

# THE RELATIONSHIP BETWEEN ORAL AND DENTAL HEALTH MAINTENANCE OF PREGNANT WOMEN WITH GINGIVITIS AT THE URANGAGUNG HEALTH CENTER, SIDOARJO REGENCY

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**ABSTRACT.** Gingivitis is the foremost common verbal side effect of pregnancy. Hormonal and vascular changes related with pregnancy are known to worsen the fiery reaction to neighborhood aggravations. Pregnant women often neglect oral health and plaque buildup on the teeth and gum line, which can lead to gingivitis and periodontitis. Data collection was carried out at the Urangagung Health Center, Sidoarjo Regency in January - March 2023. The average maintenance of oral and dental health of pregnant women is in the moderate category and pregnant women experience Gingivitis. To determine the relationship between dental and oral health maintenance of pregnant women with gingivitis at the Urangagung Health Center, Sidoarjo Regency. This type of research is analytical research with cross sectional method, with a sample of pregnant women at the Urangagung Health Center, Sidoarjo Regency, totaling 42 pregnant women. The data collection instruments used were questionnaires to measure oral health maintenance and examination sheets to identify gingivitis. The analysis technique used the chi-square test. The average maintenance of oral health of pregnant women who answered the research questionnaire was in the sufficient category of 67.33%. Pregnant women who experienced gingivitis were 66.7%. There is a significant relationship between knowledge about health maintenance.

**Keywords :** Oral health maintenance, Gingivitis, Pregnancy

## 1 INTRODUCTION

Gingivitis is the foremost common verbal side effect of pregnancy. Hormonal and vascular changes related with pregnancy are known to worsen the fiery reaction to neighborhood aggravations (Zhong, C. et al., 2015). Pregnant women often neglect oral health and plaque buildup on the teeth and gum line, which can lead to gingivitis (Umniyati et al., 2020) (Togoo, R. A et al., 2019).

Riskesdas (2018) states that the predominance of gingivitis in ladies in Indonesia is 74%. Gingivitis with dying gums is the foremost common issue influencing around 60-70% of pregnant ladies. In another think about, the predominance of gingivitis in pregnant ladies extended from 30% to 100% (Umniyati et al., 2020).

Periodontal disorders commonly found in pregnant women include gingivitis and periodontitis. In Surabaya City, a study conducted at eight health centers showed that 73% of pregnant women experienced gingivitis and 36% of pregnant women experienced periodontitis (Wijaksana et al., 2020) (Ambardar, Y et al., 2021).

Gingivitis is a mild periodontal disease clinically characterized by red, swollen, and easily bleeding gums without damaging the alveolar bone (Newman et al., 2017).

Meanwhile, according to Fatmasari & Lismawati (2020), gingivitis is a periodontal tissue disease, namely the gingival margin which is reddish to bluish red in color, enlarged gingival contours due to edema and bleeding easily (Xu, B., & Han, Y. W, 2022)..

Gingivitis and periodontitis are periodontal disorders commonly found in pregnant women (Amin, R et al., 2014). One of the risk factors for the birth of premature babies and LBW (low birth weight) is the presence of oral tissue disorders, namely periodontal disorders (Wijaksana et al., 2020) (Steinberg, B. J et al., 2013).

Maintaining oral hygiene in pregnant women is very important because it affects other body health so that the activities and behavior of pregnant women must be maintained and controlled during pregnancy (Hartnett, E et al., 2016). One of the most important actions is to routinely clean teeth and mouth, but laziness is often experienced by pregnant women because of the condition of pregnant women who always feel nauseous and vomit (Bakhtiar et al., 2018)

Maintenance of oral health is useful for maintaining the condition of the fetus so that it continues to grow and develop in a healthy and perfect manner, and prevents the birth of babies with abnormal weight or premature birth (Rakchanok, N et al, 2010). During pregnancy it is very important to maintain oral and dental health so that the masticatory function remains good and nutritional intake remains good and pregnant women remain healthy, and prevent oral and dental diseases from becoming more severe (Ministry of Health RI, 2012).

Based on secondary data obtained by researchers through the Urangagung Health Center Dental Clinic Register Book on November 12, 2022, pregnant women who came to the Urangagung Health Center Dental Clinic, Sidoarjo Regency from January-October 2022 were 695 pregnant women and 540 pregnant women experienced gingivitis, thus 77.69% of pregnant women at the Urangagung Health Center experienced gingivitis. The high percentage of pregnant women who experience gingivitis at the Urangagung Health Center is a serious problem so that researchers are interested in conducting further studies regarding oral health maintenance of pregnant women with gingivitis at the Urangagung Health Center, Sidoarjo Regency.

## **2 RESEARCH METHODS**

This study is a cross-sectional analytical study. This study was conducted at Urangagung Medical Center, Sidoarjo Regency. The population of this study consisted of pregnant women who visited the dental clinic of Urangagung Medical Center, Sidoarjo Regency in January to March 2023. The sample was the subject of this study. The study included pregnant women who visited the dental clinic of Urangagung Medical Center, Sidoarjo Regency in January to March 2023 with a total sample of 42 pregnant women. Research sampling technique uses non-random sampling method combined with random sampling technique. This research was conducted at the Urangagung Health Center which is located on St. Cemeng Kalang 15, Cemengkalang, Sidoarjo Regency, East Java 61234. This research was conducted from January 2023 to March 2023. Data collection methods using oral health maintenance questionnaires. The method of collecting gingivitis data by examining the oral cavity. The operational definition of variables includes dental and oral health maintenance of pregnant women measured using a questionnaire with an ordinal measuring scale categorized as good: 76%-100%; sufficient: 56%-75%; less: <56% (Arikunto, 2019). Gingivitis was

measured using a nominal measuring scale if there was gingivitis given a value: 1, no gingivitis is given a value of : 0.

### 3 RESULTS AND DISCUSSION

**Table 1.** Characteristics Frequency Distribution of Pregnant Women

No.	Characteristics of Respondents	Frequency	Percentage (%)
<b>1.</b>	<b>Age Frequency Distribution of Pregnant Women</b>		
	11-20	3	7,1
	21-30	29	69,0
	31-40	9	21,4
	41-50	1	2,3
	>50	0	0
<b>2.</b>	<b>Frequency Distribution of Maternal Education</b>		
	Elementary School	1	2,3
	Junior High School	12	28,6
	Senior High School	15	35,7
	D3	3	7,1
	D4/S1	10	23,8
	S2	1	2,3
<b>3.</b>	<b>Frequency Distribution of Pregnant Women's Occupation</b>		
	Housewife	26	61,9
	Self-employed	13	30,95
	Teacher	2	4,76
	Civil Servants	1	2,3
<b>4.</b>	<b>Frequency Distribution of Maternal Gestational Age</b>		
	1st Trimester	13	30,9
	2nd Trimester	12	28,6
	3rd Trimester	17	40,5

Based on Table 1, it is known that most pregnant women in this study are aged 21-30, accounting for 69.0% of the 29 pregnant women, most pregnant women have graduate degrees. high school/equivalent, 35.7% of all pregnant women. With 15 pregnant women, the majority of pregnant women's work is housework, i.e. 61.9%/26 pregnant women, and the majority of gestational age in this study relates to pregnant women in third trimester, 40.5%/17 pregnant women.

**Table 2.** Frequency Distribution of Dental and Oral Health Maintenance

No.	Categories	Frequency	Percentage (%)
1.	Good (76%-100%)	10	23,8
2.	Fair (56%-75%)	23	54,8
3.	Less (<56)	9	21,4
<b>Total</b>		42	100

<b>Average</b>	67,33%
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Based on table 2, it is known that the average respondent who has answered the research questionnaire is in the moderate knowledge category, which is 67.33%.

**Table 3.** Frequency Distribution of Gingivitis in Pregnant Women

<b>No.</b>	<b>Gingivitis Category</b>	<b>Frequency</b>	<b>Percentage (%)</b>
1.	Gingivitis	28	66,7
2.	No Gingivitis	14	33,3
<b>Total</b>		42	100

Based on table 3, it is known that most pregnant women experience gingivitis with a percentage of 66.7% as many as 28 people.

**Table 4.** Data Analysis Results of the Relationship between Dental and Oral Health Maintenance of Pregnant Women with Gingivitis

		Dental and Oral Health Maintenance Level of Pregnant Women								<i>P</i> value
		Less		Fair		Good		Total		
		N	%	N	%	N	%	N	%	
Gingivitis Category	No Gingivitis	0	0	7	16,6	7	16,6	14	33,3	0,005
	Gingivitis	9	21,4	16	38,1	3	7,2	28	66,67	
Total		9	21,4	23	54,7	10	23,8	42	100	

Based on Table 4, the analysis shows that the asymp.sig (a) value shows a value of 0.005. Because it's the value of sig. If (p) <0.05, we can conclude that H1 is accepted and Ho is rejected. This means that there is a relationship between maintaining oral health and gingivitis among pregnant women at Urangun Health Center.

Based on the results of a survey of respondents regarding variables related to the maintenance of dental and oral health in pregnant women, it was found that the majority of respondents fell into the category of maintaining good oral health. This is consistent with the study by Novitasari & Riawati (2019), which shows that the majority of pregnant women have sufficient knowledge. As people get older, they mature and become stronger, and their thinking and work mature as well. This is due to the experience and maturity of a person's soul, which peaks in the 20s. The study found that most pregnant women were between 21 and 30 years old. Another factor that may qualify pregnant women to maintain oral health is education level. Education can influence a person, including knowledge about their lifestyle, attitudes and behaviour, especially by motivating them to adopt attitudes aimed at participating in development. In general, the more educated a person is, the easier it is to receive information (Notoadmodjo, 2018). According to this study, it is known that most pregnant women are high school graduates, so they face many limitations in receiving and developing information about subjects or related knowledge. This is also supported by research conducted at Urangagung Health Center that there are no programs requiring pregnant women to check their oral health, leading to a lack of information on how to maintain their health dental (Geisinger, M. L et al. 2013)

The researcher assumed that the lack of information from obstetricians/midwives and the lack of interest of pregnant women in reading and collecting information on social media, books, the internet and other sources of information made respondents unaware of the importance of oral and dental care during pregnancy, especially for pregnant women at the Urangagung Health Center who have many oral health problems, one of which is gingivitis (Kashetty, M et al., 2018)

According to the results of the research conducted, most of the respondents suffered from gingivitis. Hormonal and vascular changes that accompany pregnancy are known to exacerbate the inflammatory response to local irritants (Kobylynska, A et al., 2018). Often, pregnant women are negligent in maintaining their oral health, leading to plaque buildup on the teeth and gum line, which can cause gingivitis (Mukherjee, P. M et al., 2010) (Umniyati et al., 2020).

Researchers speculate that gingivitis that occurs during pregnancy may be due to a variety of factors such as increased hormones, plaque, tartar, and poor oral health maintenance behaviors, which is consistent with research conducted Presented by Wijaksana et al (2020), hormonal factors are hormonal changes, pregnancy. age, plaque index and gum index condition. Hormonal changes have a major influence on the appearance of periodontal diseases in pregnant women (Anil, S et al., 2015)

According to research conducted, pregnant women at Urangagung Medical Center only know that their gums are bleeding, red or swollen without consciously taking care of or taking action to maintain oral hygiene, so they still have Many pregnant women suffer from it. Gingivitis (Marla, V et al., 2018). This is consistent with the research results of Hande et al (2018), behavioral factors are knowledge, socio-economic behavior, tooth brushing and oral hygiene habits and other factors. knowledge has a dominant influence on the occurrence of periodontal disease in pregnant women (George, A et al., 2010) (Jevtic, M et al., 2015).

Based on the results of data analysis, there is an association between maintaining oral health of pregnant women with gingivitis at Urangagung Medical Center, Sidoarjo Regency. The results of data analysis show that  $H_0$  is refuted so there is a relationship between knowledge about maintaining oral health in pregnant women with gingivitis. This is consistent with the research results of Nataris & Santik (2017), according to which there is an association between pregnant women's knowledge and the incidence of gingivitis in pregnant women in the study "The Factors causing gingivitis in pregnant women".

The results show that the maintenance of oral health and the incidence of gingivitis have a relevant correlation value. The average respondent did not know the relationship between maintaining oral health and gingivitis, so the prevalence of gingivitis in pregnant women remained high. Maintenance of oral health of pregnant women in the moderate category allows to influence respondents in applying how to maintain their oral health. Low awareness will affect respondents because it can lead to lack of interest in maintaining oral health, so many respondents still suffer from gingivitis because ABC theory assumes that behavior starts from the premise (the cause) influence behavior (behavior) to produce an effect (consequence) (Rachmawati, 2019). (Balan, P. et al., 2021)

#### **4 CONCLUSION AND RECOMMENDATION**

The average rate of maintaining moderate oral health of pregnant women is 66.33%. Most pregnant women experienced gingivitis during pregnancy, namely 66.7%. There is a relationship between dental and oral health maintenance of pregnant women with gingivitis with a significance value of 0.005. Researchers recommend that pregnant women seek information about maintaining good and proper oral health during pregnancy, not only from medical staff at the health center but also by seeking information news on the Internet and social networks. The researchers recommend that health care workers provide information to pregnant women about risk factors that can lead to dental problems, which can later affect the health of the mother and fetus. Medical staff develop a program for all pregnant women and mothers participating in the pregnancy program to have their oral health examined at the dental clinic of Urangagung Medical Center, Sidoarjo Regency to prevent the occurrence of factors that cause gingivitis and other oral health problems. both when there are complaints and when there are no complaints. The researchers recommend that future researchers conduct studies on other possible causes or examine other factors that may influence gingivitis and suggest interventions in the process. research program by providing tips to increase knowledge for pregnant women.

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