable fall in income (Wiesmüller *et al*, 2021) and 50% reduction in patient care as a result of restrictions on the number of individuals eligible for dental consultations (Cavalcanti *et al*, 2020). Dental practice is also restricted to delivering emergency care only, resulting in severe financial losses (Ather *et al*, 2020). In line with this study, additional expenses were incurred as a result of adjustments in PPE, decontamination methods, and patient number settings (Cavalcanti *et al*, 2020). Additionally, the establishment of social limitations, isolation, and quarantine measures has harmed global and domestic economic activity (Putra and Kasiwi; 2021; Flaherty and Choi, 2016). Due to unstable economic situations, this has made it difficult for dental clinic owners to renovate their clinic.

### **Reinforcing factor**

As an organization, PDGI is expected to become one-factor to influence compliance with implementing standard precautions, besides individual factors and environmental factors. Previous studies on dentist compliance found that 72.85% of dentists adhered to implementing standard precautions because of individual and organizational factors such as leadership support and training (Masa, 2016).

Although the PDGI has not been authorized to put up sanctions or severe punishment for their members' misconduct, and also dental practice regulation during pandemics has not been provided, dentists do not ignore managing ICP in their practice. This can be due to the perception of dentists that ICP implementation during pandemics is positive and beneficial for themselves. Internalized compliance occurs when people believe that a new behavior is appropriate for them, whereas temporary compliance occurs when forced or under supervision. The influence of trustworthy and credible individuals can assist the target to comprehend and implement the meaning and behavior (Alhamda, 2015). Therefore, the involvement of health workers and applicable regulations also influence a person's compliance (Aji and Devy, 2006), raising awareness in understanding and using applicable health, maintaining orderly health services, and enforcing standard precautions.

### **Effect of clinical ownership**

Dentist practice owners have a significant role in implementing the practice policies. They are not only the owners, but also act as managers, which means they have the authority and responsibility for their resources. Moreover, dentist practice owners must also function as leaders, which means they must be able to make choices, establish policies, and motivate others to reach organizational objectives (Alharbi *et al*, 2020; Curtis and O'Connell, 2011; Yusuf, 2017). Thus, dentist practice owners have the authority to create their own regulations, whereas non-owners are limited to adhering to and applying the established rules.

In this study, one of the dentist's non-owners performed ICP in accordance with the stated regulations. Thus, the doctor's actions are not the result of his own character, but rather of the regulations in place. At the compliance stage, obeying the instruction to avoid punishment or sanctions may result in temporary adherence as long as under monitoring. The behavior will abandon when the supervision loosens or disappears. However, the compliance will internalize if the individual considers the new

behavior positive and beneficial for their life (Alharbi *et al*, 2020; Ather *et al*, 2020). Although in other studies it is stated that ownership and compliance have a weak relationship in implementing ICP (Bedoya *et al*, 2017; Powell-Jackson *et al*, 2020). Based on characteristics, dentists' practice owners and non-owners have similar levels of education, age ranges, knowledge, and attitudes so that this is not an obstacle in implementing ICP.

This research has limitations in data collection, which was done virtually due to the pandemic conditions, so sometimes it experiences signal and technical problems. This research also did not examine from the side of policymakers. Therefore, further research expects to discuss the implementation of ICP in government-owned health facilities and develop various methods and variables that may have a statistical effect.

In summary, there is still lacking implementation of ICP in dental practice due to financial issue and lack of official regulation from the government. Both dentists and patients were expected to maximize the use of telemedicine to minimize visits and the risk of infection. PDGI was expected to increase the frequency of training and education and evaluate the implementation of seminars. Official policies from the government regarding PDGI control in dental practices are also requirements.

## ACKNOWLEDGMENTS

The authors would like to thank the PDGI Palembang, dentists, supervisor and all staff of the Public Health Study Program, Faculty of Public Health, Universitas Sriwijaya, Palembang, South Sumatera, Indonesia.

## CONFLICT OF INTEREST DISCLOSURE

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## REFERENCES

- Aji B, Devy SR. Factors predisposing, enabling and reinforcing in patients in alternative medicine medical radioesthesis method Romo H. Loogman in Purworejo, Central Java, 2006 [cited 2021 Dec 14]. Available from: URL: <https://media.neliti.com/media/publications/3863-ID-faktor-predisposing-enabling-dan-reinforcing-pada-pasien-di-pengobatan-alternati.pdf> [in Bahasa]
- Akalu Y, Ayelign B, Molla MD. Knowledge, attitude and practice towards COVID-19 among chronic disease patients at Addis Zemen Hospital, Northwest Ethiopia. *Infect Drug Resist* 2020;13: 1949-60.
- Alhamda S. Textbook of health sociology. Yogyakarta, Indonesia: Deepublish; 2015. [in Bahasa]
- Alharbi A, Alharbi S, Alqaidi S. Guidelines for dental care provision during the COVID-19 pandemic. *Saudi Dent J* 2020;32: 181-6.
- Amato A, Caggiano M, Amato M, Moccia G, Capunzo M, De Caro F. Infection control in dental practice during the COVID-19 pandemic. *Int J Environ Res Public Health*. 2020; 17: 4769.
- Amtha R, Gunardi I, Dewanto I, Widyarman AS, Theodorea CF. Dentist's guide in the new normal era, 2020 [cited 2021 Oct 30]. Available from: URL: <http://jurnal.pdgi.or.id/index.php/monograph/article/view/601/423> [in Bahasa]
- Ather A, Patel B, Ruparel NB, Diogenes A, Hargreaves KM. Coronavirus Disease 19 (COVID-19): implications for clinical dental care. *J Endod* 2020; 46: 584-95.
- Ayu Shintya R, Windusari Y, Adlia Syakurah R. prevention and infection control in dental practices during the Covid-19 pandemic: a literature review, 2021 [cited 2022 Aug 08]. Available from: URL: <https://jurnal.unismuhpalu.ac.id/index.php/MPPKI/article/view/1608/1434>
- Bedoya G, Dolinger A, Rogo K, *et al.* Observations of infection prevention and control practices in primary health care, Kenya. *Bull World Health Organ* 2017; 95: 503-16.

- Cavalcanti YW, da Silva RO, Ferreira L de F, *et al.* Economic impact of new biosafety recommendations for dental clinical practice during covid-19 pandemic, 2020 [cited 2021 Dec 10]. Available from: URL: <https://www.scielo.br/j/pboci/a/VSMzmp45ZPwzjbgpgS74Yzs/?format=pdf&lang=en>
- Curtis E, O'Connell R. Essential leadership skills for motivating and developing staff. *Nurs Manag* 2011;18: 32-5.
- Durner J, Beikler T, Watts DC, Becker M, Draenert ME. SARS-CoV-2 and regular patient treatment – from the use of rapid antigen testing up to treatment specific precaution measures. *Head Face Med* 2021; 17: 39.
- Flaherty GT, Choi J. The 'selfie' phenomenon: reducing the risk of harm while using smartphones during international travel. *J Travel Med* 2016; 23: tav026.
- Green L. Health education planning: a diagnostic approach. California City, CA: Mayfield Publishing Co; 1980.
- Harahap RA. The influence of predisposing, enabling and reinforcing factors on the administration of Hepatitis B immunization to infants at the Bagan Batu Health Center, Bagan Sinembah District, Rokan Hilir Regency, 2016 [cited 2022 Aug 27]. Available from: URL: <https://journals.indexcopernicus.com/api/file/viewByFileId/940387> [in Bahasa].
- Ismiati. *Effect of Health Education on Mother's Behavior in Preventing Diarrheal Disease in Children at RSI Kendal*. Universitas Muhammadiyah Semarang, 2018 [cited 2021 Nov 17]. Available from: URL: <http://repository.unimus.ac.id/2074/> [in Bahasa]
- Li X, Mak CM, Ma KW, Wong HM. Evaluating flow-field and expelled droplets in the mockup dental clinic during the COVID-19 pandemic. *Phys Fluids* 2021; 33: 047111.
- Limbu DK, Piryani RM, Sunny AK. Healthcare workers' knowledge, attitude and practices during the COVID-19 pandemic response in a tertiary care hospital of Nepal. *PLoS One* 2020; 15: e0242126.
- Long RH, Ward TD, Pruett ME, Coleman JF, Plaisance Jr. MC. Modifications of

emergency dental clinic protocols to combat COVID-19 transmission. *Spec Care Dent* 2020; 40: 219-26.

- Masa MMSN. Analysis of compliance with the application of standard precautions for dental services at PKU Muhammadiyah Gamping Hospital, Yogyakarta, 2016 [cited 2021 Dec 15]. Available from: URL: <http://repository.ums.ac.id/handle/123456789/8948?show=full> [in Bahasa]
- Melesie Taye G, Bose L, Beressa TB, *et al.* COVID-19 knowledge, attitudes, and prevention practices among people with Hypertension and Diabetes Mellitus attending public health facilities in Ambo, Ethiopia. *Infect Drug Resist* 2020; 13: 4203-14.
- Ministry of Health Republic Indonesia (MOH RI). Decree of the Minister of Health of the Republic of Indonesia number HK.01.07/MENKES/382/2020 concerning health protocols for the public in public places and facilities in the context of preventing and controlling corona virus disease 2019 (COVID-19), 2020 [cited 2021 Mar 05]. Available from: URL: [http://hukor.kemkes.go.id/uploads/produk\\_hukum/KMK\\_No\\_HK\\_01\\_07-MENKES-382-2020\\_ttg\\_Protokol\\_Kesehatan\\_Bagi\\_Masyarakat\\_di\\_Tempat\\_dan\\_Fasilitas\\_Umum\\_Dalam\\_Rangka\\_Pencegahan\\_COVID-19.pdf](http://hukor.kemkes.go.id/uploads/produk_hukum/KMK_No_HK_01_07-MENKES-382-2020_ttg_Protokol_Kesehatan_Bagi_Masyarakat_di_Tempat_dan_Fasilitas_Umum_Dalam_Rangka_Pencegahan_COVID-19.pdf) [in Bahasa]
- Mohamed AAO, Elhassan EAM, Mohamed AO, *et al.* Knowledge, attitude and practice of the Sudanese people towards COVID-19: an online survey. *BMC Public Health* 2021;21: 274.
- Notoatmodjo S. Education and health behavior. Jakarta Indonesia: Rineka Cipta; 2003. [in Bahasa]
- Nursanti A. PB IDI mitigation team data update as of December 15, 2020, handling COVID-19 must be a priority, 2020. [cited 2021 January 15]. Available from: <https://www.pikiran-rakyat.com/nasional/pr-011120285/update-data-tim-mitigasi-pb-idi-per-15-desember-2020-penanganan-covid-19-harus-jadi-prioritas?page=1>
- Peditto M, Scapellato S, Marcianò A, Costa P, Oteri G. Dentistry during the COVID-19 epidemic: an Italian workflow for the management of

- dental practice. *Int J Environ Res Public Health* 2020; 17: 3325.
- Powell-Jackson T, King JJC, Makungu C, *et al.* Infection prevention and control compliance in Tanzanian outpatient facilities: a cross-sectional study with implications for the control of COVID-19. *Lancet Glob Health*, 2020; 8: e780-9.
- Putra VAD, Kasiwi AN. Dental practice action policies during the covid-19 outbreak: a global preventive review, 2021 [cited 2021 Nov 17]. Available from: URL: <https://jurnal-umsi.ac.id/index.php/jgi/article/view/248> [in Bahasa]
- Samad IF. The association between acute respiratory tract infection prevention behavior and knowledge, attitudes, and sociodemographics in prospective Pilgrims from Bekasi Groups 34 and 54 in 2017, 2017 [cited 2021 Nov 17]. Available from: URL: [https://repository.uinjkt.ac.id/dspace/bitstream/123456789/37350/1/IRFANY\\_FAUZIAH\\_SAMAD-FKIK.pdf](https://repository.uinjkt.ac.id/dspace/bitstream/123456789/37350/1/IRFANY_FAUZIAH_SAMAD-FKIK.pdf) [in Bahasa]
- Sumiyati. WHO: Spraying disinfectant in the open does not kill the corona viru, 2020. [cited 2021 June 07]. Available from: URL: <https://www.viva.co.id/gaya-hidup/kesehatan-intim/1217108-who-semprot-disinfektan-di-tempat-terbuka-tidak-membunuh-virus-corona>
- Tada A, Watanabe M, Senpuku H. Factors influencing compliance with infection control practice in Japanese dentists. *Int J Occup Environ Med* 2014; 5: 24-31.
- Utami F, Putri K, Hidayati H. The relationship of knowledge and attitudes about infection prevention and the activities of dentistry students at RSGMP Andalas University, 2017 [cited 2021 Dec 19]. Available from: URL: <http://adj.fkg.unand.ac.id/index.php/ADJ/article/view/156/131> [in Bahasa]
- Wiesmüller V, Bruckmoser E, Kapferer-Seebacher I, *et al.* Dentists' working conditions during the first covid-19 pandemic lockdown: An online survey. *Healthcare* 2021; 9: 364.
- Yusuf M. Implementation of patient safety in the inpatient room of the Dr. Zainoel Abidin Regional General Hospital, 2017 [cited 2021 Nov

09]. Available from: URL: <https://jurnal.unsyiah.ac.id/IJK/article/view/8766> [in Bahasa]

Yuswantina RY, Dyahariesti ND, Fitra Sari NL, Kurnia Sari ED. Relationship between age and educational level factors on antibiotic use knowledge in Sidorejo Kidulgkat Village, 2019 [cited 2021 Nov 25]. Available from: URL: <http://jurnal.unw.ac.id/index.php/ijpnp/article/view/193/161> [in Bahasa]

Zhang S, Zheng S. COVID-19 and dental practice. What has been done in China?, 2020 [cited 2021 Nov 11]. Available from: URL: <https://www.cda-adc.ca/newsletters/covid-19/WHOCC-CHN26-COVID-2019-and-dental-practice.pdf>