

ORIGINAL ARTICLE

The Indonesian Dentist Practice on The Coronavirus Disease-19 Pandemic: A Pilot Survey

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ABSTRACT

Introduction: As a profession highly predisposed to coronavirus disease (COVID)-19, dentists should be aware of the possibility of cross-infection. The purpose of this study was to investigate descriptive statistics of dental practice during the covid-19 pandemic. **Materials and Methods:** This survey was conducted online using self-reported questionnaires created with Google Form®, among dentists in Indonesia. Descriptive statistics were used to summarize the survey results. **Results:** In total 102 participants completed the survey. The mean age was 42.71 (6.65) years. 19 males (18.8%) and 83 females (81.44%). Of all respondents, 80 (78 %) dentists provided dental services to patients during COVID-19 pandemic. Of those who had provided dental services, the most commonly indicated reasons were due to the emergency procedural 66 (82 %). We also found 51 (64%) dentists prefer online consultation. All of the provided temperature checking and will postpone the service with the symptomatic patient. Additionally, our survey found no significant difference between dentists who provided services to patients during COVID-19 pandemic or not based on gender, age, years in practice (all $p > 0.05$, respectively). The majority of research participants continued to give dental treatments during the COVID-19 pandemic. **Conclusions:** Personal protective equipment was essential, as well as a dental-care-safety environment. The small sample size of our survey limits its generalizability to the field of dentistry and needs further investigation.

Keywords: COVID-19, Cross infection, Health service research, Infection control, Patient safety

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and contaminant waste management.

INTRODUCTION

The corona virus disease-19 (COVID-19) pandemic outbreak has its massive impacts. Several activities involving many people, close interaction, and crowds required limitation or instructed to stay at home. Activities restriction to remain at home or work from home, social distancing, and crowd bans have affected all business sectors, including health services, such as dentistry. The services offered in dentistry also need to be changed by prioritizing dentists, paramedics, and patients' safety (1). This includes the patient's management on pre, and arrival in the dental's waiting room, operator room, provided procedural, space and dental unit sterilization

and contaminant waste management. Around the world, not only the citizen, but also many doctors, dentists and physician deaths from COVID-19 (2). The public news in Indonesian reported that COVID-19 has killed twenty-four medical professionals, six of whom were dentists. Instead, it encouraged dentists especially those over the age of 60 to reduce their working hours and advised the public not to visit their dentist during the outbreak unless urgent treatment is needed (3).

Patients in need of dental services are at the risk of transmitting or contracting the infection (4). The close contact between the dentist and the patient increases transmission chances, particularly the asymptomatic patients (5). In this regard, there are no visible symptoms of SARS-COV-2 infection, such as fever, dizziness, coughing, and shortness of breath. Exposure to saliva,

blood, or aerosols during dental procedures pose high risks to dentists and nurses (6). This pilot survey investigated descriptive statistics of dental practice during the covid-19 pandemic.

METHODS

Samples

This survey was conducted online using self-reported questionnaires created with Google Form®. The URL link was provided online through social media, specifically Facebook®, Instagram®, and WhatsApp®. The time needed to fill them online was 6 months, starting in April to September 2020. The prospective participants were provided inform consent before filling the entire questions consisted of 10-single item self-reported questionnaires. The survey questions addressed demographics and description of dentist service characteristics during COVID-19 pandemic. The participant inclusion criteria were being a member of Indonesian dental association, all of ages, work at hospital or public health services or private clinics, and actively operated before the COVID-19 pandemic. This study was approved by the Ethical Clearance of Health Experiment Committee, Faculty of Dental Medicine, Airlangga University (registration number: 564/HRECC.FODM/XII/2020).

Statistical analysis

All statistical analysis was performed using SPSS (version 23, USA). Descriptive statistics were used to generate the study results. Continuous and categorical data were presented using numbers and percentages. Finally, we produced a histogram to show the distribution of participant countries of origin

RESULTS

In total 102 participant completed the survey. Mean age was 42.71 (6.65) years. The participant city or regency distribution were provided in Figure 1.

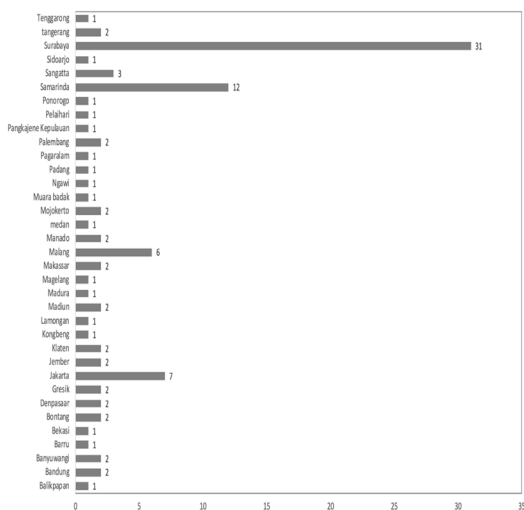


Fig. 1: Distribution of participants across city or regency in Indonesia.

Demographics of survey participants are depicted in Table I. Of all respondents, 80 (78%) dentists provided dental services during COVID-19 pandemic. Of those who had provided dental services, the most commonly indicated reasons were due to the emergency procedural 66 (82 %). Our survey found no significant difference between dentist who provided services to patients during COVID-19 pandemic or not based on gender, age, years in practice (all p> 0.05, respectively).

Table I: Study participant characteristic, n (102)

Variable	Descriptive Statistics
Age	
<25 years	0 (0)
25 to 35 years	19 (18.62)
36 to 45 years	26 (25.49)
>45 years	57 (55.89)
Gender	
Male	19 (18.62)
Female	83 (81.38)
Years in practice	
<5 years	7 (6.86)
5-10 years	22 (21.57)
>10 years	73 (71.57)
Institutional type	
Private dental practice	26 (25.49)
Government's hospital/ clinic	76 (74.51)
Do you provide dental service during Covid-19 pandemic?	
Yes	80 (78.43)
No	22 (21.57)
What types of consultation services provided by dentists during Covid-19 pandemic?	
Online	51 (64)
Face-to-face	29 (36)
What type of procedural activity do you provide?	
Emergency	66 (82)
Non-emergency	14 (12)
Do you provide temperature checking at the practice/waiting room to patients?	
Yes	80 (100)
No	0 (0)
How do you manage the patients with symptoms resembling COVID-19?	
Continuing the services	0 (0)
Postpone the services	80 (100)
What health Facilities do you provide for patient?	
Hand-washing area and soap	34 (43)
Hand sanitizer	19 (24)
Mask for the patient	27 (33)

Reported as number (percentage).

The procedural activity for preventing cross-transmission was shown in Table II. The data shows that 100% of dentists use PPE during patient services. Also, 61% of respondents used PPE with the requirement of Bio-Safety Level-3 (BSL-3), while the rest stated that it was sufficient to use BSL-2. According to 15% of respondents, PPE replacement was always carried out every time there was a patient replacement. Contrastingly, 27% do not replace PPE until the service was completed, while 58%

Table II: Selection and use of PPE in dental practice (a rational manner)

Telemedicine	The action does not cause aerosol	The action causes aerosol
Patients have no symptoms such as COVID-19 and do not live/visit pandemic areas	Administration staff: • Surgical mask • Face Protector	Administration staff: • Surgical mask • Face Protector
	Dentists and paramedics: • FFP1 mask • Face Protector • Apron	Dentists and paramedics: • FFP2 mask • Face Protector • Apron • Surgical Gown Half Cover
		Additional Equipment: • Extra one suction
The patient does not have symptoms similar to COVID-19 but lives in a pandemic environment	Administration staff: • FFP1 mask • Face Protector	Administration staff: • FFP1 mask • Face Protector
	Dentists and paramedics: • FFP2 mask • Face Protector • Apron • Surgical Gown Half Cover	Dentists and paramedics: • FFP2 mask • Face Protector • Apron • Surgical Gown Full Cover BSL-2
	Patient: • Apron	Patient: • Apron
		Additional Equipment: • Extra oral suction
The patient had similar symptoms of COVID-19. However, it was not confirmed positive	Administration staff: • FFP1 mask • Face Protector	Administration staff: • FFP1 mask • Face Protector
	Dentists and paramedics: • FFP3 masks • Face Protector • Apron • Surgical Gown Full Cover BSL-2	Dentists and paramedics: • FFP3 masks • Face Protector • Apron • Surgical Gown Full Cover BSL-3 • Full Cover Shoes
	Patient: • Apron	Patient: • Apron
		Additional Equipment: • Extra oral suction
The patient recovered from COVID-19 and had no symptoms	Administration staff: • FFP1 mask • Face Protector	Administration staff: • FFP1 mask • Face Protector
	Dentists and paramedics: • FFP3 masks • Face Protector • Apron • Surgical Gown Full Cover BSL-3	Dentists and paramedics: • FFP3 masks • Face Protector • Apron • Surgical Gown Full Cover BSL-3 • Full Cover Shoes
	Patient: • Apron	Patient: • Apron
		Additional Equipment: • Extra high oral suction power

always replace it when taking procedural activity with aerosol risk. Patients are restricted from using antiseptic for gargling. External oral suction while providing services to patients is critical since some procedural activity causes aerosols. The questionnaire showed that only 1 respondent prepared a practice room with this tool. The sterilization of practical tools and spaces is

intended to minimize the occurrence of cross-infection. According to 85% of the respondents, every patient replacement was always sterilized with an autoclave due to the limited number of tools. Conversely, 15% of dentists stated that sterilization is conducted only before and after practice, and therefore, all tools are prepared specifically for each patient. The room sterilization is carried out by 100% of respondents after the procedural activity or before replacing new patients.

DISCUSSION

The results of this survey showed that dental services were still provided to patients during the critical COVID-19 pandemic. We provide a preliminary interesting finding of descriptive dental practice. We also found that dentists working at the government's hospitals or clinics are more prevalent in providing dental care. This pilot survey becomes a preliminary finding for future research using a big sample size.

We found that dentists with more than 10 years of experience still practice. Previous studies have shown that work experience influences work professionalism (9-13). It means that experience is directly proportional to the age of the dentist. Data shows that more than 57% of dentists are over 45 years. At this age, individuals easily contact COVID-19 because of being vulnerable to accompanying systemic diseases. Dentists aged above 45 are many compared to other age groups. In terms of cultural factors in Indonesia, dentists aged over 45 have more needs. Generally, 45 years and over is the peak of economic needs. Previous studies show that life's peak economic need comes when someone is considered experienced. The dentists worked in government more prevalent compared to those practicing privately. This might due to the obligation to work. However, the obligation to work needs to be supported by maximum facilities, space, and personal protection to prevent cross-infection. In this study, 85% of dentists still practicing have health insurance and work in government or private institutions. Most doctors have health insurance, making them more confident in their practice. Health insurance has a small effect on retirement, though still useful for dealing with uncertain health conditions (14). The registration section needs to ensure the patient is in the appointment schedule with no crowd in the waiting room. Officers should advise patients to come without a companion, except underage or patients with limited conditions (5,15). Tight scheduling minimizes the chances of cross-infection. Moreover, the registration staff should provide a schedule of arrival intervals between patients for space and equipment sterilization about 20-30 minutes.

Nearly over half of dentists provide online consultation related to emergency cases. Patients are given a prescription to reduce complaints, and those who need further procedural activity goes to the practice

site. The use of telemedicine is appropriate in handling COVID-19 cases and certainly minimize contact with patients before action is taken (16-18). It might help the dentist worrying about patients suspected of having COVID-19 using remote assessment. This can be achieved by giving several questions related to patient health during a pandemic, or merely consulting before being referred to the COVID-19 examination (19).

Procedural activities performed by dentists in practice was to measure the patient's body temperature, fever and dry cough symptoms. Transmission of the virus from droplets can occur when a person is in close contact with an infected person and exposure to droplets from breathing, such as coughing, sneezing, or very close personal contact through the mouth, nose or conjunctiva (20). Good pre-procedural preparation and patient management will minimize the chances of cross-infection.

Standard protective measures in daily clinical work are not effective with asymptomatic patient (15). Actions to be prepared in preventing cross-transmission, including the use of complete PPE (21). Respondent data shows that all of dentists claim to use PPE during service measures to patients. According to more than half participant, PPE used fulfilled Bio-Safety Level-3 (BSL-3) requirements, while the rest used BSL-2. Our result showed most of dentists always replace PPE when taking actions that might cause aerosols.

The survey's limitations include a small sample size, which raises the chance of type II error. The results are also less generalizable to the population we studied due to the limited sample size. Sending the survey out many times or encouraging it would increase response rates and should be investigated further in the future. Because several components of the survey were self-reported, the results may not accurately reflect the actual condition.

CONCLUSION

The majority of research participants continued to give dental treatments during the COVID-19 pandemic. Personal protective equipment was essential, as well as a dental-care-safety environment. Such findings can be validated as a reference base for stakeholder decision-making, including government and professional associations to protect dentists and the public going for care. The small sample size of our survey limits its generalizability to the field of dentistry and demands more investigation.

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