RELATIONSHIP BETWEEN DENTAL AND ORAL HEALTH BEHAVIOR WITH CARIES IN THE COVID-19 PANDEMIC IN THE COMMUNITY OF JELBUK SUB-DISTRICT, JEMBER REGENCY

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ABSTRACT:

Background :The data of FDI (*Fédération Dentaire Internationale)* **and** *The Global Burden of Disease Study* **stated that caries is the most frequent disease, affecting over half of the world's population According to RISKESDAS 2018, caries is the most frequent dental and oral illness in Indonesia, accounting for 43.5 percent of all cases. Due to societal constraints to break the Covid-19 link, trips to the dental clinic at the puskesmas or hospital declined throughout the pandemic. As a result, the habit of preserving dental and oral health must be understood and applied in order to avoid caries during the COVID-19 pandemic. The data presented above corresponds to the state of Jelbuk District, which ranks third in Jember Regency in terms of caries concerns.Purpose : Understanding the association between dental and oral health behaviour and caries conditions in the Jelbuk District, Jember Regency population during the COVID-19 pandemic. Method : This is an analytic observational study with a cross-sectional design. This study included 70 samples that were calculated using the Lemeshow formula. The acquired data were examined using the chi-square test. Results : Respondent characteristics include the average gender of women aged 17-25 years with a high school education and the majority working as housewives. The behaviour in keeping dental and oral health is typical, and many people had caries during the covid-19 epidemic. Conclusion : There is no association between behaviour in preserving dental and oral health and caries situations in the population, Jelbuk District, Jember Regency, during the Covid-19 epidemic.**

*Keywords***: Behavior, Caries, Covid-19 Pandemic**

INTRODUCTION:

Because dental and oral health are vital aspects of overall body health, dental and oral health issues can define the overall state of health of the body. It is critical to maintain oral and dental health in order to avoid disorders or diseases that impair overall health, self-confidence, and interfere with daily activities and effectiveness.[1]

The COVID-19 outbreak was declared a pandemic by WHO in 2020. One of the countries affected by the virus is Indonesia. This virus has the ability to spread swiftly and widely, increasing the number of patients. In reaction to the coronavirus pandemic, the government implemented a large-scale social restriction, including limits on access to dental polyclinics at health centres and hospitals to limit patient visits unless there is an emergency.[2]

The high CPQ-14 score during the COVID-19 pandemic in Brazil indicates that there has been a considerable reduction in teenagers' evaluations of the quality of oral health throughout this period.[3] Families who experience psychosocial stress as a result of losing their jobs during the epidemic had lower OHRQoL. (quality of life). A high DMF-T index suggests a high OHRQoL. Dental caries has an impact on people's quality of life, particularly dental and oral health issues.[4]

Dental and oral health care must be provided, particularly during a pandemic. This effort can be generated as a result of habitual activity. A behaviour is an activity or a reaction to something. Dental and oral health behaviour is a person's reaction to a stimulus that is related to the notions of health, illness, and disease, particularly in the teeth and mouth. After environmental factors, behaviour is the second most powerful factor that can affect the health of people, organisations, and communities (Notoatmodjo, 2014).[5] Cavities are the most common dental and oral problems (caries). Caries is the most frequent and widespread disease that people worldwide face. Caries is caused by a high sugar intake, a lack of dental health care, and a lack of access to standardised dental health services.[1]Jelbuk sub-district is one of Jelbuk's sub-districts with a comparatively high degree of caries concerns. In 2020, jelbuk sub-district ranks third in jember district for the number of caries cases, after only mayang and wardsari. The adult community in the operating region of the Jellbuk Public Health Center is known to be between the ages of 16 and 59. When compared to other age groups from the Jelbuk Public Health Center working area, the age range of 16-59 years has the highest number of responders reporting pulp and tissue illness. [6]

This is especially important for performing a study on the behaviour of preserving dental and oral health in the COVID-19 pandemic in the community of Jelbuk District, Jember Regency.

METHOD:

This analytic observational study with a cross-sectional design was done in March 2022 in the working region of the Jelbuk Public Health Center. Purposive random sampling was used to select respondents for the research sample. The inhabitants of Jelbuk District with an age range of teenagers and adults (aged 15-59 years) were the respondents' criteria, and 70 respondents were gathered.

Collecting secondary data for preliminary investigations, identifying three primary subjects, creating online questions using Google forms, and conducting surveys via online questionnaire distribution. Then, evaluate the answers for completeness and tabulate the questionnaire data. Finally, analyse the data, draw conclusions, and generate reports.

The chi-square test was performed to analyse the data with the SPSS 23 application. Statistical significance ($\alpha = 5\%$). There is a link if the significance value is 5% and vice versa.

RESULT:

Data collection in the study was carried out by distributing questionnaires using Google Forms in the Jelbuk District, Jember. Questionnaires were distributed to respondents on March 2, 2022. After the questionnaires were collected and tabulated, the data presented in the table was obtained. Characteristics of respondents consist of gender, age, last education and occupation. To see the characteristics of respondents by gender can be seen in the table below.

Table 1. Characteristics of respondents by gender

Gender	Total (n)	Percentage (%)
Male	20	29
Female	50	71

According to the statistics in Table 1, there were 20 male respondents (29%) and 50 female respondents (71%). The table below shows the characteristics of responders according on age.

Table 2. Characteristics of respondents by age

Age	Total (n)	Percentage (%)
0-5 years (Toddler)	0	0%
5-11 years (Children)	0	0%
12-16 years (Adolescence)	3	3%
17-25 years (Teenager)	50	71%
26-35 years (Early adult)	5	7%
36-45 years (Adult)	6	9%
46-55 years (Early Senior)	6	9%
56-65 years (Late Senior)	1	1%
Above 65 yeasr (Elderly)	0	0%

In Table 2, there are two responders aged 12-16 years (3 percent). There are 50 respondents between the ages of 17 and 25. (71 percent). There are 5 responses between the ages of 26 and 35. (7 percent). There are 6 responses aged 36-45 years and 6 respondents aged 46-55 years (9 percent). There is one respondent between the ages of 56 and 65. (1 percent). According to the findings of this study, there are no respondents aged 0-11 years or older than 65 years. The table below shows the characteristics of responders based on their most recent education.

Table 3. Characteristics of Respondents based on Last Education

Last Education	Total (n)	Percentage (%)
Elementary School	0	0%
Junior High School	2	4%
Senior High School	50	71%
Bachelor	17	24%
Master	1	1%

According to Table 3, the number of respondents with the most recent junior high school education is two (4 percent). The number of respondents with the most recent high school diploma is 50. (71 percent). There are 17 responses with the most recent undergraduate education (24 percent). The number of responders with the most recent master's degree in education is one (1%).

In this study, none of the participants had completed elementary school. View the table below to see the characteristics of respondents based on occupation.

Table 4. Characteristics of Respondents by Occupation

Occupation	Total (n)	Percentage (%)
Housewife	15	21.4%
Farmer	9	12.8%
Trader	9	12.8%
Factory worker	6	8.5%
Enterpreneur	9	12.8%
College/student	22	31.4%

According to Table 4, the number of respondents who work as housewives is 15 (21.4 percent), farmers, traders, and entrepreneurs each have 9 (12.8 percent), factory workers have 6 (8.5 percent), and students have 22. (31.3 percent). See the table below for the different types of behaviour that contribute to good dental and oral health.

Table 5. Category of Behavior to Maintain Dental and Oral Health

Healthy behavior	Total (n)	Percentage (%)
Good	23	33%
Sufficient	36	51%
Bad	11	16%

According to table 5, the majority of respondents have sufficient conduct, namely 36 respondents (51 percent), followed by good behaviour, namely 23 respondents (33 percent), and bad behaviour is minority behaviour, as there are only 11 respondents (16 percent) The table below shows the state of caries during the COVID-19 epidemic.

Table 6. Keadaan Karies di Masa Pandemi Covid-19

Caries condition	Total (n)	Percentage (%)
Caries	42	60%
No caries	28	40%

According to Table 6, respondents with dental caries accounted for 42 percent of the total, whereas those without caries accounted for just 28 percent of the total (40 percent). See the table below for a test of the association between dental and oral health behaviour and caries conditions during the COVID-19 pandemic. The Chi-Square (X2) test was used to examine the link between dental and oral health behaviour and caries problems in the Covid-19 epidemic in the community of Jelbuk District, Jember Regency, yielding a p value of 0.922.

DISCUSSION:

Gender, age, education, and occupation were among the characteristics of the respondents in this study, according to the findings. The majority of respondents are female, while males make up the minority group of respondents, according to gender characteristics. This is due to the fact that the female population outnumbers the male population; the number of women is 17,243, while the number of males is only 16,198.[7]

According to age, the majority of respondents in this survey are between the ages of 20 and 24, with the least number of respondents between the ages of 35 and 39. According to BPS statistics, the population aged 35-39 years has the biggest population in Jelbuk District, with 1,793 individuals, while the population of the USA 20-24 years has the smallest population, with just roughly 1,096 people. In comparison to late adulthood, late adolescence has grown.

Based on education, it is known that the majority of respondents have completed high school, while the minority group has completed a master's degree. This is due to the fact that the maximum educational institution only goes up to high school or vocational school and does not offer a bachelor's degree.[7]

Based on the occupation, the majority of respondents are still students, while the least jobs are factory workers. Based on BPS data[7] many people work in agriculture, which is 8,499 people and the least is in the industrial or craft sector, which is only 89 people. This difference is possible because the majority of the population is female, which is more dominant than male, so in this study it was found that many work as housewives.

The Asymp value is calculated based on the findings of the relationship test that was performed. Because Sig. (2-sided) is greater than the significance limit, it is possible that there is no link between oral health behaviour and caries conditions during the covid-19 epidemic. Reca[8], who backed up this study, said there was no link between knowledge and attitude toward caries in the permanent first molar. Because knowledge and attitudes can influence a person's actions in preserving dental and oral health,

good knowledge and attitudes as a result of dental caries may not always result in positive actions and behaviour. Hasiru, et al[9] also believe that dental health maintenance knowledge is unrelated to the degree of caries. These findings suggest that dental caries severity is unaffected by dental and oral hygiene knowledge.

This study also incorporated findings from Almujadi and Taadi's[10] investigation, which concluded that there was no link between knowledge and caries status because other contributing factors such as the length of time spent brushing and eating cariogenic foods were present.

CONCLUSION:

The conclusion of this research is no relationship between dental and oral health behavior with caries in Covid-19 pandemic of Jelbuk subdistrict Jember

REFERENCES:

1. 1. Ministry of Health 2019, The Importance of Periodic Dental Health Checks. Ministry of Health, Accessed March 6, 2022, https://promkes.kemkes.go.id/pentingnya-cek-kesehatan-gigi-berkala.
2. 2. Listrinah 2020, Overview of Patient Visits at An-Nisa Dental Clinic, Palembang Before and During the 2018-2020 Covid-19 Pandemic, Palembang, Palembang Health Polytechnic, Department of Dental Health
3. Knorst, J, K, et al 2021, 'COVID-19 Pandemic Reduces The Negative Perception Of Oral Health Related Quality Of Life In Adolescents', *Quality of Life Research*, p. 1690.
4. Apro, V, Sari, D, P 2020. ; Impact of Dental Caries on Children's Quality of Life', *Andalas Dental Journal*, p.90.
5. Notoatmodjo, 2014. Metodologi Penelitian Kesehatn. Jakarta: Rineka Cipta
6. Jember Health Office 2020, UKP Health Center Reports throughout Jember Regency, Jember, District Office. Jember.
7. BPS 2019, *Jelbuk sub-district in Figures-Jelbuk sub-district in Figure, Jember, BPS Jember Regency.*
8. Reca, R 2017, 'The Relationship of Dental Health Maintenance Behavior with Permanent Single Molar Caries in Students aged 6-12 Years at SDN 26 East Lamteumen Banda Aceh City', Journal of Public Health Materials *(Bahana of Journal Public Health),* Vol. 1, No. 1, p 66.
9. Hasiru , F, Engkeng, S, & Asrifuddin, A 2019, 'Relationship of Health Behavior of Brushing Teeth with Dental Caries in Children at SDInpres Winangun, Manado City. Thesis. Faculty of Public Health', *Jurnal KESMAS.* Vol. 8, no. 6, p. 260.
10. Almujadi, Taadi 2017. Relationship of oral and dental health knowledge on caries amount of 3rd-5th students in Sangaran II Elementary School Godean Yogyakarta. Jurnal Kesehatan Gigi : 4(1) pp 1-6