

## The Impact of The COVID-19 Pandemic on Elderly Patients' Motivation for Complete Dentures Fabrication

### Dampak Pandemi COVID-19 Terhadap Motivasi Pasien Lanjut Usia dalam Pembuatan Gigi Tiruan Lengkap

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#### ABSTRACT

The COVID-19 pandemic has impacted field oral and dental health, including tooth loss issues commonly experienced by the elderly. Treatment using complete dentures is very important to restore function. Motivation is an important factor in the success of creating and using completed denture treatment. The purpose of this study was to determine the impact of the COVID-19 pandemic on the motivation of elderly patients in the fabrication of completed dentures. This research employed a descriptive analytical approach using a cross-sectional design. The research sample was selected using a purposive sampling technique, involving 54 elderly patients who underwent completed dentures fabrication at the Baiturrahmah Dental and Oral Hospital from January to December 2022. The results showed that there was no influence of the COVID-19 pandemic on elderly patients, as reflected in the strong motivation of 26 people (89.7%), moderate motivation of 3 people (10.3%) and there was an influence of the COVID-19 pandemic with a strong motivation value as many as 15 people (60%) and moderate motivation as many as 10 people (40%) and a relationship between the impact of the COVID-19 pandemic on the motivation of elderly patients ( $p = 0.026$ ). The conclusion of this study shows that elderly patients have a strong motivation to fabricate completed dentures despite challenges posed by the COVID-19 pandemic.

**Keywords:** COVID-19 Pandemic, Motivation, Complete denture

#### ABSTRAK

Pandemi COVID-19 mempengaruhi bidang kesehatan gigi dan mulut, salah satunya masalah kehilangan gigi yang terjadi pada lansia. Perawatan dengan pemakaian gigi tiruan sangat penting untuk mengembalikan fungsi. Motivasi merupakan faktor keberhasilan dalam pembuatan dan penggunaan GTL. Tujuan penelitian ini untuk mengetahui dampak pandemi COVID-19 terhadap motivasi pasien lansia dalam pembuatan GTL. Jenis penelitian ini adalah deskriptif analitik dengan menggunakan desain *cross sectional*. Sampel penelitian menggunakan teknik *purposive sampling* dengan subjek penelitian pasien lansia yang melakukan pembuatan GTL sebanyak 54 orang di Rumah Sakit Gigi dan Mulut (RSGM) Baiturrahmah pada Januari-Desember 2022. Hasil penelitian menunjukkan bahwa tidak ada pengaruh pandemi COVID-19 pada pasien lansia dengan nilai motivasi kuat sebanyak 26 orang (89,7%), motivasi sedang sebanyak 3 orang (10,3%) dan terdapat pengaruh pandemi COVID-19 dengan nilai motivasi kuat sebanyak 15 orang (60%) dan motivasi sedang sebanyak 10 orang (40%) dan terdapat hubungan antara dampak pandemi COVID-19 terhadap motivasi pasien lansia ( $p=0,026$ ). Kesimpulan penelitian ini menunjukkan bahwa pasien lansia memiliki motivasi kuat untuk membuat GTL meskipun dalam keadaan pandemi COVID-19.

**Kata Kunci:** Pandemi COVID-19, Motivasi, Gigi tiruan lengkap

## INTRODUCTION

The COVID-19 pandemic has affected the health sector, namely limited dental and oral health services in hospitals or dental clinics.<sup>1,2</sup> Dentists, dental nurses and patients have a high risk of transmitting COVID-19, this is due to direct contact with the respiratory tract when the patient's mouth is open so that operators are easily exposed to the virus through droplets. or aerosols during patient care procedures.<sup>3</sup>

Aging will affect physical, mental, and social they cannot carry out their daily tasks anymore and for most people old age is not pleasant. The problem that the teeth in the elderly are damaged a lot, even dislodged, which makes it difficult to chew food.<sup>4</sup> Based on Basic Health Research (Riskesdas) in 2018, it shows that the national prevalence rate of tooth loss at the age of 45-54 years is 23.6% and followed by 55-64 years of age by 29.0% then increasing at the age of 65 years and over with a percentage of 30.6%. The data shows cases of tooth loss due to extraction or falling out by itself.<sup>5</sup>

The problem of tooth loss in the elderly in the field of prosthodontics can be overcome by making dentures as a substitute for natural teeth that have been lost, generally complete dentures. Complete denture can improve or restore mastication, aesthetic, phonetic and psychic functions. Another goal of complete denture is to correct abnormalities, disorders and diseases caused by the state of the teeth that have been lost.<sup>6,7</sup>

Based on patient visit data at the Baiturrahmah Dental Hospital 2018 the number of elderly people who made complete denture was 1,580 visits, in 2019 there were 1,044 visits, in 2020 there were 225 visits, in 2021 there were 429 visits and the latest data in 2022 there are 236 elderly people who make complete denture. The decrease in the number of complete denture production in 2020 and 2021 was because from April 2020 to February 2021 there was no complete denture treatment at Baiturrahmah Dental Hospital due to the COVID-19 pandemic.<sup>8</sup>

Based on the results of research by Sukini in 2015 that overcome obstacles that arise are included in the biggest contribution in the high category for intrinsic motivation. Concern for the surrounding environment for

dental and oral health where the elderly live is the extrinsic motivation.<sup>9</sup> According to Aslamiyah and Nurhayati in 2021 can be decrease in motivation during COVID-19 pandemic.<sup>10</sup>

The purpose of this study was to determine the impact of the COVID-19 pandemic on the motivation of elderly patients in making completed denture. That is a novel aspect of this research, which has not been widely studied in Indonesia.

## RESEARCH METHODS

The type of research used is descriptive and analytic research with a cross-sectional study design with a retrospective approach, to see the impact of the COVID-19 pandemic on the motivation of elderly patients in complete denture treatment. The research sample was 54 elderly patients who made complete denture at Baiturrahmah Dental Hospital in January - December 2022. The tools and materials used in this study were pens, paper, questionnaire sheets, personal protective equipment (PPE) and hand sanitizer. Research ethics commission letter No: 045/ETIK-FKUNBRAH/03/02/2023.

The workings of the research were carried out by collecting data using a questionnaire instrument. Measuring the impact of the COVID-19 pandemic is said to have no effect if the score is  $\leq$  mean (34.26) and has an effect if the score is  $\geq$  mean (34.26). Motivation measurement is divided into 3 criteria, namely strong motivation if the score or value is  $67\% \pm 100\%$ , moderate motivation if the score or value is  $34\% \pm 66\%$  and weak motivation if the score or value is  $0\% \pm 33\%$ . The data collection procedure was completed the researcher conducted data processing and data analysis.

## RESULTS

The frequency of the respondent's characteristics consisting of age and sex of elderly patients that have of complete dentures treatment at Baiturrahmah Dental Hospital can be described as follows in Table 1.

The result show that of the 54 respondents with an average age of 55 years (55,55%) and most were female, namely 28 people (51.9%) in elderly patients that have complete dentures treatment at Baiturrahmah

Dental Hospital can be described as follows in Table 1.

Table 1. Frequency distribution of age and gender in elderly patients that have complete dentures treatment

Responden Characteristic	F	Mean (%) Min-Maks
<b>Age</b>		
45-59	30	55,55
60-74	20	37,03
75-90	4	7,41
<b>Total</b>	<b>54</b>	<b>100</b>
<b>Gender</b>		
Male	26	48,1
Female	28	51,9
<b>Total</b>	<b>54</b>	<b>100</b>

Table 2. Frequency of the Impact of the COVID-19 Pandemic on Elderly Patients that have Complete Dentures treatment

COVID-19 Pandemic	F	%
No Influence	29	53,7
Influence	25	46,3
<b>Total</b>	<b>54</b>	<b>100,0</b>

The result in table 2 show that among 54 respondent, there is no influence of Covid-19 pandemic for 29 people (53,7%) in complete denture treatment at Baiturrahmah Dental Hospital .

Table 3. Frequency Distribution of Elderly Patients' Motivation in Complete Dentures Treatment

Motivation	F	%
Strong Motivation	41	75,9
Moderate Motivation	13	24,1
Weak Motivation	0	0,0
<b>Total</b>	<b>54</b>	<b>100,0</b>

The result in table 3, shows that of the 54 respondents, motivation was strong, namely 41 people (75.9%) in complete dentures treatment at Baiturrahmah Dental Hospital

Table 4. Description of Elderly Patients' Motivation in Complete Dentures Treatment Based on Gender

Gender	Motivation				Result	
	Strong f	Strong %	Moderate f	Moderate %	F	%
Male	22	84,6	4	15,4	26	100
Female	19	67,9	9	32,1	28	100
<b>Total</b>	<b>41</b>	<b>75,9</b>	<b>13</b>	<b>24,1</b>	<b>54</b>	<b>100</b>

The result in table 4, shows that of the older male gender has more strong motivation in complete denture treatment, namely 22 people (84,6%) and the female gender also has more strong motivation, namely 19 people (67,9%)

Table 5. Relationship between the Impact of Covid-19 Pandemic on the Motivation of Elderly Patients' Motivation in Complete Dentures Treatment

Pandemic COVID-19	Motivation				Result		p value
	Strong f	Strong %	Moderate f	Moderate %	F	%	
No Influence	26	89,7	3	10,3	29	100	0,026
Influence	15	60,0	10	40,0	25	100	
<b>Total</b>	<b>41</b>	<b>75,9</b>	<b>13</b>	<b>24,1</b>	<b>54</b>	<b>100</b>	

Sig.<0.05 Chi square test

Table 5 shows that the result is a significant correlation between the impact of the COVID-19 pandemic on the motivation of elderly patients in making complete denture  $p=0.026$  ( $p<0,05$ ). The subject of the 54 people, strong motivation was more common in respondents with no influence (89,7%) than with influence (60,0%) of the COVID-19 pandemic and moderate motivation with no influence (10,3%) than with influence (40,0%) of the COVID-19 pandemic.

## DISCUSSION

The results of the study in table 1 show that among 54 respondents, the average age of the elderly patient who made the complete denture was 55 years. Elderly patients who made the most complete denture were female, as many as 28 people (51.9%). In line with research conducted by Kristiani (2013) concerning the relationship between the characteristics of patients with permanent tooth loss and interest in using removable partial dentures. The results of the study stated that there was a relationship between the sex of losing permanent teeth. Women have more interest in making dentures because women pay more attention to appearance than men.

The research results in table 2 show that the percentage of the impact of the COVID-19 pandemic was greater, namely 29 people (53.7%) who had no influence compared to 25 (46.3%). Based on the results of the questionnaire, respondents answered in



the affirmative to the statements of not believing and not knowing enough about the COVID-19 pandemic and were able to adapt and live their daily lives by complying with health protocols during the social distancing period. Respondents also answered that they agreed to the statement that they always comply with health protocols during the social distancing period, especially when they want to make complete denture to RSGM so that they can get complete denture during the COVID-19 pandemic.

Based on this, according to the researchers' analysis of this study, it was found that more than half of the elderly patients stated that the impact of COVID-19 had no effect in complete denture treatment. This can be caused by the distrust and lack of knowledge of the elderly about COVID-19 and the high need for the elderly to make complete denture, even though during the lockdown they were not allowed to leave the house by the government. There is an adaptation of the elderly during the social distancing period so that the elderly can carry out their daily lives by always adhering to health protocols so that they can make complete denture during the social distancing period and don't feel worried about making complete denture during the COVID-19 pandemic.<sup>11</sup>

The attitude of the people at this time was that there was a new order of life that made people must adapt and get used to a new life. The community must make changes in lifestyle and new habits such as implementing health protocols so that they can live productive lives and avoid transmission of COVID-19. The American Dental Association (ADA) in March 2020 recommended dentists around the world to postpone elective dentistry for 3 weeks. The ADA also provided emergency and non-emergency guidelines due to the unpredictable cause and for dental care that cannot be postponed with standard protection in dental care services during the COVID-19 pandemic.<sup>12</sup>

In line with research conducted by Liasari et al (2020)<sup>10</sup> concerning the impact of COVID-19 in private dental clinics. The results of the study show that the percentage of dental treatment procedures in 2020 has increased compared to 2019. It is different from Irliana's research (2021) about the description of patient visits before and during

the COVID-19 pandemic at the Dental Clinic at the Sungai Ulin

Health Center, Banjarbaru. The results of the study show decrease in the average number of patient visits, namely 6 months before the pandemic by 258 patient and 6 months during the pandemic by 75 patients with an average difference of 186 patient.

The reduced number of patients was mainly due to the Indonesian government's lockdown policy, including the regional government in the city of Padang. The lockdown started in March after Indonesia's first COVID-19 case was found. Indonesian Dentists Association (PDGI) also recommended to not open dental health services, except in emergency cases and all dentists must follow health protocols and use level 3 Personal Protective Equipment (PPE).<sup>12</sup>

The results of the research in table 3 show that among 54 respondents, the highest motivation 41 people (75.9%). These Elderly patients feel that their chewing function is distrusted due to missing teeth and believe that dentures can overcome their complaints. Respondents also agreed if they knew that missing teeth could be with complete denture so that they had the will of themselves to have a complete denture. Another cause is the belief that dentures can overcome the obstacles they feel due to tooth loss. This can create strong intrinsic motivation in the elderly make complete denture.<sup>13</sup>

The results of this study indicate that strong motivation in the elderly is also caused by extrinsic motivation, namely the invitation and support from young dentists as well as families and the environment that encourage and suggest making a complete denture. Another factor is the existence of information from the media about complete dentures and adequate health facilities from the government or private sector. This causes the elderly to have a strong motivation to make a complete denture.<sup>13</sup>

Based on the research show quite a lot of elderly people had strong motivation in making a complete denture during the COVID-19 pandemic. In accordance with the opinion of Sukini (2015)<sup>8</sup> opinion, the, belief that dentures can overcome obstacles that arise is one of the biggest contributions to internal motivation. Concern for the surrounding

environment for dental and oral health where the elderly live is the extrinsic motivation.<sup>8</sup>

According with Saragih's research (2019)<sup>14</sup> regarding the description of knowledge and motivation for using dentures at the age of 40-60 years at Jalan Calon Muslim Helvetia, Medan City. The results showed that most respondents had strong motivation, namely 67.4%. This is also in line with a study conducted by Kristiani (2013)<sup>15</sup> concerning the relationship between the characteristics of patients who have lost their permanent teeth and their interest in using removable partial dentures. The results showed that the highest interest in using removable partial dentures at Tasikmalaya City Hospital was in the high interest category of 28 people (82.4%).

The results of the research in table 5 show that of the 54 respondents, strong motivation was more common in respondents with no influence (89,7%) compared to those with an influence (60%. The results of statistical test using the chi-square a value of  $p=0.026$  which means that there is a significant relationship between the impact of the COVID\_19 pandemic in elderly patient motivation of complete denture treatment at Baiturrahmah Dental Hospital. This is due to the lack of knowledge of the elderly regarding the COVID-19 pandemic and the distrust of the elderly towards the COVID-19 pandemic which can be contagious and can even cause death, adaptation during the social distancing period allows the elderly to carry out their daily lives by always adhering to health protocols so that they can make completed denture. During the social distancing period and didn't feel worried about making complete denture during the COVID-19 pandemic, therefore they felt unaffected and could make complete denture, so they had a strong motivation to make complete denture to Baiturrahmah. Dental Hospital.

Another factor can be influenced by the invitation from young dentists to make complete denture which aim to fulfill their duties by inviting the elderly to make complete denture at Baiturrahmah Dental Hospital, thereby making the extrinsic motivation of the elderly strong. Another factor is family support which provides information about the manufacture and use of dentures as well as

providing encouragement and advising elderly patients to make and use complete denture. The environment or community has an influence in determining treatment with complete denture. Media that informs about dental health and the use of dentures as well as adequate health care facilities and information or health counseling from dentists and young dentists regarding the manufacture and use of dentures.<sup>10</sup>

The elderly feels more motivated because they feel disturbed in chewing, speaking and appearance. Other factors are low self-esteem perceptions due to tooth loss, solicitation from young dentists, family support, environmental factors, media, and health facility factors as well as information or counseling from dentists and young dentists on health services. In accordance with the opinion of Rumambi et al (2021)<sup>16</sup> that tooth loss results in several conditions that occur including migration, rotation, and overload on the supporting tissues so that these conditions will cause articulation and mastication function disorders. Tilandi et al (2017) added that another factor that generates motivation in the elderly is caused by self-perception factors. Low self-perception causes feelings of inferiority due to losing teeth and feeling better by using dentures for daily activities. This will motivate the patient to make complete dentures.<sup>16</sup>

## CONCLUSION

There is a relationship between the COVID-19 pandemic and elderly patients' motivation incompleted denture. this study shown that elderly patients have a motivation in complete denture treatment during COVID-19 pandemic at the Baiturrahmah dental Hospital. Future researchers are advised to conduct further research on the factors that influence patient motivation in making dentures.

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