ORIGINAL ARTICLE

Trends of number of patient visits, demographic, and patient diagnosis at a dental hospital during the COVID-19 pandemic: a descriptive study

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ABSTRACT

Introduction: The long-standing COVID-19 pandemic had resulted in the implementation of service restrictions and the emergence of patients' fear of coming to health facilities, which could have caused changes in patient visit trends. The aim was to determine trends in the number of visits, demographic characteristics and patient diagnoses during the COVID-19 pandemic. **Method:** the descriptive and population research used secondary data from medical records of new visiting patients and existing patients at the general dental clinic, pavilion clinic, and emergency ward at the Universitas Padjadjaran Dental Hospital (RSGM UNPAD) from April 2019 to March 2021. Sample for number of patient visits before and during the pandemic, the total sampling was 12,714 and the characteristics and diagnosis of patients during the pandemic were 3,625 medical records, while non-probability sampling technique with purposive sampling was used. Univariate analysis used frequency distribution, line charts, bar charts. **Result:** The number of patient visits at RSGM UNPAD during the pandemic decreased by around 60% (from 9,089 to 3,625 visits) compared to before the pandemic. The patient demographics during the pandemic at RSGM and at its three polyclinics were relatively the same: adults (26-45 years), female, domiciled in the city of Bandung, private employees, Moslem, Sundanese, unmarried, and past patient status. The most common diagnosis at RSGM was pulpitis 914 (61%); in general dental polyclinic was pulpitis 751 (33%); in the pavilion clinic was malocclusion 428 (32%) and in the emergency ward was pulpitis, necrosis of pulp and impacted each 4 (16%). **Conclusion:** During the COVID-19 pandemic, patient visits to the dental hospital decreased more than half, the demographic characteristics of the three polyclinics were relatively the same and the most common patient diagnosis was pulpitis.

KEYWORDS

Demographics; dental hospital; oral diagnosis; the COVID-19 pandemic; trend of patient visits

INTRODUCTION

The COVID-19 case in Indonesia was first confirmed on March 11, 2020, the area with the highest rate of spread was located in East Jakarta.[1] Taking into account the escalation of cases and the expansion of the affected area, the government had declared COVID-19 as a national disaster through Presidential Decree No. 12 Year 2020.[2] Transmission of COVID-19 spread through airborne particles originating from coughing, sneezing, speaking, breathing or dental procedure.[3] The impact of this pandemic was felt by various sectors, as reported by WHO about the impact on essential health services occurring in 90% of countries, one of which was oral health services.[4] Dentists and health workers had to be prepared to receive and serve patients in emergency conditions. This might have caused dentists to be at high risk of infection transmission in which the routes of transmission were direct contact with blood, saliva, splashes, droplets, aerosols from high-speed handpieces, or through indirect contact with contaminated dental instruments.[2] Health workers were at great risk of contracting COVID-19 from patients and visitors or in reverse.[5]

In response to this condition, the Indonesian Dentist Association (Persatuan Dokter Gigi Indonesia/PDGI) urged dentists to postpone all forms of dental procedures except for emergency procedure using level 3 Personal Protective Equipment (PPE) (SE PDGI No. 2776/PB PDGI/III-3/2020).[3] Based on the appeal and the applicable regulations, the COVID-19 pandemic condition had an impact on the quantity and quality of services as well as the security of services in health facilities.[4] Dental health services at health facilities and independent practices were mostly closed, resulting in disruption of public access to oral health facilities.[6] The COVID-19 pandemic had caused the reduction in the number of patients in oral health facilities.[7]

One of the health facilities experiencing the impact of the COVID-19 pandemic was the RSGM UNPAD. This hospital is a special hospital that provides oral health services in promotive, preventive, curative and rehabilitative efforts to the community, besides being a means of providing professional education for dental students at Padjadjaran University. The service function for patients had to

continue to run even though by limiting the number of patients in order to reduce the volume of service activities as an effort to prevent the spread of the COVID-19 virus.[8] At the same time, the process of treating oral diseases had changed.[9,10] This might have led to several changes including a decrease in the number of patients, demographics, and patient diagnoses who visited the hospital.[11]

Patient demographics is a subjective patient data collection based on the components of fertility, mortality, and migration which aims to collect information or data about patients in order to identify and recognize the patient's health needs.[12] Demographic factors including age, gender, social or employment status, and education, affect the needs of health services.[13] For example, the level of education influences health behaviour and awareness of seeking health care providers.[14] Diagnoses is a process of identifying the disease, condition or injury from its signs and symptoms that may cause a patient to need, seek, or receive medical care in order to obtain treatment services, prevent deterioration of health, or improve health.[15] Changes in patient demographic characteristics and patient diagnoses will affect the supply of facilities, tools and materials, drug supplies and changes in hospital admission and operating costs for treatment, as well as hospital management. So that disease trends and patient visits in hospitals are important to know and monitor, especially if there are major changes such as the state of the COVID-19 pandemic.

The change in health services due to the COVID-19 pandemic required new guidelines for the management of oral health services while still prioritizing health protocols, in order to maintain the safety and health of patients and health workers in health facilities.[11] The challenge for RSGM UNPAD was that due to changes in various aspects that also had an impact on hospital services and income, then various arrangements, adjustments, and changes were needed. Efforts to plan a hospital arrangement certainly could not be separated from the need for patient data coming to the RSGM UNPAD both before and during the COVID-19 pandemic. There was still limited research on the description of demographic characteristics and the diagnosis of oral diseases at RSGM UNPAD. Based on this situation, the purpose of this study was to determine the demographic characteristics and patient diagnoses as well as the trend of patient visits at the general dental polyclinic, pavilion clinic, and emergency ward at RSGM UNPAD during the COVID-19 pandemic.

METHODS

The study design used was descriptive study, where secondary data was taken from medical records of patients who came before the COVID-19 pandemic (April 2019 to March 2020) and during the COVID-19 pandemic (April 2020 to March 2021). The study population was data from new and past patients who visited the general dental polyclinic, pavilion clinic, and Emergency ward at RSGM UNPAD before and during the COVID-19 pandemic. Data were collected from the information system report on patient visits at the Medical Record Section of the RSGM UNPAD, in the form of a website with the name of "RSGM UNPAD Periksa.id".

Research data for the number of patient visits used total sampling (data before and during the COVID-19 pandemic), namely 12,714 medical records. Data for medical record samples, based on patient criteria, obtained as many as 3,625 medical records, using a non-probability sampling technique with purposive sampling. The sample inclusion criteria were patients who were coming for the first time and past patients who had already come to the general dental clinic (dental polyclinic services provided by general dentists), pavilion clinic (dental polyclinic that serves periodontics, prosthodontics, oral surgery, dental conservation, pedodontics, oral medicine and orthodontics by specialist dentists) and the Emergency ward (emergency cases) of RSGM UNPAD before and during the COVID-19 pandemic, from April 2019 to March 2021. Complete medical records include data: age, gender, residency, profession, religion, ethnicity/nationality, marital status, patient status and patient diagnosis in the ICD-10 classification. Exclusion criteria were patients with follow-up care visits and incomplete patient data based on specified criteria.

The research was conducted from January to February 2022 at RSGM UNPAD. The research instrument was secondary data from patient visit data by accessing patient visit data recorded on the Padjadjaran Hospital Medical Record website. The data were collected in the Microsoft Excel computer program and then tabulated according to the group of variables. Data processing used univariate analysis, which was carried out by filtering and grouping according to predetermined variable inclusion and exclusion criteria. After the data was processed, results or output were obtained which were presented in the form of tables and graphs.

RESULTS

Based on the study, the number of samples obtained from the general dental polyclinic, pavilion clinic and emergency department was 12,714 patients consisting of 9,089 patients who visited before the COVID-19 pandemic and 3,625 patients who visited during the COVID-19 pandemic to RSGM UNPAD (Tabel 1).

Table 1. Number of patients before and during the COVID-19 pandemic at RSGM UNPAD.

Polyclinic/Service	Before the COVID-19 pandemic (April 2019 – March 2020) n (%)	During the COVID-19 pandemic (April 2020 – March 2021) n (%)
General Dental Polyclinic	5,027 (55.30)	2,272 (62.70)
Pavilion Clinic	3,872 (42.60)	1,328 (36.60)
Emergency ward	190 (0.30)	25 (0.60)
Total	**9,089 (100)**	**3,625 (100)**

Note: n=12,714

Based on table 1, it can be seen that the number of patient visits before the COVID-19 pandemic for each poly was more than during the COVID-19 pandemic. The total number of patients from the three polyclinics during the COVID-19 pandemic decreased from 9,089 patients before the pandemic to 3,625 patients during the pandemic, a reduction of around 60%.

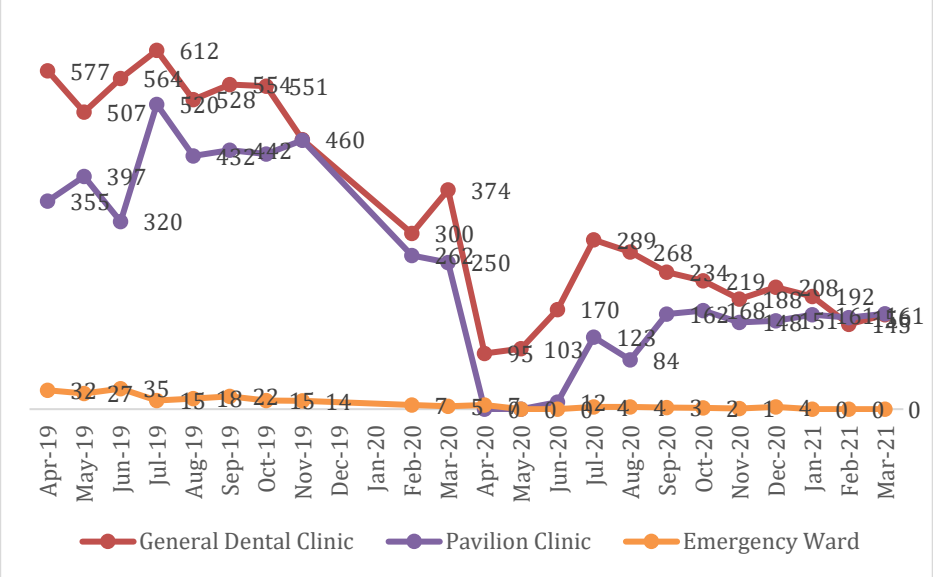

Figure 1. Trends in patient visits to RSGM UNPAD before and during the COVID-19 pandemic**.**

Figure 1 shows the number of patients at the RSGM UNPAD before and during the COVID-19 pandemic from April 2019 to March 2021. The most patient visits before the COVID-19 pandemic were in general dental polyclinics (612 patients) and pavilion clinics (520 patients) in July 2019, and in the emergency ward (35 patients) in June 2019. The most patient visits during the COVID-19 pandemic at the General Dental Clinic (289 patients) and Pavilion Clinics (123 patients) were in July 2020, and in the emergency ward (12 patients) in June 2020. From March to April 2020 there was the most decline in the three polyclinics due to the early emergence of the COVID-19 virus in Indonesia, the decline in the number of patients continued to occur below the average number of patients before the COVID-19 period, from June 2020 to the end of research time which was March 2021.

In figure 1, the data for December 2019 and January 2020 on the medical record web of the RSGM UNPAD, Periksa.id, was missing because there was a transfer of the medical record system, but it did not affect the final result because if the missing 2 months of data was not included, the number of patient visits before the COVID-19 pandemic still looked higher than the number of patient visits during the COVID-19 pandemic.

Table 2 shows the distribution of demographic characteristics of patients during the COVID-19 pandemic in the General Dental Polyclinic, Pavilion Clinic, and emergency ward of RSGM UNPAD. Most patients who came to RSGM UNPAD were in the adult age group of 26-45 years old, with female gender, domiciled in the city of Bandung, with the most jobs being private employees, Sundanese ethnicity, unmarried marital status, and status as past patients.

Table 2. Demographic characteristics of general dental polyclinic, pavilion clinic, and emergency ward of RSGM UNPAD during the COVID-19 pandemic by age, gender, complete diagnoses

Demographic Characteristics	General Dental Polyclinic n (%)	Pavilion Clinic n (%)	Emergency ward n (%)	Total n (%)
Age according to Ministry of Health (years)				
Teenagers 12-25	534 (24)	477 (36)	8 (32)	1019 (28)
Adult 26-45	1053 (45)	477 (36)	10 (40)	1540 (42)
Elderly 46-65	384 (17)	211 (16)	4 (16)	599 (17)
Seniors >65	82 (4)	89 (6)	1 (4)	172 (5)
Gender				
Man	1014 (45)	472 (36)	11 (44)	1497 (41)
Woman	1258 (55)	856 (64)	14 (56)	2128 (59)
Residency				
West Bandung Regency	117 (5)	66 (5)	2 (8)	185 (5)
Bandung City	1130 (50)	418 (31)	12 (48)	1560(43)
Cimahi City	71 (3)	29 (2)	1 (4)	101 (3)
Garut Regency	20 (1)	16 (1)	0 (0)	36 (1)
Other	144 (5)	90 (7)	2 (8)	236 (4)
Outside West Java	174 (8)	66 (5)	3 (12)	243 (7)
Not stated	330 (15)	538 (41)	1 (4)	869 (24)
Profesion				
Student/College Student	366 (16)	174 (13)	4 (16)	544 (15)
Housewife	276 (12)	115 (9)	4 (16)	395 (11)
TNI/POLRI	68 (3)	67 (5)	0 (0)	135 (4)
Government employees	100 (5)	50 (4)	0 (0)	150 (4)
Private employees	707 (31)	188 (14)	6 (24)	901 (25)
Instructor	101 (5)	99 (7)	1 (4)	211 (6)
Health workers	88 (4)	242 (18)	0 (0)	330 (9)
Retired	76 (3)	84 (6)	0 (0)	160 (4)
Other	20 (1)	21 (2)	3 (12)	44 (1)
Not stated	460 (20)	288 (22)	7 (28)	755 (21)
Religion				
Moslem	2020 (89)	1198 (91)	23 (92)	3241 (90)
Protestant	108 (5)	41 (3)	1 (4)	150 (4)
Catholic	67 (3)	46 (3)	0 (0)	113 (3)
Buddha	6 (0)	0 (0)	0 (0)	6 (0)
Hindu	2 (0)	0 (0)	0 (0)	2 (0)
Confucius	0 (0)	0 (0)	0 (0)	0 (0)
Not stated	69 (3)	43 (3)	1 (4)	113 (3)
Ethnicity / Nationality				
Sundanese	660 (29)	251 (19)	4 (16)	915 (26)
Javanese	116 (5)	33 (2)	1 (4)	150 (4)
Betawi	7 (0)	6 (1)	0 (0)	13 (0)
Batak	17 (1)	3 (0)	0 (0)	20 (1)
Minangkabau	14 (1)	0 (0)	0 (0)	14 (0)
Other	61 (3)	11 (1)	0 (0)	72 (2)
Not stated	1397 (61)	1024 (77)	20 (80)	2441 (67)
Marital status				
Single	1142 (50)	803 (60)	12 (48)	1957 (54)
Marry	991 (44)	439 (33)	12 (48)	1442 (40)
Widow / widower	39 (2)	19 (2)	0 (0)	58 (1)
Divorce	21 (1)	12 (1)	0 (0)	33 (1)
Not stated	79 (3)	55 (4)	1 (4)	135 (4)
Patient Status				
New Patient	1456 (64)	243 (18)	18 (72)	1717 (47)
Past Patient	816 (36)	1085 (82)	7 (28)	1908 (53)
Total	**2272 (100)**	**1328 (100)**	**25 (100)**	**3625 (100)**

Note: n= 3,625

Table 3. Diagnosis of General Dental Polyclinic, Pavilion Clinic, and Emergency ward of the RSGM UNPAD during the COVID-19 pandemic

ICD-10 code	ICD-10 diagnoses	General Dental Polyclinic n (%)	Pavilion Clinic n (%)	Emergency Ward n (%)
K01.1	Impacted teeth	168 (7)	128 (10)	4 (16)
K04.0	Pulpitis	751 (33)	159 (12)	4 (16)
K04.1	Necrosis of pulp	418 (18)	197 (15)	4 (16)
K04.7	Periapical abscess without sinus	138 (6)	57 (4)	2 (8)
K05.1	Chronic gingivitis	279 (12)	20 (2)	1 (4)
K05.3	Chronic periodontitis	87 (4)	30 (2)	0
K07.3	Anomalies of tooth position	1 (0)	86 (6)	0
K07.4	Malocclusion, unspecified	15 (1)	428 (32)	0
K07.6	Temporomandibular joint disorders	6 (0)	25 (2)	1 (4)
	Others	444 (19)	198 (15)	9 (36)
	Total	**2,272 (100)**	**1,328(100)**	**25 (100)**

Note: n=3,625

Table 3 shows the distribution of the most common dental disease diagnoses during the COVID-19 pandemic according to ICD-10. The General Dental Clinic was Pulpitis (K04.0) 751 patients (33%), the pavilion was Malocclusion, unspecified (K07.4) 428 patients (32%), and the emergency ward was Impacted teeth (K01.1), Pulpitis (K04 .0), Necrosis of Pulp (K04.1) as many as 4 patients (16%).

DISCUSSION

The number of patients during the COVID-19 pandemic decreased by 60% from before the COVID-19 pandemic. This decline had occurred since March 2020, when the COVID-19 pandemic began to hit Indonesia. The average number of patients each month who came to the RSGM UNPAD before the COVID-19 pandemic was above the highest number of patients during the COVID-19 pandemic (Figure 1). Research data shows that during the one year since the arrival of COVID-19 until March 2021, patient visits had not returned to normal as before the COVID-19 pandemic, due to the ups and downs in the development of COVID-19 cases.[16] This can be seen from the results of research data analysis of patient visits since the arrival of COVID-19, which was only around 30% compared to before COVID-19 (Table 1). The rapid spread of the coronavirus, supported by West Java Governor Regulation No. 27 of 2020 in April 2020 regarding Guidelines for Large-Scale Social Restrictions (PSBB) in Handling COVID-19 in the form of restrictions on activities outside the home, caused anxiety for the public to visit public facilities including health services.[17]

The first wave of high spikes in COVID-19 cases occurred from November 2020 to January 2021, due to the impact of the high mobility of the community at Christmas 2020 and New Year 2021. In response to this, the government then set strict PSBB regulations and transitional PSBB to urge the public not to do activities in public places.[18,19] The high number of COVID-19 cases at that time caused people to have anxiety about visiting oral health facilities, if it was not an emergency. As a result of this, the trend of patient visits to the RSGM UNPAD at that time decreased (Figure 1).

In line with the COVID-19 pandemic which affected health services/dentist practices, at the end of March 2020 the Indonesian Dental Association (PDGI) issued a circular regarding the call for the postponement of all forms of dental procedures except for emergency procedure using level 3 Personal Protective Equipment (APD) (SE PDGI No.2776/PB PDGI/III-3/2020), as a response to the COVID-19 pandemic outbreak in Indonesia.[3] Based on the circular, health facilities limited the number of patient arrivals so that room occupancy did not exceed 50%.[3] This proved that the number of daily patients in general and specialist dental clinics in hospitals had automatically decreased. The results of another study on the impact of the COVID-19 pandemic conducted in China found the same results, this was the number of patients in oral health facilities experiencing a decrease in demand by 38%.[7]

In response to the COVID-19 pandemic, Indonesia Dental Association issued the Dental Service Guidelines No. 2776/PB PDGI/III-3/2020, which provided guidelines for dentists who continued to practice. RSGM UNPAD responded to these guidelines in its services, that was the general dental polyclinic accepted patients for consultation and prescription of drugs without action, the pavilion clinic temporarily closed (unless orthodontists continued to provide fixed orthodontic treatment without scaling), while the emergency ward continued to accept patients in emergency conditions. This is in accordance with the data in figure 1, it can be seen that the number of patient visits during the COVID-19 pandemic in each polyclinic had decreased by more than 50% compared to before the COVID-19 pandemic. This is in line with research in emergency departments in Turkey, where patients coming to the emergency department decreased by half during the pandemic period compared to the pre-pandemic period.[20]

The decrease in the number of patient visits according to data from April to May 2020; the number of patients at that time was recorded to be the least number of patients in the general dental polyclinic, which was only 95 to 103 patients; pavilion clinic was closed, while the ER patients at that time were mostly 7 patients (Figure 1). This is in line with other research, namely that there was a 33% decrease in emergency service visits during the first lockdown (22 March 2020 to 19 April 2020), the number of emergency service visits in 2020 decreased significantly by 22% compared to 2019.[21] This situation is different from other studies where emergency ward visits increased significantly from 51% to 71.9% and emergency cases were dental pulp or periapical lesions and cellulitis.[22]

After 3 months of dentists being advised not to practice (since March 2020), the Executive Board of the Indonesian Dentist Association (PB PDGI) finally issued a Dentist Guide in the New Normal Era as a guideline for providing conventional oral health services during the COVID-19 pandemic. At the end of June 2020, the RSGM UNPAD began implementing these guidelines in order to provide oral health services that the community needed. This had encouraged the RSGM UNPAD to start receiving patients, especially the pavilion clinic, so that the number of patients increased rapidly and became the trend for the most patient visits in July 2020 (figure 1). This dentist's guide was to protect dentists and supporting health workers from contracting COVID-19, as well as to avoid cross-infection in the practice room.[3]

The rhythm of the number of patient visits during the COVID-19 pandemic went hand in hand with government regulations regarding social restrictions as a prevention of the transmission of the COVID-19 virus in Indonesia adapting to the development of the COVID-19 virus. In this phase, the number of patients in the general dental polyclinic and pavilion clinic rose and fell rapidly. However, the change in the number of patients in the emergency ward at RSGM UNPAD did not change much. figure 2 of July 2020 shows an increase in patient visits again, this is possible because the RSGM UNPAD as a health facility had implemented a reference to the technical instructions for oral health services by the Indonesian Dentist Association

The data in this study used data on visits of 3.625 patients who had met the study criteria with the variables of age, gender, and complete patient diagnosis, but were still able to describe the state of the overall patient visit data during the COVID-19 pandemic. Based on the age group on the demographic characteristics of patients, adults (26-45 years) were the age group for the most patients who come to the RSGM UNPAD during the COVID-19 pandemic (Table 2). This is related to the government's recommendation regarding people aged over 50 years or the elderly being advised not to come to health facilities if there were no emergency complaints because they were a group that was at risk of being infected with the COVID-19 virus.[23.]

This is because patients who visited orthodontic specialists during the COVID-19 pandemic were malocclusion patients with fixed orthodontic treatment who only performed monthly routine check-ups without scaling. During the COVID-19 pandemic, RSGM UNPAD determined that the treatment that could be done was practice without producing aerosols or droplets in order to minimize the spread of the COVID-19 virus. This is in accordance with the statement of the Secretary General of PB PDGI, who said that the decline in oral disease patient visits was due to high-risk viral exposure at the time of the procedure, so dentists were advised not to practice using aerosol-generating procedures.[3]

Based on the demographic characteristics of the patients in Table 2, female patients at the RSGM UNPAD were seen making more visits. This is in line with other studies which stated that women seek dental care more often for painful dental conditions, associated with women's innate tendencies to maintain health and lower pain tolerance compared to men.[24] Distance between place of residence and health facilities were factors that support the use of health services. Most of the patients' domicile based on the analysis of patient demographic data came from the city of Bandung (Table 2), where the RSGM UNPAD itself was located in the city of Bandung so that patients tended to seek treatment at strategic health services that were easily accessible from their place of residence. The most occupational groups of RSGM UNPAD patients during the COVID-19 pandemic were private employees, generally categorized as medium-to-high income. Since 2019, the RSGM UNPAD no longer accepted the Social Security Administering Body (BPJS), so the patients who came were generally people with upper middle income.

Most patients came from the Sundanese ethnicity (Table 2), which is in accordance with the results of the West Java Population Census where the majority of the population of West Java is Sundanese.[25.] The religion adopted was mostly Muslim, this is in accordance with data from the Central Statistics Agency (BPS) of West Java in 2020.[26.] Most marital status during the COVID-19 pandemic were unmarried patients. This is possible because the age group of patients who came was generally young adults. On the status of patient visits, it was found that the patients who registered at the general dental polyclinic and the emergency department were new patients, while at the pavilion clinic the majority were past patients. In general, patients who visited the pavilion clinic were patients who wanted to continue their treatment, such as orthodontic specialist patients who carried out regular monthly check-ups for their fixed orthodontic appliances.

Table 3 describes the diagnosis of oral disease during the COVID-19 pandemic at the RSGM UNPAD. The most common diagnosis overall was pulpitis. In previous studies, it was stated that the increased incidence of dental caries is the main cause of pulp pathology.[27] Lack of awareness of maintaining oral hygiene causes the prevalence of caries in a person. Since the COVID-19 pandemic, people had washed their hands twice as often (64%) as compared to brushing their teeth (31%).[28] Therefore, oral hygiene tended to decline, thereby facilitating the spread of agents of oral disease. In addition, fear of the spread of the COVID-19 virus had caused people to delay treatment at health facilities until they felt it was disturbing before they came to health facilities. Therefore, patients who

came to RSGM UNPAD mostly experienced pain in their teeth and came with advanced conditions of disease. This happened because of the limited service at the hospital and the public's fear of coming to the dental clinic during the spread of COVID-19.

The most diagnosis at the RSGM UNPAD during the COVID-19 pandemic required moderate risk dental treatment with close contact and resulted in controlled aerosol production, such as restorations and endodontic procedures. This action encouraged airborne transmission, so RSGM UNPAD needed to make new plans to adapt to the need to prevent the spread of COVID-19. Adjustment of health facilities and services from the high number of patients with a diagnosis of pulpitis made it necessary to pay attention to the general dental polyclinic and the emergency department, such as the provision of anti-inflammatory drugs and modification of the practice room so that the airflow pattern was smooth, with the use of aerosol control equipment such as aerosol boxes, aerosol shields, extraoral suction, and heap-filters in the practice room.[11] In addition to the facilities that had to be updated and equipped at the general dental polyclinic and the emergency ward, it was necessary to anticipate rearrangements in other installations / rooms at the RSGM UNPAD, related to visiting patients based on their dental care needs.

The results of the research on demographic characteristics and patient diagnosis were expected to assist in planning health services during the COVID-19 pandemic and the adaptation period for new habits (Table 2 & 3). Considering the danger of transmission due to COVID-19, restarting dental services required good and structured preparation in all hospital installations, especially treatment rooms that produced aerosols, such as regulation of airflow and ventilation, sterilization of equipment and tighter rooms, air filters, clean water management, room arrangement, as well as human resource management in order to provide better services (service excellence) and patient safety. Tele dentistry services are an alternative innovative solution that could not only be implemented during the COVID-19 pandemic, but also during the New Normal as a preparation for possible future pandemic outbreaks.[29.] Tele dentistry services were useful for screening patients who could still be treated without having to come to the hospital, where screening procedures or pre-visit screening of patients and follow-up of the patient's condition could be carried out by utilizing technology and communication in the field of dentistry as an alternative innovative solution.[5]

There were some limitations found in this study. The available data were incomplete, especially data on patient visits before the COVID-19 pandemic where there were only 10 months out of the specified 12 months (data for December 2019 and January 2020 were not recorded by the RSGM UNPAD Medical Record web Periksa.id). However, data during the COVID-19 pandemic (April 2020 – March 2021) were available for a complete 12 months. This caused the comparison of data before and during the COVID-19 pandemic to be incomplete, but the existing data could still describe the situation. Many demographic data and diagnosis for each patient were not available, where they were only found for 2 months, from February to March 2021, so they could not see the demographic developments and patient diagnosis before the COVID-19 pandemic. In addition, the demographic characteristics and patient diagnosis variables during the COVID-19 pandemic used in this study were incomplete, so the results were less detailed. There was a change in the name of the specialist poly from the pavilion clinic to the integrated specialist poly, so that data collection needed to be done several times to ensure that the data taken were the criteria for this research.

It is recommended for further research be carried out from March 2021 until the new normal period, in order to see trends in the development of the number, demographics, and further patient diagnosis. It is important to describe and monitor the situation so that effective and efficient anticipation can be made when facing a situation in the future. Suggestions for hospitals to be able to complete the demographic data of patients who come to RSGM UNPAD for the needs of strategic planning and hospital operations can be planned according to the needs of patients, so that hospital goals and targets can be easily determined and achieved.

CONCLUSION

The trend in patient visits had decreased quite drastically, from the beginning until the COVID-19 pandemic (March 2020 - March 2021), the number of patients decreased by 60%. During a pandemic with a small number of patients, there is a trend of ups and downs in patient visits according to the development of COVID-19. The demographic characteristics of the three polyclinics were relatively similar and the most common patient diagnosis was pulpitis.

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REFERENCES

1. Sukmana M, Aminuddin M, Nopriyanto D. Indonesian government response in COVID-19 disaster prevention. East African Sch J Med Sci. 2020;3(3):81–6. DOI: 10.36349/EASMS.2020.v03i03.025
2. Ammar N, Aly NM, Folayan MO, Mohebbi SZ, Attia S, Howaldt HP et al. Knowledge of dental academics about the COVID-19 pandemic: a multi-country online survey. BMC Medical Education. 2020;20(1):399. DOI: 10.1186/s12909-020-02308-w
3. Amtha R, Gunardi I, Dewanto I, Widyarman AS, Theodorea CF. Guideline for Dentist in the New Normal Era [Internet]. Panduan Dokter Gigi Dalam Era New Normal. 2019;1(1):1-111. DOI: 10.32793/monograph.v1i1.601
4. WHO UNY. COVID-19 continues to disrupt essential health services in 90% of countries. Accessed June [Internet]. 2021; Available from: https://www.unicef.org/press-releases/covid-19-continues-disrupt-essential-health-services-90-cent-countries
5. Ministry of Health Republic of Indonesia. Technical Guidelines for Hospital Services in the Adaptation Period for New Habits [Internet]. Directorate of Referral Health Services. 2020. 1689–99 p. Available from: https://arxiv.org/pdf/1707.06526.pdf%0A
6. Nursofwa RF, Sukur MH, Kurniadi BK. Handling of Health Services During the Covid-19 Pandemic in the Perspective of Health Law. Inicio Legis. 2020;1(1):1–17. DOI: 10.21107/il.v1i1.8822
7. Alharbi A, Alharbi S, Alqaidi S. Guidelines for dental care provision during the COVID-19 pandemic. Saudi Dent J [Internet]. 2020; 32(4):181–6. DOI: 10.1016/j.sdentj.2020.04.001
8. RSGM UNPAD. Rumah Sakit Gigi dan Mulut Universitas Padjadjaran [Internet]. 2022. Available from: http://rsgm.unpad.ac.id
9. Franciscatto GJ, Brennan DS, Gomes MS, Rossi-Fedele G. Association between pulp and periapical conditions and dental emergency visits involving pain relief: epidemiological profile and risk indicators in private practice in Australia. Int Endod J. 2020;53(7):887–94. DOI: 10.1111/iej.13293
10. Yu J, Zhang T, Zhao D, Haapasalo M, Shen Y. Characteristics of endodontic emergencies during coronavirus disease 2019 outbreak in Wuhan. J Endod. 2020;46(6):730–5.DOI: 10.1016/j.joen.2020.04.001
11. Directorate of Primary Health Service Ministry of Indonesia. Technical Guidelines for Dental and Oral Health Services in First Level Health Facilities During the Adaptation Period of New Habits [Internet]. 2021. Available from: https://repository.kemkes.go.id/book/563
12. Gultom E, Dyah RR. Basic Concepts of Dental and Oral Health Care Services. Jakarta Pusdikes Ed. 2017; Available from: https://perpus.poltekkesjkt2.ac.id/respoy/index.php?p=show_detail&id=456&keywords=
13. Ministry of Health Republic of Indonesia Oral Health Department. Description of dental clinic patient visits before and during the Covid 19 pandemic at the Health center in 2018-2020. Minist Heal Repub Indones Dep Dent Heal. 2021; Before and.
14. Budiman RA. Capita selecta questionnaire: knowledge and attitudes in health research. Jakarta Salemba Med. 2013; 2013: P4-8.
15. First MB. DSM-5 handbook of differential diagnosis. 1st Ed. American Psychiatric Pub; 2013. DOI : 10.1176/appi.books.9781585629992
16. Kompas.com. Recap of Indonesia's Corona Cases During March and Predictions for April 2020. Kompas.com. 2020; Available from:https://www.kompas.com/tren/read/2020/03/31/213418865/
17. Nomor 29 PMKRI. Guidelines for Large-Scale Social Restrictions in the Context of Accelerating the Management of CoronaVirus Disease 2019 (Covid-19). Kementeri Kesehatan RI . 2020; 28. Available from: https://peraturan.bpk.go.id/Details/135220/permenkes-no-9-tahun-2020
18. Negeri TKKD. General guidelines for dealing with the COVID-19 PANDEMIC for local governments: prevention, control, diagnosis and management. J Chem Inf Model. 2020; 53(9) 1689–99.
19. Antara News. Batches I and II of COVID-19 in Indonesia. Data Datgas COVID-19. 2021; p.1
20. Karaca Ahat T, Yılmaz Gençer T, Güven Baysal Ş, Metin Baz H, Durak U, Kortay Canaloğlu S, Büyükavcı MA, Gümüş Doğan D. The Impact of COVID-19 Pandemic on Patient Admissions to the Developmental Pediatrics Unit: An Outpatient Clinic in Eastern Turkey. Turk Arch Pediatr. 2023 Jan;58(1):62-67. DOIi: 10.5152/TurkArchPediatr
21. Thiem DGE, Polsak M, Römer P, Gielisch M, Blatt S, Al-Nawas B, Kämmerer PW. The impact of the COVID-19 pandemic on the dental-maxillofacial emergency service of a German university hospital in the year 2020. Clin Oral Investig. 2022 Jan;26(1):385-395. DOI: 10.1007/s00784-021-04010-
22. Baghizadeh Fini M. What dentists need to know about COVID-19. Oral Oncol. 2020; 105: 104741. DOI: 10.1016/j.oraloncology.2020.104741.
23. Margarini E. Keeping the Elderly Healthy During the Covid-19 Pandemic. 2021.
24. Zetu L, Zetu I, Dogaru CB, Duţă C, Dumitrescu AL. Gender variations in the psychological factors as defined by the extended health belief model of oral hygiene behaviors. Procedia-Social Behav Sci. 2014; 127(2014): 358–62. DOI: 10.1016/j.sbspro.2014.03.271
25. Official Website of the Regional Government of West Java Province [internet]. West Java Profile. 2020. Available from: https://www.jabarprov.go.id/infografis/
26. West Java Central Statistics Agency. Number of Population and Gender According to Regency/City in West Java Province. 2020. Available from: https://jabar.bps.go.id/%0A%0Adynamictable/2020/02/11/212/-jumlah-%0Apenduduk-dan-jenis-kelamin-menurut-%0Akabupaten-kota-di-provinsi-jawa-barat-2019.html
27. Farmakis E-TR, Palamidakis FD, Skondra FG, Nikoloudaki G, Pantazis N. Emergency care provided in a Greek dental school and analysis of the patients' demographic characteristics: a prospective study. Int Dent J. 2016; 66(5): 280–6. DOI: 10.1111/idj.12245
28. Ministry of Health of the Republic of Indonesia. Survey Shows The Habit of Brushing Your Teeth Declines During the COVID-19 Pandemic. Kemenkes Republik Indonesia. 2021; Available from: https://www.kemkes.go.id/article/print/21031900002/survey-menunjukkan-kebiasaan-gosok-gigi-menurun-saat-pandemi-covid-19.html
39. Macapagal J. Applications of Teledentistry during the COVID-19 Pandemic Outbreak. Appl Med Inform. 2020;42(3):133-41. Available from: https://ami.info.umfcluj.ro/index.php/AMI/article/view/783